# ECORNELL CATALOG AND COURSES

## Overview

As Cornell University's online learning platform, eCornell delivers online professional certificate programs to individuals and organizations around the world. The certificate programs are personally developed by Cornell faculty with expertise in a wide range of topics, including leadership and management, marketing and technology, human resources, healthcare, hospitality, and more. Students learn in an interactive, small cohort format to gain skills they can immediately apply in their organizations and earn an Executive Certificate from Cornell University.

Website: **ecornell.cornell.edu ([https://ecornell.cornell.edu](https://ecornell.cornell.edu))**

## Certificate Programs

### #

- 5G Strategy Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/5g-strategy-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/5g-strategy-certificate/))

### A

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- Adaptive Healthcare Strategy Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/adaptive-healthcare-strategy-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/adaptive-healthcare-strategy-certificate/))
- Advanced Hospitality Revenue Management: Pricing and Demand Strategies Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/advanced-hospitality-revenue-management-pricing-demand-strategies-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/advanced-hospitality-revenue-management-pricing-demand-strategies-certificate/))
- AI 360 Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/ai-360-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/ai-360-certificate/))
- AI for Digital Transformation Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/ai-digital-transformation-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/ai-digital-transformation-certificate/))
- AI in Healthcare Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/ai-healthcare-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/ai-healthcare-certificate/))
- AI Strategy Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/ai-strategy-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/ai-strategy-certificate/))
- Applied Machine Learning and AI Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/applied-machine-learning-ai-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/applied-machine-learning-ai-certificate/))
- Applied Statistics Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/applied-statistics-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/applied-statistics-certificate/))

### B

- Beer Essentials Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/beer-essentials-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/beer-essentials-certificate/))
- Big Data for Policy Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/big-data-big-policy-problems-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/big-data-big-policy-problems-certificate/))
- Blockchain Essentials Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/blockchain-essentials-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/blockchain-essentials-certificate/))
- Board of Directors Forum Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/board-directors-forum-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/board-directors-forum-certificate/))
- Brand Management Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/brand-management-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/brand-management-certificate/))
- Brand Storytelling Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/brand-storytelling-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/brand-storytelling-certificate/))
- Business Analytics Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/business-analytics-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/business-analytics-certificate/))
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- Business Management in STEM Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/business-management-stem-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/business-management-stem-certificate/))
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## F

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- General Counsel Summit: Strategic Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/general-counsel-summit-strategic-leadership-program-certificate/)
- Generative AI for Business Transformation Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/generative-ai-business-transformation-certificate/)
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- Generative and Agentic AI Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/generative-agentic-ai-program-certificate/)
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- Healthcare Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/healthcare-management-certificate/)
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- Hospitality Labor and Employment Law Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hospitality-labor-employment-law-certificate/)
- Hospitality Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hospitality-leadership-certificate/)
- Hospitality Management 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hospitality-management-360-certificate/)
- Hospitality Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hospitality-management-certificate/)
- Hospitality Professional Development Program (https://catalog.cornell.edu/ecornell-catalog-courses/professional-development-program/)
- Hospitality Strategy Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hospitality-strategy-certificate/)
- Hotel Management and Owner Relations Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hotel-management-owner-relations-certificate/)
- Hotel Planning and Design Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hotel-planning-design-certificate/)
- Hotel Real Estate Investments and Asset Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hotel-real-estate-investments-asset-management-certificate/)
- Hotel Revenue Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hotel-revenue-management-certificate/)
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- Hybrid Work Strategy Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/hybrid-work-strategy-certificate/)

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- Leadership From Ancient Rome Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/leadership-ancient-rome-certificate/)
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- Legal Research Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/legal-research-certificate/)
- Legal Writing and Communication Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/legal-writing-communication-certificate/)

## M

- Machine Learning Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/machine-learning-certificate/)
- Management 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/management-360-certificate/)
- Management Accounting for Leaders Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/management-accounting-leaders-certificate/)
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- Marketing AI Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/marketing-ai-certificate/)
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## O

- Omnichannel Leadership Immersion Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/omnichannel-leadership-program-certificate/)

- Operations Analytics Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/operations-analytics-certificate/)
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- Performance Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/performance-leadership-certificate/)
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- Presentation Design and Delivery Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/presentation-design-delivery-certificate/)
- Probability Analysis Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/probability-analysis-certificate/)
- Procurement Strategy Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/procurement-strategy-certificate/)
- Product Development Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/product-development-certificate/)
- Product Management 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/product-management-360-certificate/)
- Product Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/product-management-certificate/)
- Product Management for Engineers Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/product-management-engineers-certificate/)
- Product Marketing Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/product-marketing-certificate/)
- Professional Mediation Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/professional-mediation-certificate/)
- Project Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/project-leadership-certificate/)
- Project Management 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/project-management-360-certificate/)
- Project Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/project-management-certificate/)
- Psychology of Emotions Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/psychology-emotions-certificate/)
- Psychology of Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/psychology-leadership-certificate/)
- Public Health Essentials Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/public-health-essentials-certificate/)
- Public Sector Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/public-sector-leadership-certificate/)
- Python 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/python-360-certificate/)
- Python for Data Science Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/python-data-science-certificate/)
- Python Programming Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/python-programming-certificate/)

## Q

- Quantitative Finance Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/quantitative-finance-certificate/)

## R

- Real Estate Development Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-development-certificate/)
- Real Estate Investing 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-investing-360-certificate/)
- Real Estate Investing and Finance Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-investing-finance-certificate/)
- Real Estate Investment Modeling Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-investment-modeling-certificate/)
- Real Estate Law Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-law-certificate/)
- Real Estate Property Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/real-estate-property-management-certificate/)
- Recruiting and Talent Acquisition Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/recruiting-talent-acquisition-certificate/)
- Regulatory and Antitrust Law Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/regulatory-antitrust-law-certificate/)
- Restaurant Distribution Strategy Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/restaurant-distribution-strategy-certificate/)
- Restaurant Revenue Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/restaurant-revenue-management-certificate/)
- Retail Media Strategy Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/retail-media-strategy-certificate/)
- Revenue Management 360 Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/revenue-management-360-certificate/)
- Risk Analysis Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/risk-analysis-certificate/)

## S

- Sales Growth Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/sales-growth-certificate/)
- Securities Law Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/securities-law-certificate/)
- Senior Living Management Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/senior-living-management-certificate/)
- Servant Leadership Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/servant-leadership-certificate/)
- Six Sigma Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/six-sigma-certificate/)
- Social Media Marketing Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/social-media-marketing-certificate/)
- Software-Defined Networking Certificate (https://catalog.cornell.edu/ecornell-catalog-courses/software-defined-networking-certificate/)

- Spaceflight Mechanics Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/spaceflight-mechanics-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/spaceflight-mechanics-certificate/))
- Spreadsheet Modeling Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/spreadsheet-modeling-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/spreadsheet-modeling-certificate/))
- Startup Funding and Finance Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/startup-funding-finance-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/startup-funding-finance-certificate/))
- Statistical Foundations Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/statistical-foundations-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/statistical-foundations-certificate/))
- Strategic Healthcare Leadership Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/strategic-healthcare-leadership-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/strategic-healthcare-leadership-certificate/))
- Strategic Hospitality Marketing Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/strategic-hospitality-marketing-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/strategic-hospitality-marketing-certificate/))
- Strategic Human Resources Leadership Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/strategic-human-resources-leadership-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/strategic-human-resources-leadership-certificate/))
- Strategic Storytelling Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/strategic-storytelling-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/strategic-storytelling-certificate/))
- Supply Chain Analytics Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/supply-chain-analytics-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/supply-chain-analytics-certificate/))
- Sustainable Business Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/sustainable-business-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/sustainable-business-certificate/))
- Sustainable Preservation Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/sustainable-preservation-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/sustainable-preservation-certificate/))
- Systems Design Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/systems-design-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/systems-design-certificate/))
- Systems Thinking Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/systems-thinking-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/systems-thinking-certificate/))

## T

- Technical Product Management Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/technical-product-management-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/technical-product-management-certificate/))
- Technology Leadership Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/technology-leadership-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/technology-leadership-certificate/))
- Text Analysis Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/text-analysis-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/text-analysis-certificate/))

## U

- User Experience Design Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/user-experience-design-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/user-experience-design-certificate/))

## W

- Web App Development Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/web-app-development-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/web-app-development-certificate/))
- Web Design and Development Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/web-design-development-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/web-design-development-certificate/))
- Wellness Counseling Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wellness-counseling-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wellness-counseling-certificate/))
- Winemaking Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/winemaking-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/winemaking-certificate/))
- Wines of California, the Pacific Northwest, and New York Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-california-pacific-northwest-new-york-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-california-pacific-northwest-new-york-certificate/))
- Wines of France Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-france-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-france-certificate/))
- Wines of Germany and Austria Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-germany-austria-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-germany-austria-certificate/))
- Wines of Italy Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-italy-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-italy-certificate/))
- Wines of Spain and Portugal Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-spain-portugal-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-spain-portugal-certificate/))
- Wines of the Southern Hemisphere Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-southern-hemisphere-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-southern-hemisphere-certificate/))
- Wines of the World Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/wines-world-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/wines-world-certificate/))
- Women in Leadership Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/women-leadership-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/women-leadership-certificate/))
- Women in Product Certificate ([https://catalog.cornell.edu/ecornell-catalog-courses/women-product-certificate/](https://catalog.cornell.edu/ecornell-catalog-courses/women-product-certificate/))

# eCornell Course Descriptions

**eCornell AAP101 - Photography Fundamentals (0 Credits)**
Professional photographers, amateur photographers, and hobbyists all share a goal: to create the best photographs possible. In this course you will learn what makes a photo good. You will discover how to determine your purpose in creating a photo. You will then go out into the field to capture your own set of photos. Throughout the course you will refine your photographic eye through practice and critique of your work and the work of others. Using the fundamentals of photography, you will go back in the field to retake and improve your best images. By the end of this course you will have developed the ability to visualize the world as a photographer and use the fundamentals to improve your confidence in taking pictures. Expect to spend 6-10 hours to complete this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes ([https://classes.cornell.edu/](https://classes.cornell.edu/))

**eCornell AAP102 - Camera Selection and Mechanics (0 Credits)**
The camera is a photographer's primary tool. Other tools, such as lighting and editing, are important, but the use and control of the camera features is what enables a photographer to create fundamentally beautiful photographs. In this course, you will investigate camera types and how to select the one that is best for you. You will consider standard camera features to see how they can be used to obtain the results you want. You will explore the mechanics and uses for the different parts of the camera such as the viewfinder, lenses, shutter speed, and aperture size. You will then discover how to use and manipulate these elements to create different types of photographic results. Using these techniques, you will practice taking different photos of the same subject to get different results. You will also experiment with different techniques to capture mood and motion in your photos. By the end of this course you will have a toolkit of techniques at your disposal to create the type of photo you want. Expect to spend 6-10 hours to complete this course. You are required to have completed the following course or have equivalent experience before taking this course: Photography Fundamentals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes ([https://classes.cornell.edu/](https://classes.cornell.edu/))

**eCornell AAP103 - Digital Asset Management (0 Credits)**
In this course, you will select and use an image management system to organize, edit, and share your photographs. You will import existing photos, choose appropriate digital information, add keywords and tags, and organize them for an efficient workflow. Then you will edit your photos through manipulating brightness, sharpness, light, color, and other adjustments, to continually refine your image to meet your purpose and ensure your vision comes to life. Finally you will identify the most appropriate way to share photos for your intended audience and do so. By the end of this course, you will complete a professional workflow that allows you to effectively take your photos, edit them, and share them. Expect to spend 6-10 hours to complete this course. You are required to have completed the following courses or have equivalent experience before taking this course: Photography Fundamentals, Camera Selection and Mechanics.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP104 - Lighting (0 Credits)**
In this course you will explore different lighting effects and the results they have on your photograph. You will analyze existing photos to determine the lighting techniques that the photographer used and identify the effect that it has on the feeling of the photo. Then you will experiment with both natural and artificial light to manipulate the effect of light in your photos. You will determine which techniques are most appropriate for your vision to invoke the desired emotions about your subject. By the end of this course you will have a lighting portfolio that represents your preferred lighting style. Expect to spend 6-10 hours to complete this course. You are required to have completed the following courses or have equivalent experience before taking this course: Photography Fundamentals, Camera Selection and Mechanics, Digital Asset Management.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP105 - Style and Expression Through Photography (0 Credits)**
You will differentiate the functional and expressive components of a photograph in a photographer's interpretation of a subject. You will then evaluate different photos to determine the different styles the photographers are using and the emotions they are invoking. By using camera and lighting mechanics, you will practice stylizing your photos to express different emotions about your subject. You will determine which techniques resonate with your personal artistic persona and begin to refine your stylistic expression. By the end of this course you will have a portfolio to demonstrate your expressive intentions with photos that may make people think, gain their interest, or touch their emotions. It is recommended to only take this course if you have completed Camera Selection and Mechanics and Lighting or have equivalent experience in photography, cameras, and lighting. Expect to spend 6-10 hours to complete this course. You are required to have completed the following courses or have equivalent experience before taking this course: Photography Fundamentals, Camera Selection and Mechanics, Digital Asset Management, Lighting.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP106 - Building a Photography Portfolio (0 Credits)**
In this course, you will use your understanding of camera and lens functions, lighting, editing, style, and expression to create a photography project that is representative of your specific interests and skills. You will first decide what the purpose of your project is, what your portfolio will include, and who your audience is. You will then go into the field to take photographs, assess them, and return to the field to take them again. You will select your best photos and write the wall mount descriptions for each one. You will create an action plan for how you will display your photography project. Finally, you will critique the photography projects of your peers while receiving a critique of your own project to see how your and your classmates' visions and purposes were interpreted. By the end of this course, you will have created a photographic project that demonstrates your skills and which can stand on its own as a portfolio, exhibition, job, or assignment. Expect to spend 14-19 hours to complete this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP107 - Professional Photography (0 Credits)**
In this course, you will explore what it means to work professionally. In the photographer's context, working professionally is not the nuts and bolts of running a business. Rather, it focuses on developing a professional mindset and work approach that enables you to represent yourself and your work well. First you will determine your goals as a photographer and create an action plan for how to achieve those goals. You will then create a website or social media profile that communicates your photographer persona and/or professional aspirations. You will also define an action plan to protect your work physically and legally and maintain a professional reputation. By the end of this course you will have the appropriate professional mindset and practices to achieve your professional or personal goals as a photographer. Expect to spend 6-10 hours to complete this course. You are required to have completed the following courses or have equivalent experience before taking this course: Photography Fundamentals, Camera Selection and Mechanics, Digital Asset Management, Lighting Style, and Expression Through Photography Building a Photography Portfolio.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP111 - Sustainable Historic Preservation (0 Credits)**
In this course, you will gain a foundation in historic preservation by identifying exactly what historic preservation is, its roots, and its associated laws and legislation. You will engage with the topics of historic building preservation and recognize the positive role they play in environmental sustainability and community improvement. Finally, through a practical case study, you will gain strategies and tools to dissect proposals and advocate for historic preservation in a modern building renovation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP112 - Embracing the Worth of Existing Buildings (0 Credits)**
In this course, you will explore the factors that contribute to the decision to sustainably preserve a historic structure. You will begin by examining the concept of embodied energy as a tool to evaluate historic structures and materials. You will also gain strategies for collaborating with stakeholders to find creative reuse opportunities in your projects. Finally, through a case study, you will apply your knowledge to practice using embodied energy to evaluate a historic structure and make recommendations for its potential future use, setting you up with practical skills for your next project. You are required to have completed the following course or have equivalent experience before taking this course: Sustainable Historic Preservation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP113 - Advocating for Sustainable Preservation (0 Credits)**
In this course, you will contextualize the structural, governmental, and social factors that must be considered in the sustainable rehabilitation of the built environment. You will discover how to consider rehabilitation as a flexible preservation strategy to extend the usable life of historic buildings. To apply these concepts, you will examine cases that show how structures can be adapted to incorporate modern technologies or converted to serve new functions. Finally, you will practice developing recommendations for rehabilitation that both address community concerns and seek to extend the life of historic structures. You are required to have completed the following courses or have equivalent experience before taking this course: Sustainable Historic Preservation, Embracing the Worth of Existing Buildings.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP114 - Developing a Community Plan for Sustainable Preservation (0 Credits)**
In this course, you will look at ways to make rehabilitation projects more sustainable. You will explore sustainability more holistically, beyond building materials, and assess how economic, cultural, historic, and social sustainability contributes to better communities for everyone. You will identify opportunities to use retrofits to respond to both external and internal threats. You will apply your knowledge and evaluate projects to be responsive and adaptive to future uses. Finally, you will practice community engagement in order to partner with stakeholders throughout the project process. You are required to have completed the following courses or have equivalent experience before taking this course: Sustainable Historic Preservation, Embracing the Worth of Existing Buildings, Advocating for Sustainable Preservation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP115 - Economics of Sustainable Preservation (0 Credits)**
Understanding the economics of preservation is essential to ensure the long-term sustainability of your project. In this course, you will examine these crucial elements, including the funding options that might be available to you and your team. First, you will explore how to structure funding negotiations to set yourself up for success. You will then identify how to utilize funds in ways that balance sustainability goals with historic preservation goals. By the end of this course, you will have a better perspective on the economics of preservation, setting you up for success in your future projects. You are required to have completed the following courses or have equivalent experience before taking this course: Sustainable Historic Preservation, Embracing the Worth of Existing Buildings, Advocating for Sustainable Preservation, Developing a Community Plan for Sustainable Preservation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell AAP116 - Implementing Sustainable Preservation Initiatives (0 Credits)**
In this course, you will discover the important role that public policy plays in historic preservation and sustainability. You will evaluate sustainable ideas and translate them into actionable plans. You will then develop those actionable plans into legal mechanisms for encouraging sustainable policies in your own community. By the end of this course, you will be prepared to engage with public policy decision making and strategy as you progress through your career. You are required to have completed the following courses or have equivalent experience before taking this course: Sustainable Historic Preservation, Embracing the Worth of Existing Buildings, Advocating for Sustainable Preservation, Developing a Community Plan for Sustainable Preservation, Economics of Sustainable Preservation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS101 - Income Inequality and Intergenerational Mobility (0 Credits)**
This course introduces you to policy and data science surrounding income inequality and intergenerational mobility in the United States. You will begin with an in-depth background on sociology, demography, and economics along with an introduction to "big data" and how it can be used in these fields of study to address complex policy problems. You will also explore essential functions in data science and the language of R before moving on to more complex statistics and data structures that will assist you in articulating big data. You will then investigate income inequality utilizing the Opportunity Atlas data project to examine geographic differences in intergenerational income mobility. Finally, you will further study this mobility across race, ethnicity, and gender, and you will engage in several opportunities to practice your new skill set in R, data, and policy analysis.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS102 - Impact of Racial-Ethnic Segregation on Education and Neighborhood Inequality (0 Credits)**
In this course, you will explore the data surrounding racial and ethnic inequalities in the United States, particularly in the areas of educational opportunity outcomes, residential segregation, and housing. You will examine visualizations of big data and practice analyzing this data in order to understand and convey its implications. You will not only investigate how these issues are defined but also how to measure different forms of inequality, articulate their cause, and utilize the data for informing policy. You will explore the Educational Opportunity Project to develop your data analysis skill set by examining educational inequalities. You will then use R to visualize housing data and residential segregation. Finally, you will continue improving how your data is organized and shared by quantifying the social and economic impact of neighborhood housing and migration potential. You are required to have completed the following courses or have equivalent experience before taking this course: Income Inequality and Intergenerational Mobility.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS103 - Social and Economic Impact of the Early COVID-19 Pandemic (0 Credits)**
The COVID-19 pandemic upended our lives in fundamental and enduring ways, impacting not only our health but also the economy, culture, and politics. In this course, you will examine health inequalities and outcomes across different groups in the United States, utilizing the policies and effects of the COVID-19 pandemic as your framework. You will explore the impact of COVID-19 in such areas as employment, healthcare, energy use, patterns of movement, and consumer spending, and you will consider how policies implemented during the pandemic affected these variables for different groups in disparate ways. You will also examine remote data as well as a variety of spatial tools to help visualize the effect of pandemic-related policies. By leveraging data, you will investigate how policies implemented during the pandemic affected health inequalities and outcomes for different groups in disparate ways across the United States, utilizing the policies and effects of the COVID-19 pandemic as your framework. You are required to have completed the following courses or have equivalent experience before taking this course: Income Inequality and Intergenerational Mobility, Impact of Racial-Ethnic Segregation on Education and Neighborhood Inequality.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS104 - Crime and Incarceration (0 Credits)**
In this course, you will investigate big data and policy analysis as it is applied to issues of crime, incarceration, and policing practices. Drawing upon an economic perspective, you will examine policymaking in the criminal justice system and how it affects crime rates and mass incarceration trends. Incarceration has disproportionately impacted people of color in the United States, so you will also analyze trends of inequality in the United States criminal justice system and policing practices. Finally, you will explore how algorithms can be used with big data to inform policy and decision making, and you will practice building regression models to make predictions about crime rates. You are required to have completed the following courses or have equivalent experience before taking this course: Income Inequality and Intergenerational Mobility, Impact of Racial-Ethnic Segregation on Education and Neighborhood Inequality, Social and Economic Impact of the Early COVID-19 Pandemic.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS110 - Negotiating Policy Solutions (0 Credits)**
Negotiations occur in large and small ways across all industries and in our personal lives. So often, though, we lack the skills necessary to reach productive resolutions: Many negotiators focus on getting exactly what they want, but the negotiation usually ends with both parties feeling unsatisfied. What if both parties strove to create value for each other and find solutions that meet both of their needs? In this course, you will discover the art of integrative negotiation, where the focus is on creating value and finding solutions that satisfy the needs of all parties involved. Using policy case studies, you will break past the surface-level statements of the other party and examine their true motivations and interests in order to build trust and foster long-term, productive relationships. You will distinguish between several different negotiation types so that you can customize an appropriate integrative approach based on the context and goals of each negotiation. Utilizing a strategic framework, you will position yourself to understand the impact of the objectives, biases, and external factors involved in your negotiation. Applying the tools from this course will enable professionals from all walks of life, including those making policy decisions in governments and business decisions in organizations, to gain value. By the end of this course, you will have new skills and strategies to apply to reach productive resolutions in your negotiations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS131 - Community Organizing (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS132 - Legislative Advocacy (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS133 - Administrative Advocacy (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS134 - Media Advocacy and Storytelling (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS135 - Electoral Advocacy and Campaigns (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS151 - International Relations Theory in Practice (0 Credits)**
In a global landscape fraught with complex threats, the field of international relations (IR) theory is crucial for policy professionals, who lean on its principles to frame their views of international security, stability, and risks to nation-states. This course offers a vital introduction to realism, liberalism, and nontraditional approaches, helping you differentiate their tenets to inform strategy for real-world scenarios. You will begin by examining the past to grasp the historical context of IR theory, then you will navigate current trends by applying these lenses to contemporary global challenges such as war, the climate crisis, and terrorism. This knowledge will empower you to make informed decisions and develop strategic responses to the dynamic challenges of country risk analysis.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS152 - Developing a Policy Brief (0 Credits)**
The complexities of international challenges, such as climate change, war, terrorism, great power politics, and disruptive technologies, can pose significant risks to nation-states. Understanding how these issues might impact a country's stability and security is critical for policymakers when making policy decisions.In this course, you will examine case studies to analyze the interplay between environmental crises and geopolitical tensions, investigate the dynamics of great-power politics, and inspect the implications of emerging technologies. You will discover how to assess developing situations as well as how to source and verify information to understand the risks involved for an individual nation-state. You will explore the process of creating effective policy briefs, from comparing their use cases and limitations to identifying their structure and key components. By engaging with these topics, you will develop the skills to identify pressing policy challenges, conduct thorough research, and create impactful policy briefs that guide policymakers in addressing these global issues.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS153 - Country Risk Evaluation and Reporting (0 Credits)**
In an interconnected world, risks to nation-states transcend domestic borders. Navigating the dynamics of global stability requires a probe into the political, economic, social, and external dimensions that can disrupt and destabilize. In this course, you will assess these factors critically, examining how international influences can impact a country s stability. Through case studies of Yemen and Somalia, you will explore how past events shape current risks. This historical perspective will enhance your ability to accurately evaluate and synthesize current trends. You will also navigate the essential considerations and decisions involved in the development of a comprehensive country risk report, tailored to meet the needs of your specific audience. After observing the steps of this process, you will gain hands-on experience in independently researching, preparing risk assessments, and crafting detailed reports that inform strategic action.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS154 - Leveraging Strategic Foresight Analysis (0 Credits)**
Strategic foresight analysis can be a powerful tool in navigating future uncertainties. In this course, you will develop the skills to identify pressing policy challenges, conduct thorough research, and create impactful strategic foresight analyses to guide decision makers in addressing global issues.Utilizing a case study as part of your coursework, you will define topics of interest by conducting a horizon scan for trends and expanding your perspective. Building on this foundation, you will perform a megatrends analysis to explore and review large-scale changes over time, identifying critical megatrends that impact countries then linking these trends to various environmental, political, and economic sectors. Finally, you will forecast the future by developing multiple scenarios and using backcasting to create a series of milestones and a roadmap that decision makers can follow to ensure their desired future state.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS161 - Strategic Media Relations for Public Leaders (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS162 - Persuasive Writing for Public Impact (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS163 - Persuasive Speaking for Media (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS164 - Building Media Support (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS181 - AI Risk and Opportunity (0 Credits)**
In this course, you will explore the real-world applications of AI while identifying how to evaluate its risks and opportunities across various industries and functions. You ll examine relevant governance frameworks and develop necessary guardrails and oversight measures for safe AI implementation in your organization. Through practical examples and interactive discussions, you'll gain a clearer understanding of how to balance innovation with responsible AI practices. Finally, you will assess both the potential benefits and challenges of AI integration, exploring real-world cases and best practices to develop strategies for implementing appropriate oversight mechanisms.By the conclusion of this course, you will be equipped with the practical tools to evaluate AI opportunities, apply relevant frameworks, and establish effective oversight measures that align with your organization's goals and compliance requirements.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS182 - Deepfakes (0 Credits)**
In this course, you will explore the transformative potential of deepfake technology and its innovative applications across various fields, from educational simulations to creative content production. You'll evaluate both the benefits and potential risks of deepfakes, examining how organizations can leverage this technology responsibly while implementing appropriate safeguards. Through real-world examples, you'll analyze strategies for content authentication and consider emerging best practices for maintaining trust in digital communications. Finally, you will familiarize yourself with existing policy considerations and organizational frameworks. When the course concludes, you will be able to weigh the importance of innovation versus security, helping you develop balanced approaches that promote innovation while ensuring the responsible implementation of deepfake technology.You are required to have completed the following course or have equivalent experience before taking this course: AI Risk and Opportunity.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS183 - Cybercrime (0 Credits)**
In this course, you will explore the evolving landscape of cybercrime and its far-reaching impacts on individuals, organizations, and governmental institutions. Through real-world case studies, you'll discover how to identify different types of cyber threats and potential consequences across different sectors. You ll also examine critical warning signs and develop strategies, including whom to contact and when, in the event of a cybercrime. Building on this foundation, you will analyze key vulnerabilities and identify relevant cybersecurity best practices for your personal or professional life. Ultimately, this course will provide actionable insights to mitigate cybercrime risks and strengthen your security posture, empowering you to enhance your personal and professional digital security measures.You are required to have completed the following course or have equivalent experience before taking this course: AI Risk and Opportunity
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS184 - Ransomware and Cyber Extortion (0 Credits)**
In this course, you will explore the evolving landscape of ransomware and cyber extortion attacks. Through real-world case studies, you ll discover how to determine the differences between ransomware and cyber extortion attacks, understanding their distinct characteristics and overlapping tactics. You ll analyze what drives organizations to pay or refuse ransom demands as well as the short- and long-term implications of these decisions. This practical knowledge will help you better understand the threat landscape and develop informed response strategies.You will also evaluate proven protection and response strategies, including best practices that strengthen your organization's security posture against these threats. Through interactive scenarios and expert insights, you'll develop a comprehensive understanding of how to assess the long-term implications and policies regarding ransomware and cyber extortion. By the end of this course, you ll be able to identify relevant best practices for your personal or professional life for both preventing and responding to ransomware and cyber extortion attempts.You are required to have completed the following course or have equivalent experience before taking this course: AI Risk and Opportunity
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell BRKS185 - Critical Infrastructure, AI, and Cybersecurity (0 Credits)**
In this course, you will explore the interconnected landscape of critical infrastructure that powers modern society, from healthcare and financial systems to transportation networks and energy grids.. You'll examine diverse threat actors and their motivations for targeting these vital sectors, discovering how to distinguish between criminal activities, espionage, and acts of war through real-world scenarios and expert insights. Beyond traditional infrastructure, you will discover how emerging technologies reshape our security landscape. As the course progresses, you ll evaluate different policies, frameworks, and resources for improving critical infrastructure cybersecurity, gaining practical knowledge to implement protective measures in your organization. The course extends into emerging frontiers, including IoT networks, VR/AR systems, and space-based technologies, exploring how these innovations both enhance and challenge infrastructure security. The course concludes with a forward-looking analysis of AI's dual role in both emerging threats and defensive capabilities that could impact critical infrastructure systems vital to daily life and national security. You are required to have completed the following course or have equivalent experience before taking this course: AI Risk and Opportunity
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC101 - Constructing Expressions in Python (0 Credits)**
Expressions are a core attribute of any Python program. In this course, you will construct expressions and reuse them to manipulate and compute variables in a variety of applications. This reusability enables a "create once, use everywhere" development paradigm which will streamline development of your current and future Python programs. You will develop the knowledge and skills to assign and access variables, combine variables and data in expressions, and leverage Python as a powerful calculator. You'll also use the enhanced capabilities of the IPython environment to do interactive work with Python and to explore your data through new analyses. The knowledge and skills you gain will help you construct Python expressions to streamline the development of your current and future Python data science projects.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC102 - Writing Custom Python Functions, Classes, and Workflows (0 Credits)**
This course introduces you to the different scenarios in which you will utilize built-in Python functions, classes, and data types as opposed to creating your own or using a combination of built-in and custom-built capabilities. You will gain experience working with both built-in and custom-built functions, classes, and data types. Through practice and application of these basic building blocks/tools, you will gain an in-depth understanding of how these aspects of Python interoperate to create useful programs. You are required to have completed the following course or have equivalent experience before taking this course: Constructing Expressions in Python
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC103 - Developing Data Science Applications (0 Credits)**
Python is much more than a programming language. In this course, you will leverage the comprehensive Python ecosystem of libraries, frameworks, and tools to develop complex data science applications. Throughout this course, you will practice using the different Python tools appropriate to your dataset. You will leverage library resources for data acquisition and analysis as well as machine learning. Dataframes will be introduced as a means of manipulating structured data tables for advanced analysis. Additionally, you will practice basic routines for data visualization utilizing Jupyter Notebooks. You are required to have completed the following courses or have equivalent experience before taking this course: Constructing Expressions in Python, Writing Custom Python Functions, Classes, and Workflows
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC104 - Creating Data Arrays and Tables in Python (0 Credits)**
Decision-makers generally do not use raw data to make decisions; they prefer data be summarized in easily understood formats that facilitate efficient decision-making. This course introduces data manipulation and visualization, both critical components of any data science project. This course introduces two commonly used data manipulation tools in the Python ecosystem: NumPy and Pandas. In addition, the Python ecosystem also includes a variety of data plotting packages such as Matplotlib, Seaborn, and Bokeh each of which specialize in particular aspects of data visualization. This course will give you experience integrating NumPy, Pandas, and the plotting packages to create rich, interactive data visualizations that help drive efficient decision-making. You are required to have completed the following courses or have equivalent experience before taking this course: Constructing Expressions in Python, Writing Custom Python Functions, Classes, and Workflows Developing Data Science Applications
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC105 - Organizing Data with Python (0 Credits)**
Most data science projects that use Python will require you to access and integrate different types of data from a variety of external sources. This course will give you experience identifying and integrating data from spreadsheets, text files, websites, and databases. To prepare for downstream analyses, you first need to integrate any external data sources into your Python program. You will utilize existing packages and develop your own code to read data from a variety of sources. You will also practice using Python to prepare disorganized, unstructured, or unwieldy datasets for analysis by other stakeholders. You are required to have completed the following courses or have equivalent experience before taking this course: Constructing Expressions in Python, Writing Custom Python Functions, Classes, and Workflows, Developing Data Science Applications, Creating Data Arrays and Tables in Python .
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC106 - Analyzing and Visualizing Data with Python (0 Credits)**
In order to be useful within a professional environment, data must be structured in a way that can be understood and applied to real-world scenarios. This course introduces using Python to perform statistical data analysis and create visualizations that uncover patterns in your data. Using the tools and workflows you developed in earlier courses, you will carry out analyses on real-world datasets to become familiar with recognizing and utilizing patterns. Finally, you will form and test hypotheses about your data which will become the foundation upon which data-driven decision-making is built. You are required to have completed the following courses or have equivalent experience before taking this course: Constructing Expressions in Python, Writing Custom Python Functions, Classes, and Workflows, Developing Data Science Applications, Creating Data Arrays and Tables in Python, Organizing Data with Python
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC107 - Building Predictive Machine Learning Models (0 Credits)**
In this course, you will explore some of the machine learning tools you can use to magnify the analytical power of Python data science programs. You will use the scikit-learn package a Python package developed for machine learning applications to develop predictive machine learning models. You will then practice using these models to discover new relationships and patterns in your data. These capabilities allow you to unlock additional value in your data that will aid in making predictions and, in some cases, creating new data. You are required to have completed the following courses or have equivalent experience before taking this course: Constructing Expressions in Python, Writing Custom Python Functions, Classes, and Workflows, Developing Data Science Applications, Creating Data Arrays and Tables in Python, Organizing Data with Python, Analyzing and Visualizing Data with Python
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC111 - Querying Relational Databases (0 Credits)**
Data drives many real-world endeavors, which means that storing and accessing the data is foundational to success. Relational databases are an industry-standard data storage mechanism for maintaining data integrity while allowing flexible data retrieval. You will begin this course by examining the basic table structures that form a relational database. Using the relational database format, you will define connections between your data fields and determine how those can be expressed. You will then practice normalizing a relational database to ensure data integrity and reduce redundancy. As this course concludes, you will use a relational database system called OmniDB along with structured query language (SQL) to retrieve specific information from the database.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC112 - Working with Data Using SQL (0 Credits)**
Relational databases are workhorses which form the backbone for much of the information we find at our fingertips on the internet. In this course, you will learn to create and modify databases using OmniDB and structured query language (SQL) to import data, create tables, and modify fields. You will also practice cleaning data to maintain your database and ensure that it provides accurate information. As the course progresses, you will identify questions you want answered and practice translating those questions into SQL. You will also examine different forms of outputting data from a database, including outputting to a program or text file and outputting CSV text. You are required to have completed the following course or have equivalent experience before taking this course: Querying Relational Databases
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC113 - Creating Data Visualizations with Tableau (0 Credits)**
In this course, you will explore how to create common visualizations based on your data and goals. We will learn the steps you must take to successfully create a great chart. These include planning the chart, collecting and preparing your data, and choosing an appropriate chart type. You'll examine the different categories of visualizations and determine the best chart for your purposes.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC114 - Enhancing Data Visualizations with Tableau (0 Credits)**
After creating an initial version of a chart, how do you make it better? In this course, we'll explore the process for creating great charts. First, you'll explore how best to plan and draft your chart. Then, you'll need to eliminate distractions in the chart to make your visualization clear. It's also important to emphasize the most critical data in your chart. We'll look at how our brains process visualizations, and how you can use this information to better design your chart. Lastly, we'll examine how to adjust a chart to target your audience and the iterative process you can use to improve it. You are required to have completed the following course or have equivalent experience before taking this course: Creating Data Visualizations with Tableau
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAC115 - Telling a Data-Driven Story with Tableau (0 Credits)**
In this course, we will study how you can make a set of charts in Tableau that tell a story to help your audience understand and remember your message. We'll also talk about different approaches to handling technical or complicated content and techniques for getting feedback so that you can improve your presentation. You are required to have completed the following courses or have equivalent experience before taking this course: Creating Data Visualizations with Tableau, Enhancing Data Visualizations with Tableau
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS100 - Climate Change Leadership (0 Credits)**
Climate change is impacting every sector of society, and there is an urgent need for individuals and organizations to become fully aware of the intensifying risks and take effective action. These impacts present complex challenges to human health, the food supply, the global water cycle, the economy, and transportation. Every effort must be made to minimize our individual and collective effects on the climate and adapt to how a changing climate is affecting us all. This course provides an overview of climate change science and the impacts of climate change, with particular emphasis on the food system that is so critically important to our survival. In the first part of this course, you will explore the causes of climate change so you can begin to assess how you can help address this grand challenge. You will also evaluate potential impacts posed by climate change on your business, your industry, and you personally, using relevant, science-based evidence from leading experts. Throughout the program, you will identify and use climate change terminology so that you may accurately introduce it into your personal life as well as your organization's daily dialog, culture, planning, and operational decisions. Despite the many challenges posed by climate change you will also discover opportunities. As your course progresses, you will analyze the risks and opportunities related to the production, transportation, packaging, and sales of your organization's products. If you don't make a product, you will still benefit from the course. Your classmates hail from all walks of life: education, health, finance, career seekers, and many more. Ultimately, you'll come away better prepared to adapt to and mitigate the impacts of climate change on society and your business and contribute to potential solutions. You will have the invaluable opportunity to interact with your peers from around the world who are also striving to tackle climate change.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS111 - Food Allergies and Intolerances (0 Credits)**
From gluten-free diets to lactose sensitivity, an increasing number of adults and children have to actively manage food allergies or food intolerances. In fact, every three minutes an allergic reaction to food sends someone to the emergency room. The last thing you want to happen in your kitchen, restaurant, or manufacturing facility is for a customer to mistakenly ingest a food allergen.In this course, you will be guided through the key steps to assess, manage, and communicate about food allergens. You will first explore the symptoms of food allergies and food intolerances, examining the foods most likely to cause allergic reactions or intolerances. Additionally, you will identify "hidden" ingredients that flag the presence of an allergen.Finally, you will devise a plan to manage food allergens in your facility or home kitchen. You might already be practicing effective cleaning and organization or Good Manufacturing Practices, but this course will provide you with ways to reduce the chance of cross-contact with allergenic food products. By the end of the course, you will draft a script that you can use with customers or guests to enable you to safely serve and effectively communicate to those with food allergies or intolerances.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS114 - Creating Craft Beverages (0 Credits)**
Identify how confident you are in yourself and your peers and how to create a plan to improve a lack of confidence; Compare and contrast different levels of presence and determine the appropriate level of presence for yourself as well as how to improve your presence if needed; Evaluate how open minded you are and create a plan to become more so if needed; Assemble the dimensions of good interpersonal communication and apply these skills to difficult conversations
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS115 - Hemp Genetics (0 Credits)**
How do genes get passed between generations? What is the relationship between the environment plants live in and their genetic makeup? In this course, you will gain an understanding of how plant characteristics are passed between generations by drawing conclusions about plant genetics based on both trait observation and genetic data. You will apply the rules of genetics to determine whether a trait arises from a single gene or multiple genes. Since hemp is a field crop, it is also important to consider the interactions between genetics and the environment. You will discover how to determine whether plant traits vary because the plants have different genes or because they were grown in different environments.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS116 - Hemp Breeding and Selection (0 Credits)**
In this course, you will examine the variety of breeding methods and breeding schemes available to help you alter the traits of your hemp crop. Each of these techniques has particular applications as well as benefits and drawbacks, so it is critical to understand when each technique is most appropriate. Once you have mastered the application of these techniques, you'll develop a potential breeding plan that is focused on a single trait of interest. In the real world, your lineage will likely need improvement in multiple connected traits, so you will learn different techniques to achieve this more complex goal. Finally, once a breeding trial has been done, you'll need to evaluate whether or not it is successful. In this course, you will use actual data provided by Cornell researchers to evaluate whether or not their breeding trial worked.It is recommended to only take this course if you have completed Hemp Genetics or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS117 - Hemp Gene Editing and Intellectual Property (0 Credits)**
In some cases, a trait of interest does not exist or is not easily available to the breeder. In this course, you will analyze how new genetic engineering and genome editing technologies can be applied to hemp breeding. Understanding when and how to use new genetic technologies is essential for a modern plant breeder. You will examine these new technologies one of which, the gene gun, was invented at Cornell University and practice applying them to hemp breeding. Creating a new hemp variety is a lot of work, and as a breeder you'll want to protect your investment with the appropriate intellectual property (IP) protections. As this course concludes, you will compare the different classes of IP protections and evaluate how they can best be used to protect different types of breeding results. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Genetics, Hemp Breeding and Selection
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS121 - Malt Evaluation (0 Credits)**
The craft brewing industry provides more than 150,000 jobs in the United States alone and has been rapidly expanding for several years now. Whether youre looking to enter this growing field or are a home brewer, this certificate program will give you the skills you need to create and refine your own beer recipe. Throughout this program, you will have the opportunity to walk through a hands-on exploration of the four main ingredients used in beer production and their impact on the final product. This in-depth look at each ingredient includes the chemistry and calculations needed to determine the best combination and ratios of ingredients for brewing. You will investigate how malt, hops, yeast, and water impact the aroma and flavor of your beer then determine how to achieve your desired recipe and style. Familiarity with high school-level chemistry, advanced high school-level algebra, and basic calculations will help you be successful in this program. After completing this program, you will be well equipped with the expertise and tools to develop, brew, and refine craft beer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS122 - Hops Flavor Chemistry (0 Credits)**
The craft brewing industry provides more than 150,000 jobs in the United States alone and has been rapidly expanding for several years now. Whether youre looking to enter this growing field or are a home brewer, this certificate program will give you the skills you need to create and refine your own beer recipe. Throughout this program, you will have the opportunity to walk through a hands-on exploration of the four main ingredients used in beer production and their impact on the final product. This in-depth look at each ingredient includes the chemistry and calculations needed to determine the best combination and ratios of ingredients for brewing. You will investigate how malt, hops, yeast, and water impact the aroma and flavor of your beer then determine how to achieve your desired recipe and style. Familiarity with high school-level chemistry, advanced high school-level algebra, and basic calculations will help you be successful in this program. After completing this program, you will be well equipped with the expertise and tools to develop, brew, and refine craft beer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS123 - Yeast and Fermentation (0 Credits)**
The craft brewing industry provides more than 150,000 jobs in the United States alone and has been rapidly expanding for several years now. Whether youre looking to enter this growing field or are a home brewer, this certificate program will give you the skills you need to create and refine your own beer recipe. Throughout this program, you will have the opportunity to walk through a hands-on exploration of the four main ingredients used in beer production and their impact on the final product. This in-depth look at each ingredient includes the chemistry and calculations needed to determine the best combination and ratios of ingredients for brewing. You will investigate how malt, hops, yeast, and water impact the aroma and flavor of your beer then determine how to achieve your desired recipe and style. Familiarity with high school-level chemistry, advanced high school-level algebra, and basic calculations will help you be successful in this program. After completing this program, you will be well equipped with the expertise and tools to develop, brew, and refine craft beer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS124 - Water Profiles (0 Credits)**
The craft brewing industry provides more than 150,000 jobs in the United States alone and has been rapidly expanding for several years now. Whether youre looking to enter this growing field or are a home brewer, this certificate program will give you the skills you need to create and refine your own beer recipe. Throughout this program, you will have the opportunity to walk through a hands-on exploration of the four main ingredients used in beer production and their impact on the final product. This in-depth look at each ingredient includes the chemistry and calculations needed to determine the best combination and ratios of ingredients for brewing. You will investigate how malt, hops, yeast, and water impact the aroma and flavor of your beer then determine how to achieve your desired recipe and style. Familiarity with high school-level chemistry, advanced high school-level algebra, and basic calculations will help you be successful in this program. After completing this program, you will be well equipped with the expertise and tools to develop, brew, and refine craft beer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS125 - Beer Production and Refinement (0 Credits)**
The craft brewing industry provides more than 150,000 jobs in the United States alone and has been rapidly expanding for several years now. Whether youre looking to enter this growing field or are a home brewer, this certificate program will give you the skills you need to create and refine your own beer recipe. Throughout this program, you will have the opportunity to walk through a hands-on exploration of the four main ingredients used in beer production and their impact on the final product. This in-depth look at each ingredient includes the chemistry and calculations needed to determine the best combination and ratios of ingredients for brewing. You will investigate how malt, hops, yeast, and water impact the aroma and flavor of your beer then determine how to achieve your desired recipe and style. Familiarity with high school-level chemistry, advanced high school-level algebra, and basic calculations will help you be successful in this program. After completing this program, you will be well equipped with the expertise and tools to develop, brew, and refine craft beer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS131 - Market Research and Product Development (0 Credits)**
Many new food product and innovation ideas that make it to the market are ultimately unsuccessful, typically because their creators did not take the proper steps to ensure there was a sustainable market opportunity. In this course, you will assess the feasibility of new food product or innovation ideas. This will enable you to invest your time, money, and other resources in ventures with a possibility for success. You will also incorporate consumer research in order to create a food product or venture protocept. Finally, you will use this research to ensure that your protocept is appropriate to take to the next level of product development.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS132 - Food Safety and Quality (0 Credits)**
Food innovators often introduce new and exciting quality products to the food industry. While ensuring the quality is right and consistent, food innovators must also ensure their products are safe and that they meet all federal and state safety standards. In this course, you will explore the different types of safety hazards that can exist in food products that can lead to human injury or illness. Using a hazard assessment tool, you will consider the full food production process and identify the potential physical, biological, and chemical hazards of a food product and how these potential hazards can best be prevented or controlled. Once you have determined the key quality attributes that should be defined for a food product, you will create an initial indication of the metrics for each. By the end of this course, you will be prepared to integrate both food safety and quality consideration into the decisions surrounding product formulation, processing method, packaging material, and product shelf life. You are required to have completed the following course or have equivalent experience before taking this course: Market Research and Product Development
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS133 - Food Processing and Packaging (0 Credits)**
When envisioning the look and feel of your new food product packaging, it is important to consider not just the design but also the safety and quality needs associated with the food processing and packaging process. In this course, you will explore the different methods and techniques of food processing and packaging to determine which are appropriate for different food products. You will consider the numerous factors that contribute to a processing and packaging decision such as access, capital, feasibility, shelf life, and market preferences. Leveraging these factors and more, you will be able to determine the appropriate methods for your food product or innovation and map out the specifications needed for your product prototype. You are required to have completed the following courses or have equivalent experience before taking this course: Market Research and Product Development, Food Safety and Quality
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS134 - Regulatory Agencies and Food Regulations (0 Credits)**
The U.S. food industry is highly regulated at the federal and state levels. During this course, you will explore regulations associated with food industry innovations, identify applicable regulations to specific food ventures, and pursue regulatory compliance. This course will provide you with the opportunity to work through the process of identifying which overseeing agencies and regulations are applicable to a specific food project of your choice or for one provided by the faculty. You will create a plan for accessing resources for assistance and discover how to obtain non-regulatory certifications such as organic, fair trade, kosher, and halal. Upon conclusion of this course, you will be prepared to locate and address the regulations applicable to your food business. You are required to have completed the following courses or have equivalent experience before taking this course: Market Research and Product Development, Food Safety and Quality, Food Processing and Packaging
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS135 - Commercialization (0 Credits)**
The ultimate goal for a food product innovator or entrepreneur is to finally get their product to consumers. In this course, you will explore the food product commercialization process of bringing a prototype to market. This process has multiple steps, including development, production, and distribution. You will explore the components of an effective go-to-market strategy and how to determine pricing and product positioning. You will also discuss how suppliers can affect all elements of the go-to-market strategy. You will then consider how to scale up a process from test kitchen to commercial-level production. Through the course project, you will develop an initial go-to-market strategy for a product of your choice or for one of the provided sample products. You are required to have completed the following courses or have equivalent experience before taking this course: Market Research and Product Development, Food Safety and Quality, Food Processing and Packaging, Regulatory Agencies and Food Regulations
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS151 - Plant-Based Medicine (0 Credits)**
This course is a starting point for the study of medical ethnobotany, which is a study of the plants found in a particular place and how they can be used to treat illnesses. By examining the historical applications of plant-based medicines, the compounds that are commonly found in plant-based medicines, the potential safety considerations when using plant-based medicines, and how to critically evaluate labels and packaging of plant-based medicines, you will be prepared to understand the applications of these types of medicines and what things people need to be aware of if they plan on using them. This is not a replacement for consulting with a physician, but is intended to be an exploration of alternatives that you may not have considered.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS152 - Plants for Muscles, Bones, and the Reproductive System (0 Credits)**
In this course, you will focus on a few of the human body systems that can potentially be impacted by medicinal plants. The musculoskeletal, urogenital, and reproductive systems each have specific functions and ailments, and medicinal plants can be a useful complement to established Western medical practices. You will examine plants such as arnica, willow, turmeric, and ashwagandha, along with many others from around the world, that are used to treat the same illnesses in different ways. Through consideration of active ingredients and potential interactions, you will be able to propose appropriate choices of medicinal plants when presented with the problem of treating an illness or achieving a wellness goal. The following course is required to be completed before taking this course: Plant-Based Medicine
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS153 - Plants for Mental Health and Pain Relief (0 Credits)**
In this course, you will focus on the central nervous system and how it can be affected by different types of medicinal plants. The major categories of effects on which this course is focused are stimulants, antidepressants, psychoactives, and systemic pain relief. This can include things like your morning cup of coffee or tea; the chocolate bar you have in the afternoon as a mood elevator; or stronger, more mind-altering vegetation such as psilocybin or cannabis. In addition to recreational uses, there are clinicians studying the psychological applications of many of these plants in controlled environments. Through consideration of active ingredients and potential interactions, you will be able to propose appropriate choices of medicinal plants when presented with the problem of treating an illness or achieving a wellness goal. The following course is required to be completed before taking this course: Plant-Based Medicine
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS154 - Plants to Improve Cardiovascular and Respiratory Health (0 Credits)**
The cardiovascular and respiratory systems are critical to an optimally functioning body; their ailments are some of the leading causes of death around the world. Several medicinal plants can be used to complement established Western medicine treatments in reducing the effects of heart attacks, stroke, and high blood pressure. In addition, many people around the world depend on plants to soothe their respiratory systems, with plants that act as cough suppressants, bronchodilators, and mucus-membrane balms, such as camphor, eucalyptus, and echinacea. Through consideration of active ingredients and potential interactions, you will be able to propose appropriate choices of medicinal plants when presented with the problem of treating an illness or achieving a wellness goal. The following course is required to be completed before taking this course: Plant-Based Medicine
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS155 - Plants for Promoting Digestive and Skin Health (0 Credits)**
The next time you have an upset stomach or a patch of dry skin, you may want to think about what types of plants might be helpful instead of your normal over-the-counter medicine. There is a wide variety of medicinal plants that you may want to consider, such as ginger, chamomile, or cassia for the digestive system, and aloe, tea tree, or marigold for the skin. These types of herbs can often be effectively combined with the medicines that you are already familiar with, if you are aware of the appropriate ways of using them. Through consideration of active ingredients and potential interactions, you will be able to propose appropriate choices of medicinal plants when presented with the problem of treating an illness or achieving a wellness goal. This course will help you to be more confident discussing these types of treatment options with your primary care physician. Historical Applications of Plant-Based Medicine must be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS156 - Boosting Immunity With Medicinal Plants (0 Credits)**
Your immune system is one of your most important body systems, as it constantly defends you against invasion by a variety of pathogens. In addition to a good diet and regular exercise, there are some plants found around the world that may be beneficial to keeping your immune system working at peak efficiency. In many developed countries, one of the major causes of death is cancer. While it is impossible to predict or prevent cancer, there are some medicinal plants that may be helpful in boosting your natural defenses against this disease. In this course, you will learn about plants such as gotu kola, Madagascar periwinkle, mistletoe, and many others, that have the potential to improve the function of your immune system and possibly impede the development of cancer. The following course is required to be completed before taking this course: Plant-Based Medicine
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS161 - Identifying Plants (0 Credits)**

In this course, you will examine the characteristics of common landscape plants to determine how to distinguish them. There is a particular descriptive language that is used when talking about plant traits, which takes practice to learn. By starting with a small set of traits and expanding it as you examine more plants, you will be able to better identify the plants that you encounter. You will also examine some common landscape plants to develop your understanding of botanical illustration and how it can be used to aid in identification. The combination of illustrations and technical descriptions is a foundational skill that will be used to build your knowledge of plants that are useful in the constructed environment. Finally, you will apply this new language to create and use an identification key; this tool is the industry standard for determining the identity of an unknown plant. These specific tools and takeaways will prove crucial as you start your career or strive to reach your personal goals in your local landscape and beyond.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS162 - Assessing Site and Soil Properties (0 Credits)**

There are multiple aspects of a soil that will positively or negatively impact the plants that are grown there. In this course, you will examine both the physical and chemical properties of a soil. Physical characteristics, such as bulk density, texture, and water-holding capacity, and chemical properties, such as pH, will play a critical role in your planting. By observing these characteristics, you will discover how to more accurately quantify the properties of a soil and determine which plants perform well in different soil types. Through these exercises, you will gain practical knowledge to ensure a successful design when choosing plants for a particular planting site. By definition, urban planting is done in close proximity to buildings, roads, and other human-made structures, and these structures will impact the sun, soil, moisture, and wind surrounding your planting. This course will show you how to incorporate these crucial variables into your design decisions, ensuring your plant choices are appropriate and offering more opportunity for innovation with successful results. You are required to have completed the following course or have equivalent experience before taking this course: Identifying Plants

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS163 - Improving Soil Properties (0 Credits)**

In this course, you will determine how a site may need to be modified before planting. By examining the different properties, you can see how the existing soil will need to be amended so that the plants chosen by the designer will thrive. There are a number of ways to improve the characteristics of a soil, each with its own benefits and limitations. You will explore these considerations and discuss when to choose each type of modification through practical example exercises. You will compare the properties of the different types of amendments and specialized soils, including CU-Structural Soil?, which was developed by Cornell University's Urban Horticulture Institute. Finally, you will address the installation plan. You will specify how much soil will need to be modified, which involves reading, analyzing, and creating both plan and cross-sectional views of the whole site and of the specific locations where plants will be installed. You will also use these views to determine measurements that will enable you to calculate the volumes of necessary soil amendments to make cost prediction more accurate and efficient. Overall, the techniques in this course will increase your understanding of the project design as a whole, allowing you to focus on creativity, innovation, and what you do best. You are required to have completed the following courses or have equivalent experience before taking this course: Identifying Plants, Assessing Site and Soil Properties

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS164 - Plant Selection (0 Credits)**

Plant selection for a particular location is a balance of multiple dynamic factors. In addition to soil characteristics and aspects of the built environment, plants have inherent traits. Their final sizes and shapes need to be considered as well as how quickly they will grow or if they will spread beyond the initial planting. As you decide on the plants to use for a particular location, you will need to evaluate all of these factors. To simplify the process, this course will highlight the crucial elements of a planting design, allowing you to justify your expert decisions to stakeholders throughout the project. The method of plant production is also a critical element in the design and implementation of your planting. The nursery trade can provide many types of plants in many different sizes, but this also varies based on location. As a designer, you must balance cost, availability, ease of installation, and aesthetic or functional aspects to make appropriate selections. All of these factors are combined in what is called a planting schedule, which you will practice both reading and developing. Overall, this course will highlight the necessary elements of design and planting decisions, providing you with takeaway knowledge and techniques to utilize during your next project. You are required to have completed the following courses or have equivalent experience before taking this course: Identifying Plants, Assessing Site and Soil Properties, Improving Soil Properties

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS165 - Designing a Planting Plan (0 Credits)**
Creating an effective planting plan requires incorporating aesthetics, soil properties, stakeholder goals, existing infrastructure, and desired ecosystem benefits. Given the characteristics of a planting site, as well as what the customer wants to accomplish, you will have the opportunity to design a plan that effectively addresses those needs and goals. You will need to select appropriate plants to meet the design goals, consider what can or should be done to modify the site so that the chosen plants will thrive, and communicate your design clearly to the installation team. By following the steps that are outlined in this course, you will be able to convert your initial design ideas into a standardized format that can be understood by others. You will follow this same process as you continue to design plantings in the future. You are required to have completed the following courses or have equivalent experience before taking this course: Identifying Plants, Assessing Site and Soil Properties, Improving Soil Properties, Plant Selection
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS171 - Evaluating Wines (0 Credits)**
To fully appreciate wine, you must first experience how to describe wines using sensory perception. In this course, you will be introduced to a standard evaluation protocol for wine tasting and determine what it takes to see, smell, and taste like a professional. You will also discover important species and cultivars as you take a short journey through 8,000 years of historical wine periods. This grape-to-wine foundation will encourage your critical thinking on your journey toward becoming a wine professional. By the end of this course, your fundamental understanding and your practice in tasting will anchor your learning in subsequent courses, in your career, and at the table. For this course, you will be asked to purchase five wines of global economic importance to help you refine your tasting technique.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS172 - Developing Wine Production Plans (0 Credits)**
Chardonnay, cabernet sauvignon, ros pinot noir, Port, Sherry, and Champagne: Each of these is a different type of wine with its own distinct sensorial characteristics. In this course, you will continue on your winemaking journey by determining the workflow and steps needed to produce these wine types. Although not an exhaustive dive into winemaking, you will be introduced to a foundation from which to start. You will then design basic wine production plans for table, fortified, and sparkling wines as you consider what it means to be a wine professional. With this newfound knowledge, you will be set up for a more nuanced and clear path ahead in the wine industry and beyond. You are required to have completed the following course or have equivalent experience before taking this course: Evaluating Wines
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS173 - Wine Ingredients (0 Credits)**
There is a common misperception that winemaking is little more than stomping on grapes. In this course, you will discover what truly goes into making wine. You will explore how to recognize sensory active compounds in wine and identify ways to manipulate them during the winemaking process. For the winemaker, it's a delicate balancing act; for the consumer, it can be a pleasant or unpleasant experience, especially if there are wine faults. You will identify primary and secondary grape metabolites and how they can be controlled to create a balanced wine, all while preventing something from going wrong during the process. By the end, you will have a foundation from which to support continued learning about the operations and processes that surround winemaking, both in the vineyard and beyond. You are required to have completed the following courses or have equivalent experience before taking this course: Evaluating Wines, Developing Wine Production Plans
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS174 - Vineyard Operations (0 Credits)**
If you have ever visited or even driven by a vineyard, you may have wondered how grapevines are made and about the stages of grape berry development. In this course, you will dig deeper into the anatomy of vines and their important phenological stages. Whether you are planning on running a vineyard or simply studying them for personal growth, knowledge of key vineyard operations will improve your understanding of the crucial impacts on vine health as well as grape quality and quantity. This course will explore basic wine-growing operations and how they achieve different viti- and vinicultural outcomes. You will also identify the skills to manage pests and diseases, which prove to be a consistent and critical piece of the winemaking puzzle. Using red or black table grapes, you will simulate what a winemaker might do for a sensory assessment to determine taste and ripeness. You are required to have completed the following courses or have equivalent experience before taking this course: Evaluating Wines, Developing Wine Production Plans, Wine Ingredients
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS175 - Site Selection and Vineyard Establishment (0 Credits)**
When it comes to selecting a site and establishing a vineyard, there are many considerations. Environmental conditions influence vineyard design, and non-environmental factors, such as access to plentiful labor, greatly impact grape growing and winemaking. Furthermore, the product itself is affected, as wines have sensorial differences related to climatic conditions and regions of the world. In this course, you will take a broad look at factors of site selection, including climate, with a much deeper dive into ground operations such as row orientation and plant spacing. Together, these concepts will be applied as you devise a realistic and productive vineyard development plan. You are required to have completed the following courses or have equivalent experience before taking this course: Evaluating Wines, Developing Wine Production Plans, Wine Ingredients, Vineyard Operations
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS176 - Modern Viticulture: Challenges and Developments (0 Credits)**

Perhaps no topic is more hotly debated than climate change. One thing is certain: There are major climate implications on the wine grape industry. The wine professional is acutely aware of these challenges, while personally growing and continuously questioning commonly held beliefs of wine grape production. In this course, you will explore various challenges and developments in modern viticulture. You will react to current issues and discover digital agricultural tools that help to offset these challenges. With this added knowledge, you will continue your journey to becoming a wine professional. You are required to have completed the following courses or have equivalent experience before taking this course: Evaluating Wines, Developing Wine Production Plans, Wine Ingredients, Vineyard Operations, Site Selection and Vineyard Establishment

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS191 - Writing Concise Copy (0 Credits)**

Writing concise copy is a crucial skill for any professional looking to communicate complex ideas to an internal or external audience. This course provides you with important insights about how to write concisely for various professional applications, including effective issue and topic summaries, policy briefs, and memos. You will investigate how to incorporate and summarize complex content as well as how to establish an effective writing format, style, and tone for a given writing product. Finally, you will convert complex or technical content into a concise copy that is understandable for a non-expert audience. By the end of this course, you will be able to craft accessible, information-based copy describing or defining an issue, event, or activity.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS192 - Writing Persuasive Copy (0 Credits)**

Persuasive writing provides an opportunity to influence readers and help facilitate change. Any time you write material that attempts to encourage action, shape opinion, analyze options, or influence perception or direction, you are engaged in persuasive writing. In this course, you will be introduced to a three-step process that will enable you to create compelling, fact-supported analyses, arguments, opinions, and recommendations to influence others. You will then be guided through the process of establishing strong, reasoned content while writing persuasive copy for an audience of your choice. By the end of this course, you will have practiced writing clear, concise copy that persuades readers to engage with and act upon your arguments and recommendations.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS193 - Writing Web Copy (0 Credits)**

In today's communication landscape, writing effective web copy is one of the most important skills you can master. Websites are the primary way that organizations communicate with customers, stakeholders, and an interested public. Crafting effective, tailored web content is an essential skill for communication professionals and others tasked with creating website content. In this course, you will practice skills that will help you master writing web copy for maximum understanding, engagement, and impact. These skills require approaching communication from multiple angles from the big-picture view to the precise language you use. In this course, you will be provided with tools and guidance that will help you define your intended audience and create written copy that will make your website stand out from the crowd not only capturing but maintaining your audience's attention in a meaningful way.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS194 - Writing Online Media Copy (0 Credits)**

Crafting media stories for the online world is a critical skill for any professional who engages in communication with the general public. This flexible form of writing is used for public relations, marketing, blogs and informative stories. The media format is highly adaptable and is the foundation of press releases, event announcements, newsletters, articles, and other forms of communication with public audiences. This course delves into the best practices for writing for online media. You will start by exploring the basics of effective writing skills and how to apply them in a variety of digital formats to strengthen your foundation. By creating effective headlines and openers, you will discover how to grab your reader's attention and keep them engaged. Using narrative techniques, you will develop the skills to build on your reader's attention and draw your audience in. Ultimately, by refining your transitions, word choice, voice, rhythm, and paragraph structure, you will leave this course with a stronger skill set in media writing.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS195 - Writing Social Media Copy (0 Credits)**

Creating engaging social media content is critical in today's multimedia world. Even the most seasoned writers often fail to create effective posts; social media platforms differ in content and scope, and the landscape changes quickly. Mastering fundamental best practices and avoiding some of the most common mistakes will greatly enhance your communication strategy, no matter which social media platforms you use. In this course, you will practice amplifying your online content by using social media platforms to drive traffic and increase sharing. You will explore the proven hub and spoke concept to drive readers to your central website content. By learning how to differentiate your content depending on the platform, you will more efficiently reach and resonate with your target audience. Forming an overarching strategic social media approach before you craft individual posts will ensure your messaging has maximum impact. By the end of this program, you will have the skills you need to write punchy, powerful text that readers both enjoy and trust.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS201 - Culinary Science Essentials (0 Credits)**

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS211 - Principles of Digital Storytelling (0 Credits)**
A compelling story is the heart of any brand messaging that an organization strives to deliver. Whether you want to inspire, motivate, or gain the trust of your stakeholders, the story you share as part of your brand narrative is the most effective way to do it. In this course, you will explore the principles of digital storytelling and how you can apply them. This course guides you through the elements of a successful brand narrative, examining the advantages of different digital platforms, such as podcasts and videos, and how they can impact the success of your brand narrative. You will also discover ways to overcome writer's block, a common hurdle for many people. The skills you develop in this course will help you shape, refine, and communicate the story within your or your organization's brand narrative.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS212 - Developing a Brand Narrative (0 Credits)**
The way you sound can have a dramatic impact on the way you are perceived. The same is true for your brand narrative. In this course, you will discover how you can use the power of sound, such as music and special effects, to improve how your audience engages with the message of your brand narrative. You will examine how a technology plan sets the foundation for recording your narrative by determining the equipment as well as the location for optimal recording. You will also identify the ways that recording is a layering process that allows you to use sound design to incorporate music and effects that strengthen your message and add entertainment value. Your voice is key, so you will explore strategies for maximizing your presence with tips from a well-known podcaster and voiceover artist. As you complete this course, you will have a recorded brand narrative that portrays you in an authentic, entertaining, and engaging podcast. You are required to have completed the following courses or have equivalent experience before taking this course: Principles of Digital Storytelling
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS213 - Podcasting (0 Credits)**
Podcasts are becoming an increasingly popular way to reach a target audience and deliver a message that can motivate them to take action. Your brand narrative is a message you design with a purpose in mind. In this course, you will explore strategies for enhancing the message to be used in a brand narrative podcast. You will discover the importance of setting a production plan that helps you achieve your vision. An interview can improve the engagement of your audience, so you will examine ways to identify the best interview subject and how to ensure you ask them the right questions. With solid content in place, you will then move on to adding elements such as sound design to amp up the entertainment value and appeal for your audience. Even if you are a beginner, you will gain technical skills in recording your podcast and explore tips for maximizing sound quality. You will end this course with a polished podcast ready to use in your social media and marketing plan. You are required to have completed the following courses or have equivalent experience before taking this course: Principles of Digital Storytelling, Developing a Brand Narrative
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS214 - Producing a Brand Video (0 Credits)**
In a world of fast-paced marketing platforms and social media, video is increasingly more important in catching the attention of potential customers and reaching a wide audience. An array of instantly available software offers video opportunities to novices who once had to rely on pricey production companies to create a brand message. In this course, you will explore strategies for producing a brand narrative designed specifically for video. You will discover how to research a theme to help craft your message and create a pitch that will help your brand video stand out. There are many techniques for enhancing your media in post-production, and you will examine ways to improve quality and keep the focus on your story. With your finished video in hand, you will then uncover the best path for promoting your brand video with an effective press release as part of your marketing plan. You are required to have completed the following courses or have equivalent experience before taking this course: Principles of Digital Storytelling, Developing a Brand Narrative, Producing a Brand Video
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS221 - Using Mindful Meditation to Strengthen Relationships (0 Credits)**
Meditation has gained immense popularity in the Western world, made evident through the abundance of books, courses, and apps available on the subject. Western science is increasingly backing the physical and emotional benefits of meditation for overall well-being. In this course, you will be guided through the foundational philosophy and practical insights for establishing a successful meditation practice. The course encompasses various mindfulness meditation routines based on Tibetan Buddhist practices learned from Master Khenpo Sodargye. While emphasizing the current Western interest in meditation, the course aligns with classic Buddhist techniques in posture and breathing exercises. Through instruction and exercises, you will discover traditional mindfulness foundations, tailored to address contemporary societal challenges and encourage compassion and empathy toward diversity. Whether a novice or an experienced meditator, this course is designed to enrich your techniques and foster personal growth, contributing to healing relationships and building compassion. In order to get the most benefit from this course, you will need to be prepared to set aside a total of 10 to 30 minutes each day to practice the meditation exercises.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS222 - Organizational Structures and Networking (0 Credits)**

The formal structure of a workplace inherently places limitations on how the members of certain groups access power while privileging others. Spearheading a project, leading a team, or overseeing staff requires a keen understanding of these formal structures to create inclusion in the workplace. This course is designed for leaders at any level who are seeking a heightened awareness of inclusive practices. You will begin with an analysis of formal organizational structures, as they are extremely difficult to redesign, and understanding boundaries is a crucial starting point. You will explore questions like what do you have to work with, what structure do you have to work within, and how does this impact communication and networking? From here, you will move to diagnosing your own informal social networks within this larger context, identifying the potential shortcomings of your own networks and how you can begin to remedy them. Finally, you will focus on how to diversify the networks within your organization by exploring who you are connected to, what the limitations of those connections are, and how you can expand them. Meditation will be used throughout as an avenue for mindful self-development. You are required to have completed the following course or have equivalent experience before taking this course: Using Mindful Meditation to Strengthen Relationships

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS223 - Leading Adaptively (0 Credits)**

So many theories come and go about how to develop leadership. Originally, people thought leaders needed specific capacities, such as decisiveness or charisma. A common expectation in many cultures is that you have to be an extrovert to be a leader, but that is not necessarily true. There are plenty of examples of introverted leaders, and you don't have to copy others in order to be a successful leader. Leadership is complex; it hinges on understanding followers and their environment. As a result, your ability to mindfully assess your followers' characteristics and the environment is crucial to both the overall survival of you as a leader and your organization. This course encourages you to identify your own strengths and use that self-awareness to lead authentically, discovering the importance of being authentic and true to yourself. In this course, you will investigate universal ethical standards that transcend cultural boundaries and rise above cultural differences. The primary focus will be on your unique development as a leader, and in addition to exploring the variety of leadership models, you will identify factors that affect your leadership identity. By drawing on your mindful meditation practices, you will reflect and integrate lessons, further developing your own distinct professional identity. You will also explore success stories of authentic, ethical leaders and reflect on these qualities for your leadership journey, assessing the roles that team and environment play in how you lead. Through instruction and practice, you will discover how authenticity and ethics are the pillars of impactful leadership in a multicultural society. You are required to have completed the following course or have equivalent experience before taking this course: Using Mindful Meditation to Strengthen Relationships

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS224 - Navigating Diversity and Cultural Differences (0 Credits)**

The social sciences emphasize three elements when it comes to navigating diversity and cultural differences. The first is cognitive: Do you know what to do? Another is affective: Can you feel for others? The last is behavior: Can you carry out the appropriate behavior? This course explores various dimensions of diversity and cultural difference. It starts by providing an introduction to several scholarly approaches that you can use to identify the intercultural dynamics at play within your organization. You'll also look at a variety of ways that business leaders effectively manage intercultural conflict and use this during your meditation to reflect on your own strategies for managing conflict. The mental rehearsal that mindful meditation allows us is a jumping-off point, and from here you'll look at many East/West cultural comparisons. Through instruction and exercises, you will have the opportunity to expand your focus beyond geographic, national, education, and racial differences to cultural comparisons that are relevant to personal situations. As you engage in meditation, you will explore the connectedness of humanity across cultural differences. Finally, you will explore stories of companies that grew to command a global presence to see how a diversity mindset or lack thereof affected innovation. This will include reflection on your own attitude toward inclusiveness and how it can enable positive change. You are required to have completed the following course or have equivalent experience before taking this course: Using Mindful Meditation to Strengthen Relationships

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS225 - Managing Organizational Knowledge and Innovation (0 Credits)**

Research shows that there are unique challenges and particular steps to knowledge management and collective innovation. In this course, you will explore those steps in a practical way, developing strategies and skills such as self-awareness, mindful reflection, authentic and ethical leadership, and a recognition of the advantages of a diversity mindset. By investigating methods from organizations that have done this well, you will be able to grow your own strategies to create a culture that is conducive to innovation, encouraging knowledge sharing and retention. Meditation continues to form the basis for leadership reflection and growing self-awareness. You will start by looking at ways to promote the exchange of information across your team and assess potential challenges. You'll then delve into the significance of addressing the distinct hurdles to innovation and explore management strategies aimed at nurturing it a critical aspect of staying competitive in today's dynamic landscape. Finally, you'll address the issue of knowledge retention and what you can do to ensure that your organization is able to retain critical information when employees leave. You'll expand your leadership journey by enhancing self-awareness and fostering innovation to ensure lasting success in today's dynamic environment. You are required to have completed the following course or have equivalent experience before taking this course: Using Mindful Meditation to Strengthen Relationships

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS231 - Understanding the Invention (0 Credits)**
There are many great ideas in our world, but not all of them qualify as inventions. Of those that do qualify, even fewer have the necessary elements for commercial potential. How can you determine whether an idea can be turned into something more? In this course, you will explore the interplay of ideas, innovation, and invention. Using an inventiveness analysis, you will leverage new techniques to determine what makes something truly inventive. You will also practice executing a prior art search by examining existing patents, technical literature, and general media to rule out any similar inventions. By the end of this course, you will have the skills and tools needed to execute an in-depth analysis of an invention a crucial foundation to ensure an invention is unique and distinct from other options in the market.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS232 - Developing a Unique Value Proposition (0 Credits)**
An invention may be a novel way to solve a problem, but does anybody want that problem solved? Is it worth the time and effort to develop that solution? In this course, you will explore strategies for determining the market relevance of an invention. By analyzing each potential application of a given invention, you will start to parse out potential market segments. Using tools in this course, you will determine which market segment makes the most sense for your invention and your team, seeking out the avenue that is most likely to lead to profit. By the end of this course, you will have the tools to forecast where an invention will have the most market relevance, setting you up for success. You are required to have completed the following courses or have equivalent experience before taking this course: Understanding the Invention
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS233 - Securing Inventions, IP, and Bioproperty (0 Credits)**
To take an idea from its inception to its fully developed potential, it is crucial to properly protect and secure the invention. In this course, you will explore the different options for protecting inventions and investigate how each option can be leveraged strategically. Starting with the patent, you will explore the full process for how to obtain one, discovering tips and tricks for how to best craft a quality claim. Moving on to other intellectual property tools like trade secrets, trademarks, and copyrights, as well as bioproperty tools, you will analyze which option makes the most sense for a particular invention. By the end of this course, you will have strategies to identify and secure supportive protections for an invention. You are required to have completed the following courses or have equivalent experience before taking this course: Understanding the Invention, Developing a Unique Value Proposition
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS234 - Preparing for Commercialization and Implementation (0 Credits)**
Once you have articulated and documented an invention's unique qualities, identified the applicable intellectual and bioproperty tools, and determined the market segment, you will be able to create a winning package to start the commercialization process. Defining a clear and realistic path to market will help ensure your success. In this course, you will examine how to maximize the value proposition for a given invention for your desired market segment. You will explore how to identify and analyze risks associated with an invention and how to frame those risks in your opportunity package. By leveraging a tool originally developed by NASA, you will determine the steps needed to bring an invention to market and develop a roadmap for meeting that goal. By the end of this course, you will be able to bring all the pieces of an opportunity package together, giving you the foundation needed to begin thinking about a business development plan going forward. You are required to have completed the following courses or have equivalent experience before taking this course: Understanding the Invention, Developing a Unique Value Proposition, Securing Inventions, IP, and Bioproperty
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS235 - Partnerships and Contracts (0 Credits)**
One of the most impactful stages of the invention and intellectual property management processes is embarking on the commercialization journey. In this course, you will explore the different options for commercializing an invention and identify how to select the best option for your needs. Whether your team will take on internal development, pursue a licensing route, or even initiate a startup outside of your organization, you will determine the pathway and the partnership model that is most likely to lead to success. By investigating both the commercialization pathway and the partnership model, you will ultimately be able to propose the combination best fit for a given invention. You are required to have completed the following courses or have equivalent experience before taking this course: Understanding the Invention, Developing a Unique Value Proposition, Securing Inventions, IP, and Bioproperty Preparing for Commercialization and Implementation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS236 - Invention System Management (0 Credits)**
While bringing one invention to market is a crucial skill, developing a system and processes for long-term invention management is necessary for the success of your team's innovative ventures. In this course, you will examine how to establish a system for invention management at your organization. By leading ideas through an official documentation process, you will discover strategies for helping ideas to become inventions. You will also develop a plan to stimulate ideas and finalize details around the invention or innovation. You will then refine a practice for guiding inventions through the development process. To support the invention management process, you will explore best practices for working with lawyers, giving you a key skill set for invention and intellectual property (IP) management. By the end of this course, you will have a plan in place to create and manage an invention system in your organization and facilitate a mindset geared toward unlocking the commercial potential of inventions. You are required to have completed the following courses or have equivalent experience before taking this course: Understanding the Invention, Developing a Unique Value Proposition, Securing Inventions, IP, and Bioproperty, Preparing for Commercialization, and Implementation Partnerships and Contracts
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS241 - Understanding Federal Cannabis Regulation (0 Credits)**
The legal landscape of high-THC cannabis production, agriculture, and investment is continually evolving. The intersection of rapidly changing legislation and the expanding cannabis industry requires a comprehensive understanding of federal legislation, providing a foundation for informed decision making, responsible practices, and strategic investments.In this course, you will review federal regulation and how it affects the various cannabis industry roles, including how each role may come with their own set of federal rules and regulations. You will explore the relationship between state and federal laws, as well as how federal and state laws can sometimes conflict with each other. You will also be introduced to the concept of federal decriminalization and what federal decriminalization of high-THC cannabis could mean for those in the industry.Upon completion of this course, you will feel better equipped to discern the different aspects of federal law that impact various sectors of the cannabis industry.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS242 - New York State Cannabis Regulation (0 Credits)**
New York legalized high-THC cannabis for medical use in 2016, decriminalized possession in 2019, and, in 2021, became the 15th state to legalize high-THC cannabis for adult recreational use. How did New York get to this point, and what does the future of NYS regulation look like?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS243 - Labor and Business Considerations in the Cannabis Industry (0 Credits)**
Every business structure has its own set of benefits and drawbacks, and that holds true in the cannabis industry. When operating in a developing market, it is especially important to understand the nuances of various business entities and discover the perfect framework tailored to your unique venture.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS244 - Cannabis Taxation (0 Credits)**
Navigating the complexities of taxes can be challenging in any line of business, especially given the unique intricacies of individual tax situations. When discussing taxation in relation to the cannabis industry, taxes can appear even more daunting if one doesn t know the right questions to ask. This course is designed to empower you with the knowledge and skills needed to confidently tackle tax-related challenges within the evolving cannabis industry. You will explore key topics of the tax landscape and the public policies they inform as well as state and municipal tax responsibilities. You will also examine the tax cuts and Jobs Act of 2017 then continue with an in-depth background on the Cannabis Administration and Opportunity Act (CAOA) along with the proposed effects CAOA will have on federal regulation. Upon completion of this course, you will not only have a solid understanding of these complex tax matters but also be able to identify resources that will aid you in making well-informed tax decisions.You are required to have completed the following course or have equivalent experience before taking this course: Understanding Federal Cannabis Regulation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS245 - Legal Medical Cannabis Use (0 Credits)**
As societies and medical paradigms evolve, so does the approach to healthcare and therapeutic interventions. Medical cannabis has proven to be a pivotal development in the healthcare industry, and it operates under a separate legal framework. In this course, you will examine the historical context in which medical cannabis legalization has unfolded along with the potential shifts in its regulatory framework. You will explore comparative analysis of New York State's regulations and draw parallels with other states that have embraced the legalization of medical cannabis.Upon completion of this course, you will have a better understanding of the evolving legal landscape surrounding medical cannabis and be better equipped to make informed predictions on the impact legalization will have on adult-use cannabis. You are required to have completed the following course or have equivalent experience before taking this course: Understanding Federal Cannabis Regulation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS246 - The Future of Cannabis and Legislation (0 Credits)**
In today's dynamic world, individuals engaged in the cannabis sector bear the responsibility of staying informed about the constant changes to laws and policies. In order to navigate this evolving legal landscape, it s crucial to understand how change happens as well as how to stay informed and updated.In this course, you will explore recent law and policy changes and look at how to stay apprised of changes going forward. You will also discover how historical shifts have shaped the current regulatory framework and gain insights into emerging trends that will influence the future of the industry. From addressing issues like the illicit cannabis market to tackling safety and health concerns, you will examine the pressing challenges facing policymakers today.Upon completion of this course, you will possess the tools and strategies necessary to stay informed and updated on changing laws and policies.You are required to have completed the following course or have equivalent experience before taking this course: Understanding Federal Cannabis Regulation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS251 - Hemp Biology (0 Credits)**
Cannabis is a genus of flowering plants that includes several species. Hemp is a variety of the Cannabis sativa species and is grown specifically for its strong fibers and seeds, which are used for various industrial, medicinal, and food products. Cannabis is a complex plant with a variety of characteristics and features, including growth habits, chemical composition, and genetics. In this course, you will explore the differences among cannabis species in order to help determine their suitability to different agricultural goals. You will also review the many different cultivars, or varieties of plant, within each species, each with its own unique combination of traits, such as high fiber content, high seed yield, or high CBD content. Lastly, you will examine the physiology and morphology of hemp to optimize growth and cultivation practices. Upon completion of this course, you will have gained a basic scientific understanding of cannabis in regards to producing high-quality hemp crops. You will also be able to select the appropriate cultivar based on your agricultural goals to optimize hemp production.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS252 - Hemp Propagation (0 Credits)**
Hemp propagation is the process of producing new plants from existing ones, and there are several methods that can be used to achieve different agricultural goals. Some of the main types of hemp propagation methods include seed propagation, cloning (vegetative propagation), and tissue culture. In this course, you will take a deep dive into the world of seed propagation and germination. Understanding these concepts will allow you to assess the germination of your chosen cultivars and make improvements if necessary. You will also explore cloning, or vegetative propagation, including the steps involved and limitations of this method. Lastly, you will explore micropropagation and the tissue culture method to round out your options for hemp propagation methods. Upon completion of this course, you will have gained an understanding of the different methods of hemp propagation and how their purposes can help growers align propagation methods with their agricultural goals, such as increased yields, improved plant health, and higher-quality hemp products. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Biology
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS253 - Indoor Hemp Cultivation (0 Credits)**
Indoor hemp cultivation requires careful consideration of various environmental factors. By controlling and monitoring these environmental factors, indoor hemp growers can create a suitable growing environment that helps them achieve their agricultural goals and produce high-quality hemp products. In this course, you will examine indoor cultivation factors and best practices depending on your agricultural goals; this includes different growing media, light and temperature, and other potential manipulation factors. The aim of controlled environment growth is to achieve specific agricultural goals, such as increased yields, improved plant health, and higher-quality hemp products. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Biology, Hemp Propagation
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS254 - Outdoor Hemp Cultivation (0 Credits)**
Growing hemp outdoors requires careful consideration of several factors to ensure success and meet agricultural goals. Identifying the appropriate outdoor site is crucial, and details such as access to water, soil quality, and exposure to sunlight should be taken into account. In this course, you will explore the main considerations when selecting an appropriate outdoor hemp production site. This will include addressing the specific nutrient requirements of hemp crops based on their preferred soil type and fertilizer. Upon completion of this course, you will have an understanding of the factors that should be taken into account in order to select an outdoor site that is suited to your agricultural goals and provides the right conditions for growing a successful hemp crop. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Biology, Hemp Propagation, Indoor Hemp Cultivation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS255 - Managing Insects, Weeds, and Diseases (0 Credits)**
The management of insects, weeds, and diseases is critical to the success of hemp production. There are several strategies and tactics that can be used to minimize the impacts of these potential threats. In this course, you will begin by reviewing the importance of weed management and how to easily identify different types of problematic weeds to determine which strategies would be best to implement. You will also explore various integrated weed management strategies, including methods for the successful management of cultural, biological, and physical threats. You will then delve into the world of pest management, from understanding the potential effects of pest infestation on your hemp plants to available resources to help identify these pests as well as proper management techniques. Additionally, you will explore hemp plant diseases and how to identify common pathogens present in your growing area. Upon completion of this course, you will be able to identify effective management strategies for combating problematic weeds, insects/pests, and diseases to ensure successful hemp cultivation. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Biology, Hemp Propagation, Indoor Hemp Cultivation, Outdoor Hemp Cultivation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS256 - Harvesting Hemp (0 Credits)**
Hemp harvesting is an important step in the hemp production process. In order to achieve your agricultural goals, it is crucial to determine the best time to harvest the hemp for the desired product. In this course, you will explore a variety of harvesting factors such as the maturity of the plant and how the desired use of the product can influence the ideal harvesting time. You will also identify the proper equipment that should be used to ensure a successful harvest; this could include items such as pruning shears or a combine, depending on the scale of the operation. After the hemp has been harvested, you will explore why it is important to store the product under optimized conditions to preserve its quality and maximize its shelf life before processing. You are required to have completed the following courses or have equivalent experience before taking this course: Hemp Biology, Hemp Propagation, Indoor Hemp Cultivation, Outdoor Hemp Cultivation, Managing Insects, Weeds, and Diseases
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS261 - Medical Cannabis: History, Legislation, and Chemistry (0 Credits)**
Humans have been using the cannabis plant as a source of medicine in many cultures for thousands of years with positive effects. In this course, you will document your thinking about the complexity of medical cannabis options and demonstrate your understanding of the history and legal responsibilities of utilizing cannabis medicines. You will consider the historical context for the use of medical cannabis within the traditions of Indigenous groups. You will explore the journey of the cannabis plant and its relationship with people and culture across time. You will also examine how cultures used cannabis medicinally in ancient times and research a historical use of cannabis to compare its usage to modern applications.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS262 - Medical Cannabis Extraction (0 Credits)**
The methods of growing and producing cannabis distinguish medical cannabis from other forms. In this course, you will gain insights into how to optimize growing conditions for medical use. You will explore the stages of development and best practices for the collection of plant material. You will study the potential of cannabinoids produced by the cannabis plant and explore options for whole-plant use as well as individual natural and synthesized compounds. You will examine the most common extraction methods and associate them with resulting chemical properties. You will identify the pros and cons of each method to develop a foundation in how extraction processes impact drug discovery as well as how the choice of extraction method influences the health benefits of the final cannabis product. IMPORTANT COURSE INFORMATION: Due to the experiential nature of this program, you will need to purchase or find a small amount of materials before the start of your course. Below, please find the list of materials and suggested retailers. We encourage you to order, purchase, or collect supplies now. Please note: You will be asked to refrigerate one of the experiments. Go to amazon.com or a local pharmacy or grocery store to find the following supplies: Black Tea Cloves (the spice) A neutral oil such as canola, sesame, coconut, or olive oil 30g (or 1 ounce) of dried culinary herb such as rosemary, sage, or thyme White vinegar Kitchen thermometer You are required to have completed the following courses or have equivalent experience before taking this course: Medical Cannabis History
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS263 - The Role of the Endocannabinoid System (0 Credits)**
To understand how cannabis can be used as medicine, it's important to recognize the regulatory role of the endocannabinoid system in maintaining health and well-being. You will explore the history of humans, who have been cultivating cannabis for thousands of years, and how the concentrations of compounds the plant produces are the product of human preferences. You will examine the combinations and synergy of these compounds that accentuate the pharmacological effect, referred to as the entourage effect. You will also recognize cannabis as a particularly complex plant producing hundreds of bioactive compounds. You will gain insights into how the endocannabinoid system was discovered and why it is known as "the whole-body modulator," being widespread throughout the body and making it a potential drug target. You will investigate research to determine what is known and what is yet unknown to be able to pinpoint ways to potentially manipulate the endocannabinoid system. You are required to have completed the following courses or have equivalent experience before taking this course: Medical Cannabis History, Medical Cannabis Extraction
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS264 - The Pharmacology of Medical Cannabis (0 Credits)**
Pharmacology studies the effect of compounds on the body as well as what the body does to a compound. In this course, you will examine the dosing, benefits, safety, and adverse effects of bioactive chemicals such as phytocannabinoids. You will explore the anatomical or functional changes created by exposure to cannabinoids and discover the mechanisms of action which are not fully understood but show a range of potential therapeutic possibilities. Cannabis is a potent medicine; it can produce significant side effects and negatively interact with other medications or substances one may be taking. You will gain insights into these and other factors that can influence drug metabolism and recognize why the rate of drug metabolism determines the duration and intensity of its pharmacological action. Undesired effects from cannabis are incredibly variable, and you will discover how use should be tailored for each individual patient. IMPORTANT COURSE INFORMATION: Due to the experiential nature of this program, you will need to purchase or find a small amount of materials before the start of your course. Below, please find the list of materials and suggested retailers. We encourage you to order, purchase, or collect supplies now. Go to amazon.com or a local pharmacy or grocery store to find the following supplies: One teaspoon of sodium polyacrylate OR two disposable diapers (which can be taken apart for the sodium polyacrylate) A small package of sodium polyacrylate can be purchased on Amazon for about $10 Tap and distilled water You are required to have completed the following courses or have equivalent experience before taking this course: Medical Cannabis History, Medical Cannabis Extraction, The Role of the Endocannabinoid System
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS265 - Developing Medical Cannabis Products (0 Credits)**
Medical cannabis is limited by the historic regulation that prevented pharmaceutical research for decades. In this course, you will examine how pharmaceutical products, herbal supplements, and cannabis products are regulated. You will understand how new drugs are brought to market by reviewing and analyzing the FDA drug discovery and development process. You will explore the necessary steps of approval and consider cannabis medicine currently approved by the FDA. After reviewing the drug development and FDA approval process, you will discover expectations for the reproducibility and effectiveness of medical cannabis products then develop a plan for testing reproducibility and effectiveness based on the FDA guidance. You will evaluate what it takes for a product to be approved by the FDA and consider how the FDA treats single isolated compounds versus whole-plant products. With insights into this process, you will determine the pros, cons, and differences of both approaches. You are required to have completed the following courses or have equivalent experience before taking this course: Medical Cannabis History, Medical Cannabis Extraction, The Role of the Endocannabinoid System, The Pharmacology of Medical Cannabis
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS271 - Mechanical Food Processes (0 Credits)**
The journey of a food product, from the raw materials in a manufacturing plant to the final commodity sitting on grocery store shelves, involves a series of physical transformations. Mechanical unit operations are a foundational set of processes used to achieve these transformations that date back to pre-modern times and are crucial for shaping the final commodity.In this course, you will examine mixing, emulsifying, homogenizing, and filtering as the key mechanical processes used in the food industry. Beginning with the underlying principles, you will build your understanding of how these processes create products that are not only desirable but also safer for consumption and shelf stable. You will assess the function and design of typical mechanical processing systems, which will help inform future decisions about best-suited applications in food and beverage production. This course will provide you with a sweeping view of the mechanisms, variables, and equipment that factor into a successful mechanical food processing operation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS272 - Thermal Food Processes (0 Credits)**
Heat is a fundamental element in the food toolkit, playing a pivotal role in enhancing product quality, extending shelf life, ensuring commercial sterility, and preserving essential nutrients.In this course, you will explore the thermal technologies of thermization, pasteurization, ultra-pasteurization, sterilization, aseptic processing, and refrigeration. You will then navigate through the steps that typify each operation and practice the calculations that are used to establish industry values. By identifying key process parameters, you'll not only assess efficiency rates but also establish connections to overall food safety measures, making the knowledge immediately applicable to real-world scenarios.You are required to have completed the following courses or have equivalent experience before taking this course: Mechanical Food Processes
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS273 - Food Processes Based on Mass Transfer (0 Credits)**
In this course, you will explore mass-based unit operations used in the food processing industry, examining the industry tools, techniques, and processes that harness the physico-chemical properties and kinetics of molecules to transform raw food materials into the diverse products on our market shelves. You will evaluate the strategies and technological innovations commonly employed to optimize evaporation, dehydration, membrane separation, and extraction procedures. You will also observe how variables like product viscosity and heat sensitivity play a role in the selection of certain systems over others. By comparing the requirements and formulations for each mass transfer method, you will gain insight into the most effective ways to ensure the quality, safety, and sustainability of processed food commodities.You are required to have completed the following courses or have equivalent experience before taking this course: Mechanical Food Processes,Thermal Food Processes
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS274 - Nonthermal Food Processes (0 Credits)**
In this course, you will explore the cutting-edge technologies and methodologies that distinguish nonthermal unit operations. These innovations revolutionize product safety and appeal, all without the reliance on high temperatures. Our exploration spans a diverse array of products, including packaged meats, juices, dairy, and seafood.You will begin by examining industrial settings for nonthermal unit operations, differentiating the equipment, mechanisms, and parameters associated with various strategies. You will navigate the consumer landscape by examining customer perception and demand, providing you with a comprehensive look at the advantages and drawbacks of these technologies. Through the careful analysis of each treatment, you will balance the variables that influence processing efficiency, allowing you to optimize systems and adapt to the changing environment of nonthermal unit operations within the food industry.You are required to have completed the following courses or have equivalent experience before taking this course: Mechanical Processes, Thermal Processes, Processes Based on Mass Transfer
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS275 - Food Processing Fundamentals (0 Credits)**
Whether you're an aspiring chef or food scientist, or simply curious about what happens in the kitchen and the factory that creates your favorite foods, in this course, you will explore the operations of the food processing industry. You ll have the opportunity to examine the design and construction of commercial food processing equipment, the principles of machine and facility design, process controls, sanitation practices, and the art of food packaging.As you delve into the applications of traditional and emerging facility procedures, technologies, and planning, you will discover how industry professionals navigate the many options and decisions required for the development of a successful food processing facility and put control mechanisms in place to keep operations running efficiently. You ll also gain a deeper understanding of the best ways to verify the effectiveness of sanitation and CIP (cleaning in place) schemes, which are key to ensuring safe, healthy products. Finally, you will evaluate the purpose and optimization of food packaging for various products. You are required to have completed the following courses or have equivalent experience before taking this course: Mechanical Processes, Thermal Processes, Processes Based on Mass Transfer, Nonthermal Food Processes
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS281 - Creative Writing Techniques in Nonfiction (0 Credits)**
There are many ways to use creative writing in the nonfiction space. Each style helps writers meet different goals whether it's informing, persuading, engaging, or inspiring making the ability to choose and adapt styles crucial for effective communication. This course provides an overview of creative nonfiction and its elements, identifying the various forms and building techniques to understand their potential uses.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS282 - Editing and Revising for Impact (0 Credits)**
Editing is an important part of any type of writing, and through the lens of creative nonfiction, it ensures that the final piece is clear and engaging and that it communicates its intended message effectively. This course is designed to elevate your writing skills by offering a comprehensive exploration of editing principles, whether editing your own work or another piece.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS283 - Constructing Influential Op-Eds (0 Credits)**
While op-eds and persuasive essays share the creative nonfiction foundation of blending fact with narrative, each is distinct in its focus on argumentation, structured persuasion, and engagement with current issues. In this course, you will explore the process of crafting compelling op-eds and persuasive essays, starting with an in-depth exploration of their structures. You will examine how to construct a robust argument by carefully organizing your points and effectively supporting your main thesis. In addition to building structural components, the course will introduce creative techniques that will help you amplify your message, ensuring that your voice resonates with your audience. By employing these creative approaches, you will discover how to capture and maintain the reader s attention, making your arguments more persuasive and impactful.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS284 - Developing a Publishable Personal Narrative (0 Credits)**
You will begin with the top-down approach, stepping through the process of assessing and refining both content and structure. You will explore ways to refine language, improve clarity, and ensure consistency while assessing and improving the overall organization and coherence of a piece.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS291 - Hemp Markets and Products (0 Credits)**
The hemp industry is rapidly evolving, driven by an increasing demand for sustainable and versatile products. Understanding the nuances of hemp and its market potential is crucial for anyone involved in this industry. In this course, you will explore key aspects of hemp, including plant characteristics, genetic variations, and market classifications. You will consider the legal distinctions between hemp and marijuana, focusing on the chemical compounds like THC and CBD that define these categories. You will examine the three primary market classes of hemp fiber, grain, and cannabinoids and understand how different cultivation techniques and genetic selections influence the quality of hemp products. You will also delve into the anatomy of hemp stems, flowers, and seeds as well as their roles in the production of compounds and materials.Upon completion of this course, you will have an understanding of the hemp plant's biological functions and diverse applications. You will gain insights into the latest developments in hemp genetics and cultivation techniques, enabling you to make informed decisions in the hemp industry. Whether you're a cultivator, processor, or marketer, this course will enhance your expertise and help you navigate the complexities of the hemp market.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS292 - Hemp Cannabinoid Extraction and Post-Extraction Processing (0 Credits)**
Cannabinoid extraction is a vital process in the production of high-quality hemp products, focusing on the isolation and refinement of phytochemicals such as CBD and THC. Understanding the extraction process and the tools used for cannabis analysis is essential for ensuring the quality, potency, and safety of the final products. In this course, you will delve into the products from cannabinoid extraction and consider the key measurements necessary for quality control. You will explore analytical measurement methods, how to perform these measurements, and the importance of each step in the extraction process. You will also examine the drying process, effective drying practices, curing techniques, and optimal storage conditions to preserve cannabinoid quality. Upon completion of the course, you will be equipped with the knowledge and skills to apply best practices in cannabinoid extraction and analysis, contributing to the advancement of your goals in the hemp industry.You are required to have completed Hemp Markets and Products or have equivalent experience before taking this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS293 - Cannabis Extraction Methods (0 Credits)**
The extraction of cannabinoids from cannabis is a nuanced science that plays a critical role in determining the quality and efficacy of the final product. There are various methods of extraction, each suited to achieve specific results based on the desired end product.In this course, you will review a range of extraction methods, including solvent-based extractions like alcohol (ethanol) extraction and supercritical fluid ($CO_2$) extraction as well as hydrocarbon extraction using butane. You will also delve into solventless extraction methods and post-processing approaches.Upon completion of the course, you will have the ability to analyze the purpose and process of various cannabinoid extraction methods, which will enable you to choose the most appropriate extraction method for your desired results.You are required to have completed Hemp Markets and Products or have equivalent experience before taking this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CALS294 - Processing Fiber and Grain for Hemp Product (0 Credits)**
Hemp serves as a high-yielding, sustainable, and eco-friendly crop that offers valuable raw materials for numerous applications. Hemp grain and fiber has been cultivated for centuries due to its versatility and its use in the production of a variety of products seen and utilized today.In this course, you will delve into the history of hemp grain and fiber to further your understanding of current applications. You will explore the various stages of hemp fiber processing as well as the unique structure and composition of hemp fibers and their applications in various products. You will also gain insights into the process and considerations for hemp grain processing and the potential of hemp grain as a valuable agricultural commodity.Upon completion of this course, you will have a thorough understanding of the historical and current significance of hemp in various industries. You will be equipped with knowledge about the challenges and advancements in hemp fiber processing along with the diverse applications of hemp fibers and grains. You will also understand the nutritional profile of hemp seeds and the steps involved in hemp seed processing. This course will empower you with the insight and skills to appreciate the versatility of hemp and its growing importance in various consumer and industrial markets.You are required to have completed Hemp Markets and Products or have equivalent experience before taking this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS501 - Executive Presence (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS521 - Storytelling Across Media (0 Credits)**
The course concludes with a focus on structural and line editing, refining word choice, and sentence construction. This approach will allow you to develop skills to improve sentence construction and ensure that every element of a piece of writing contributes to a polished and professional final product.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS522 - Engaging Specific Stakeholders (0 Credits)**
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS523 - Campaign Design and Ideation (0 Credits)**
Being a great storyteller allows you to engage with your audience in a meaningful way, building their trust as you communicate your message. In this certificate program, you will apply transmedia practices, or techniques that leverage various forms of media, to communicate your message to various stakeholder groups. By using any variety of media formats videos, ad buttons, posters, social media, presentations, websites, or even comic books and graphic novels you will discover how to choose the appropriate media form to engage specific stakeholders and create a campaign that targets and engages them. Using real-world examples, youll break down different campaigns and explain how the elements work together to address your stakeholders. This certificate program will provide you with the opportunity to practice strategic storytelling through rapid prototyping using an innovative UX design frame, creation of information-based comics, and the design of TEDx-style and PechaKucha-based presentations using your own content. You will also analyze real-world advertising and information campaigns to assess which storytelling elements could be leveraged to make the communications more effective. By the end of the certificate program, you will be able to apply strategic frameworks to improve your storytelling ability and reach new audiences wherever your work takes you. The courses in this certificate program are required to be completed in the order that they appear.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS524 - Meta Storytelling With Info Comics (0 Credits)**
When contemplating the different forms of media you can use to reach your customers, it's important not to forget about information-based comics. Yes, comics! Often thought of as a format for children or teens, comics can be an effective way to reach new stakeholders. Information comics situate knowledge within concrete scenarios. The characters and plots bring the knowledge to life through dialogue, illustration, and narration. To create an information comic for your campaign, you will create characters, storyboards, dialogues, and imagery to help relay the knowledge to your stakeholders. Once you have established these elements, you will use a web-based website/software tool to bring your vision to reality. In this course, you're going to be making an information comic. You will discover how to write dialogue, create storyboards, and pull together all of the elements into a story about your strategic storytelling campaign. You will also identify how you plan to reach your different stakeholders. In addition, you will explore a tool that you can use to create an info comic. You are required to have completed the following courses or have equivalent experience before taking this course: Strategic Storytelling Across Media, Engaging Specific Stakeholders
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS525 - Creating Awesome Presentations (0 Credits)**
When it comes to creating presentations, it can be easy to feel overwhelmed while trying to strike the perfect balance of engagement, information, and simplicity. Using industry-standard techniques employed on platforms such as TEDx Talks and in styles such as PechaKucha, you have the ability to create a transformative presentation that moves your audience through images and narration. These styles challenge you to focus on your message, which enables you to transform your presentation and empower and motivate your stakeholders through user experience and information design. Throughout the course, you will explore the functions and forms of presentations; develop a presentation using important components drawn from TEDx and PechaKucha; and practice, present, and refine your presentation, allowing you to experience the process from start to finish. By the end of this course, you will have your own presentation, highlighting the best practices you acquired during the strategic creation process. You are required to have completed the following courses or have equivalent experience before taking this course: Strategic Storytelling Across Media, Engaging Specific Stakeholders
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS531 - Linear Algebra: Low Dimension (0 Credits)**
To perform basic computations in the Machine Learning certificate program, you need the ability to solve elementary linear algebra problems in two dimensions. In this course, you will execute mathematical computations on vectors and measure the distance from a vector to a line. This course will provide you with the theory and activities to start building the linear algebra foundation needed to be successful in your Machine Learning courses. This optional self-paced course supports the required linear algebra in the Machine Learning certificate. If you are already comfortable with the computations from the pretest, we recommend that you take the final assessment to confirm your readiness.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS532 - Matrix and Linear Algebra: High Dimension (0 Credits)**
This Machine Learning certificate program requires you to think and solve problems in multiple dimensions. In this course, you will learn to solve linear algebra problems in three or more dimensions and perform computations with matrices.You will perform computations that focus on solving problems in high dimension; that is, multiple dimensions. This course will provide you with the theory and activities to solidify the linear algebra foundation needed to be successful in your Machine Learning courses. This optional self-paced course supports the required linear algebra in the Machine Learning certificate. If you are already comfortable with the computations from the pretest, we recommend that you take the final assessment to confirm your readiness.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS551 - Humor for Influence: Lessons from Ancient Rome (0 Credits)**

Effectively using humor to win or gain influence can make you a more effective leader. In this course, you will identify situations and environments where utilizing humor may help you gain influence, and you will identify situations where you should avoid attempting humor. You will develop skills in constructing jokes that suit specific scenarios or audiences and deciding which medium is most effective for the joke. This course also provides strategies to course-correct when a joke doesn't land well so you can safely defuse any incidental tension a joke might cause if the delivery was inappropriate or ineffective. You will review examples and stories translated from ancient Roman philosophy on using humor for influence, and you will be guided to draw parallels between ancient and modern scenarios where humor can be applied. You will be required to purchase a copy of "How to Tell a Joke: An Ancient Guide to the Art of Humor" by course author Mike Fontaine.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS552 - Humor in the Workplace: Lessons from Ancient Rome (0 Credits)**

Humor can be utilized in many different situations and scenarios, but when it comes to professional settings or in the workplace, the rules and strategies for applying humor can vary. Using humor effectively requires a developed sense of both confidence and empathy to relate to others, enabling an individual to successfully manage and navigate everyday work relations and social dynamics. With these two pillars of confidence and empathy guiding your use of humor, you can empower both yourself and the people with whom you work. In this course, you will analyze humor as applied specifically to the workplace, focusing on the social dynamics of your work peers, superiors, and subordinates. By utilizing these multiple lenses, you will strengthen your empathy and understanding of varying perspectives, gaining insight into how or why humor can help or hinder the attitudes of a team.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS553 - Lessons in Effective Leadership from Ancient Rome (0 Credits)**

What can the Classics teach us about how to be a good leader? In this course, you'll examine what Roman leaders can teach us about effective leadership. For example, is it better to seek pleasure or virtue? And how can you tell the difference between the two? You will read translations of Cicero and other Roman scholars and participate in hands-on activities to engage with key leadership skills. You will gain best practices related to four key virtues: critical thinking, fairness, bravery and self-control. By the end of this course, you will have a new perspective on time-tested leadership traits and how to apply them in your daily life.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS554 - Maximizing Happiness as a Leader: Lessons from Ancient Rome (0 Credits)**

How can you find happiness as a leader? Is being a leader really all about the money and the prestige? In this course, you will look to ancient Roman thought leaders for recommendations on how to be happy as a leader. You'll also consider the purpose of becoming a leader and its impact on your experience as one. As you examine strategies for managing anger in the workplace, you'll also gain insight into ways to determine when it's time to step back from being a leader. By the end of this course, you will have gained recommendations on how to apply these lessons from the Classics to today's leadership climate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS561 - Understanding Emotions (0 Credits)**

Emotions are a big part of what makes us human. Emotions not only help us understand ourselves and our social relationships with others, they help us respond to stimuli in our environment, and to change our behavior accordingly. In this course, you will investigate the function of emotions in daily life, as well as how to differentiate them from similar, but different "feeling states." You will also explore the history of the study of emotions, including initial perspectives from Western philosophy, as well as how it transformed into a science whereby researchers developed more empirical, systematic methods to study the human emotional experience. Finally, you will compare the evolutionary perspective with other important sources of emotion, such as culture, biological response, and appraisals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS562 - Recognizing Emotions (0 Credits)**

Building your emotional vocabulary is a critical step in recognizing emotions. Naming emotions helps you understand and articulate what you are feeling, and recognize what others are feeling. In this course, you will explore the benefits of broad emotional lexicon. You will also examine strategies for using facial expressions, body language, and tone of voice to identify emotions, and consider how the expression of certain emotions are the same all over the world. You'll practice recognizing emotion in others and, you will consider the limitations of people in being able to recognize and properly identify emotions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS563 - How Emotions Shape Thinking (0 Credits)**

In this course, you will examine the relationship between emotion and cognition, and explore the ways emotion can affect your judgment and decision-making. You will consider how emotion can shape what you are perceiving and paying attention to, and how it impacts your memory. You will examine how emotion can influence creativity and practice measuring your own creativity. Next, you will explore how emotions impact morality and how that can impact behavior. Finally, you will explore how emotions can affect your interpersonal relationships, and consider emotional conflict in both romantic and workplace relationships. Throughout the course, you will use a journal to reflect how the interplay between emotions and cognition affects your life. NOTE: This course relies heavily on visual cues as the majority of cited research is based on visually identifying and recognizing emotions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS564 - Making Emotions Work for You (0 Credits)**
You are not a passive recipient of your emotions. In this course, you will explore emotion regulation as a strategy for taking control of your emotions to help you achieve important life goals. You will examine what emotions are automatic, what ones you can control. You will then discuss how emotion regulation affects your day-to-day life, and then consider five major strategies for improving your awareness and regulation of those emotions. You'll identify which strategy you use most frequently, and then practice using a strategy. Finally, you'll explore tactics for influencing the emotions of others, and you'll develop a strategy for regulating your own emotions to achieve important life goals, and how you can influence the emotions of others.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS571 - Developing the Story and Idea (0 Credits)**
Strong writing skills are essential for crafting impactful stories and communicating ideas effectively. This course will equip you with strategies to enhance your writing skills and improve the productivity of your writing endeavors. Through workshopping, you'll discover ways to refine your writing practices with the help of a supportive community. You'll delve into script and literary analysis and experiment with form and format to improve clarity and effectiveness. Finally, you'll explore the art of crafting compelling narratives, techniques for generating ideas, and approaches for developing story elements.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS572 - World-Building and Character Development (0 Credits)**
Vivid characters and immersive worlds are key to captivating storytelling. In this course, you will develop compelling characters and rich story settings through hands-on writing exercises and targeted techniques. You ll craft detailed character biographies, explore the interplay between setting and personality, and build cohesive story worlds with their own internal logic and "dark matter." Through focused exercises in both poetry and prose, you ll create rich narrative environments that authentically reflect and shape your characters' experiences.The following course is required to be completed before taking this course: Developing the Story and Idea
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS573 - Building Blocks of Scene and Structure (0 Credits)**
Mastering the flow of story progression and dramatic tension allows writers to keep readers engaged from beginning to end. In this course, you will craft compelling narratives by honing the essential mechanics of plot development and character transformation. You ll examine conflict types, story beats, and plot structures, and you ll practice techniques for guiding characters through meaningful change. These principles will be applied across multiple forms, from traditional narrative to poetry, creating dynamic scenes that drive stories forward.The following courses are required to be completed before taking this course: Developing the Story and Idea,World-Building and Character Development
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS574 - Voice and Point of View (0 Credits)**
The way a story is told can shape its impact and deepen its connection with readers. This course explores the strategic use of narrative perspective and voice to craft distinctive, engaging stories. By experimenting with different points of view, tonal approaches, and voice techniques, you will refine your storytelling style while building meaningful connections with your audience. Examples from multiple genres, including poetry and film, will provide inspiration and expand your narrative toolkit.The following courses are required to be completed before taking this course: Developing the Story and Idea, World-Building and Character Development, Building Blocks of Scene and Structure
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS575 - Dialogue and Subtext (0 Credits)**
Dialogue has the power to bring characters to life and drive the story forward in subtle, impactful ways. In this course, you will craft authentic, purposeful dialogue that advances plot, reveals character, and enriches stories with layered meaning. Practical exercises in dialogue construction, exposition management, and subtext development will help you create conversations that feel natural while serving multiple narrative functions. You will also build a systematic approach to revising and refining dialogue.The following courses are required to be completed before taking this course: Developing the Story and Idea, World-Building and Character Development, Building Blocks of Scene and Structure
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CAS576 - Image and Action (0 Credits)**
Scenes that captivate readers and draw them into the world of a story are built through rich detail and intentional action. In this course, you will craft vivid, dynamic scenes using sensory detail and purposeful movement. By practicing description, metaphor, and action sequences, you ll create immersive experiences that drive your stories forward. Techniques for balancing showing and telling, maintaining clarity in action scenes, and weaving imagery into the narrative will further enhance your storytelling skills.The following courses are required to be completed before taking this course: Developing the Story and Idea, World-Building and Character Development, Building Blocks of Scene and Structure
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL501 - Strengths-Based Engineering Leadership (0 Credits)**
As leaders, we often give and receive feedback about weaknesses and development opportunities. There are typically systems and processes within organizations that encourage this type of feedback and drive employees to improve in specific areas. The question is, why do we spend so much time on weakness, and does it help? In this course, you will take a different approach to leadership development. Leading from strength is about looking at what someone is naturally good at, as well as the skills gained through experience. You will harness these strengths and learn to leverage and expand them. Leadership development takes timeyou won't be done with your journey when you complete this course. With that in mind, the course asks you to look into the future and set personalized development goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL502 - Values-Based Engineering Leadership (0 Credits)**

It's not uncommon for people to act differently when at home, at work, or with different types of people; while common, this is not advisable. Everyone has a set of personal core values, but not everyone is aware of them, and often people don't spend much time thinking about their values. In contrast, the best leaders learn not only how to tune into their own values, but also how to communicate and live those values in all aspects of life. In this course, you will work to lead with integrity while inspiring and empowering those around you. Professor Dawson will help you to discover and align your core values. She will guide you to apply your values to your leadership and to create an action plan for the future. Those who master values-based leadership will be able to rise more effectively through the engineering ranks, ultimately allowing them to emerge at the top without losing sight of what values are most important.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL503 - Decision-Making Skills for Engineering Leaders (0 Credits)**

Leaders of all kinds have to make informed and resolute decisions. Engineers are often fact and data driven, which can make them excellent decision makers. In general, everyone has a decision-making stylewhat separates out great decision makers is their ability to adapt based on a problem's needs. You will begin this course by evaluating your default decision-making style using a data-driven tool, Decision-Making for Leaders designed by Victor Vroom, a leading expert on decision making. You will then explore what quality decisions look like. These initial steps will set you up to more effectively take action and make good decisions. Professor Erica Dawson, PhD., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, guides you through the course, allowing you to evaluate yourself, digest the results and data, then assess your ability to effectively adapt. The course concludes with the creation of an action plan, setting yourself on a path for future success.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL504 - Collaborative Communication for Engineering Leaders (0 Credits)**

Leaders need to be able to collaborate, innovate, problem solve, and build relationships. All of these core responsibilities require excellent communication skills. Often when thinking of leaders, we picture them addressing crowds, giving directives, and commanding forces. Leaders need to be able to do those things, but they also need to be top-notch listeners and have the ability to use a variety of communication tactics at the right times. In this course, Professor Erica Dawson, PhD., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will break down critical skills that facilitate collaborative communication. She will guide you as you practice and apply these techniques. Many of the skills in this course, including listening and asking powerful questions, are core to strong interpersonal communication. These skills help you establish, improve, and maintain relationships. You will focus on workplace examples, but these skills are applicable outside of the workplace as well. Many of the skills are hard to learn and even harder to make a habit. Your life outside of work will impact your work and your ability to have good relationships. Mastering these communication skills and learning to leverage them to create open and collaborative communication is key to the future of any leader.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL505 - Courageous Communication for Engineering Leaders (0 Credits)**

Leaders need to be bold visionaries and trendsetters. They need to guide people and inspire those people to achieve the vision they lay out. To do so, the leader must be courageous. As leaders put so much of their efforts into guiding and inspiring others, it's fundamental for them to be skilled communicators. Engineers may not have spent much time refining their communication skills, especially those that involve a great deal of courage. However, leaders have and feel emotions within the workplace, and can harness those emotions to improve their leadership skills and become more courageous communicators. In this course, Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will help you develop your confidence and motivation to enact courageous communication. You will start by developing a new perspective on what courageous communication in the workplace is and how emotions play a role. You will then set intentions for moving forward. Ultimately your work will help you use the skills associated with courageous communication to develop and manage your team using feedback and leveraging difficult situations.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEL506 - Influence and Motivation for Engineering Leaders (0 Credits)**

Leaders need to be bold visionaries and trendsetters. They need to guide people and inspire those people to achieve the vision they lay out. To do so, the leader must be courageous. As leaders put so much of their efforts into guiding and inspiring others, it's fundamental for them to be skilled communicators. Engineers may not have spent much time refining their communication skills, especially those that involve a great deal of courage. However, leaders have and feel emotions within the workplace, and can harness those emotions to improve their leadership skills and become more courageous communicators. In this course, Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will help you develop your confidence and motivation to enact courageous communication. You will start by developing a new perspective on what courageous communication in the workplace is and how emotions play a role. You will then set intentions for moving forward. Ultimately your work will help you use the skills associated with courageous communication to develop and manage your team using feedback and leveraging difficult situations.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM500 - Probability Analysis (0 Credits)**
The world is full of possibilities, but how likely are any of them to occur? Immerse yourself in probability theory and discover how to evaluate the likelihood of different outcomes in a variety of real-life circumstances. You will get started by examining the different methods for describing and representing data, including the basic axioms that form the core of probability theory. You will then explore real-world applications and discover how engineers and scientists use random variables and associated analytical functions to quantify the likelihood of various occurrences in experiments and processes. You will gain experience using discrete random variables, or when the number of possible outcomes can be counted, as well as continuous random variables, or when the number of possible outcomes is infinite. You will also explore data transformation and several kinds of probability distributions, including ones that assess the joint probability of two or more related variables. Toward the end of the program, you will apply what you have studied and investigate ways of modeling and predicting variability and patterns in data through the use of ordered collections and graphical representations, including normal, lognormal, Gumbel, and Weibull distributions. Note: You will need a working knowledge of algebra and univariate calculus prior to enrolling and will need to get access to the course's textbook, the ninth edition of Probability and Statistics for Engineering and the Sciences by Jay Devore. We suggest you obtain the book prior to the start of the course and consider the interactive eTextbook version, available for purchase online or from other retailers.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM531 - Developing Innovation Strategy (0 Credits)**
An enterprise with an innovation culture doesn't just happen. You must plan for both financial success and cultural change. There are several types of and approaches to innovation. How do you create an innovation strategy for your enterprise? In this course, you will begin to create a roadmap called the innovation placemat. You will identify your organization's goals and align your innovation strategy to it. You will cultivate an executive champion and set SMART goals for your new product, service, or technology. You will identify risks and barriers to deployment and create mitigation plans to overcome them. Along the way, you will hear case studies of organizations large and small, private and government, established and startup, and in many domains who have successfully established an innovation strategy with sustainable positive effects on their bottom lines.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM532 - Building Innovation Competencies (0 Credits)**
To create and sustain a culture of innovation and entrepreneurship in your organization, it is helpful to establish an environment that supports certain mindsets. And these mindsets can create first a culture change in your organization, often followed by a higher financial return on investment. These mindsets are the competencies that convert ideas to impact. In this course, you will learn about and apply three key innovation competencies: lean startup, maker culture, and design thinking. Each of these competencies are used by large and small organizations, resulting in new products and services and satisfied employees and customers. Lean thinking is a form of customer discovery where you will develop a series of hypotheses and then test them. Maker culture is based on the do-it-yourself ethos and can help you prototype and test products quickly, reducing time to market. Design thinking is a process of empathetically listening to and then co-designing with your customers. While the three competencies have some overlapping methodology, one or two of them will best support your innovation strategy and tie in more effectively with your organization's overall strategy. The following course is required to be completed before taking this course: Developing Innovation Strategy
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM533 - Innovation Tools (0 Credits)**
There are many exciting tools you can use to implement innovation at your organization. These tools are the hammer and nails of innovation. In this course, you will learn about 14 innovation tools. You will also see how other organizations have used them to successfully increase cultural and financial ROI, please customers, and improve operational efficiencies. These tools range from simpler activities such as conducting employee training, hosting hackathons, and implementing design sprints to more complex methods such as establishing an external incubator, founding a center of excellence, and acquiring another company. You will then further iterate your innovation placemat. The following courses are required to be completed before taking this course: Developing Innovation Strategy, Building Innovation Competencies
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM534 - Implementing Innovation (0 Credits)**
So far you have created an innovation strategy and established a vision, SMART goals, and outcome measures. You've identified competencies such as lean startup, makerspace, and design thinking, and selected tools to build an innovation culture. Now you will learn how to implement your strategy. After you map key internal stakeholders, you will devise a campaign plan for your strategy and build a dedicated team. You will understand the different motivations of your innovation shop and the performance engine and learn to work effectively with performance engine team members. You will further build out your innovation placemat with your implementation plan, identifying policies that can enhance innovation at your organization. The following courses are required to be completed before taking this course: Developing Innovation Strategy, Building Innovation Competencies, Innovation Tools
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM535 - Evaluating and Scaling Innovation (0 Credits)**
In this course, you will devise a strategy to manage a portfolio of innovation projects at your organization. You will examine best practices for portfolio management and establish a plan to spread your innovation and innovation culture. Then you will examine typical risks to your scaling strategy and establish a sustainment plan. Finally, you will revise your innovation placemat and present a practice pitch. This activity will prepare you to pitch your innovation placemat at your organization. The following courses are required to be completed before taking this course: Developing Innovation Strategy, Building Innovation Competencies, Innovation Tools, Implementing Innovation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM551 - Communicating with Data (0 Credits)**
With the number of applications available today, it is easy to create an assortment of graphs, charts, and other visualizations of data. This does not, however, guarantee that the data and the story behind it are being compellingly conveyed; without pinpointing that story in the data, it is impossible to communicate it effectively with visuals. In this course, you will examine how to frame the narrative in your data, determining the right visualization for the right question. Next, you will explore design principles that consider human attention and perception, then apply these concepts to your own visualizations in order to create simple, effective visuals that illustrate the key points in your data. Finally, you will compile your visual narratives and prepare them for professional presentation. You will be required to purchase "Storytelling with Data: A Data Visualization Guide for Business Professionals" by Cole Nussbaumer Knaflic to complete your coursework.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM552 - Plotting Visualizations with Python (0 Credits)**
In this course, you will begin to create data visualizations in Python. You will do this by exploring the array of visual tools available in Matplotlib, a Python package designed with straightforward code techniques to make effective visualizations of data sets. You'll start by examining visualization libraries to determine the styles that best meet the needs of your data. You will then examine some simple approaches to efficiently utilize the Matplotlib documentation. Finally, you will create several plot types in Python, applying best practices and design principles in order to clearly and accurately communicate the story contained in your data. At the end of this course, you will be able to create and customize your own visualizations with minimal programming experience required.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM561 - Preparing for Success as a Product Manager (0 Credits)**
To be successful, product managers need a clear understanding of their roles and responsibilities. They also need a clear sense of the required skills and competencies. An appreciation of the roles, responsibilities, and requisite capabilities of this important position is also beneficial for stakeholders and team members who need to work closely with product managers. This course lays the foundation for success in product management by exploring a product manager's position in an organization and the key associated responsibilities. You will examine the specific skills and competencies most likely to lead to success in carrying out those responsibilities. To further improve your understanding of product management, you will consider how product managers typically work with a product team and other stakeholders to develop successful products, whether they be digital products, hardware, or service offerings.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM562 - Managing Product Teams (0 Credits)**
Before a product is developed, product managers must know how to organize and manage a team. They must understand the typical product development lifecycle and be able to select an appropriate development methodology. They must lead the process of identifying and embracing core principles and values appropriate for their team, and they must engage effectively with stakeholders and funding sources. This course will help build skills in the "nuts and bolts" of product team leadership. You will consider the typical phases of product development and the roles that are involved in each step of the development process. You'll look at possible team structures and the importance of a team charter. You'll survey a number of product development methodologies. Finally, you'll explore ways to foster a dynamic team culture, run effective team meetings, and keep a product team motivated and focused on shared goals. It is recommended to take Preparing for Success as a Product Manager prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM563 - Identifying and Targeting Customer Needs (0 Credits)**
Products can only be successful if they address the real needs of customers. Product managers must lead a team effort to research customer needs and propose products that address those opportunities in innovative ways. This course will guide you through the steps that effective product managers take to propose a product, research the market, begin work on a product roadmap, and identify and analyze specific needs that will inform the design process. You will explore the importance of user stories and develop personas that represent your potential customers. It is recommended to take Preparing for Success as a Product Manager and Managing Product Teams prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM564 - Prioritizing for Product Roadmaps (0 Credits)**
After customer needs are identified, product managers must lead a team effort to decide how a new or revamped product can best meet those needs. They must translate customer insights into specific design ideas and establish priorities for the design and development process. They must develop a convincing business case and win the support of stakeholders and funding sources. This course will guide you through the process that effective product managers use to develop and prioritize design ideas based on customer research. You will see how product roadmaps are updated as ideas are refined. You will develop a business case, explore ways of winning buy-in for your project from the people whose support is essential to success, and develop a product charter. It is recommended to take Preparing for Success as a Product Manager , Managing Product Teams , and Identifying and Targeting Customer Needs prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM565 - Designing and Developing Products (0 Credits)**
When customer needs have been analyzed and broad priorities have been set for product development, actual design and development can commence. The design process often uses a variety of methods to hammer out increasingly detailed plans. After these plans are validated, development work begins. This course will start you on the design and development process by showing you how to document detailed project requirements. You will see how to develop prototypes of increasing precision. You will explore how to seek and evaluate design feedback from customers. Finally, you will consider a range of development issues and best practices, including the use of sprints, the establishment of appropriate infrastructure, progress tracking, and working with remote and third-party teams. It is recommended to take Preparing for Success as a Product Manager , Managing Product Teams , Identifying and Targeting Customer Needs , and Prioritizing for Product Roadmaps prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM566 - Managing the Product Lifecycle (0 Credits)**
After a product has been developed, the product manager must bring it to market and manage the product lifecycle as it evolves. The PM must work with other departments to sustain and improve the product over time and must take steps to retire the product at the right time. This course will show you how to prepare for product launch through close coordination with key departments like marketing, operations, sales, and quality assurance. You will explore ways to build up to an effective mass product launch, and then track and manage the product in the market after launch. You will see how to work with your colleagues in other departments to ensure appropriate growth in product features as well as market viability. Finally, you will reflect on the decisions and steps needed when "sunsetting" a product at the end of its life cycle. It is recommended to take Preparing for Success as a Product Manager , Managing Product Teams , Identifying and Targeting Customer Needs , Prioritizing for Product Roadmaps, and Designing and Developing Products prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM571 - Redesigning Slides for Impact (0 Credits)**
As a person working in a technical field, you most likely have to give talks or presentations to different audiences, some of whom will be non-experts or decision makers outside your sphere of expertise. In this course, you will look at your own current practices for giving talks as a technical expert and establish a set of action items for improvement. You will look closely at your old habits and establish new ways to design, build, and deliver effective in-person and virtual presentations for an array of internal and external audiences. You will also examine, reevaluate, and apply best practices for engineering, technical, and scientific presentations, and explore current and past presentation practices that do not achieve the intended goals and results. This examination will help you refine your ability to deliver an effective message. Specifically, you will perform an assessment of presentation techniques, both personal and at your workplace. From that starting point, you can reengineer your presentations to meet specific technical communication needs. Most importantly, you will have an opportunity to discover and articulate your organization's presentation culture, identify areas for improvement in your own slide design and presentation skills, set goals for leveraging effective new presentation habits, and formulate a detailed action plan for improvement. Throughout this course, you will read various selections from Dr. Traci Nathans-Kelly's book "Slide Rules," which contains helpful insights and examples that you can apply in your own presentations. Furthermore, you will prepare for a specific work-related talk and define the needs of co-presenters, audience members, subject matter experts, and other stakeholders.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM572 - Engaging Presentation Techniques (0 Credits)**
Since the advent of presentation software like PowerPoint, presenters have been led astray by the design of slide templates. The software applications were originally created to help presenters outline their talks, but the slideware's design did not account for the needs of audiences nor factor in cognitive research. As a consequence, the templates have ingrained poor presentation habits that often confuse and disengage the people who are meant to benefit from these talks. In this course you will have an opportunity to begin challenging the norm and break this cycle of "slide deck drudgery." By replacing old presentation habits with new best practices that you gain from this course, you can shift your focus to the needs and interests of your audience, and you can begin to use your slides to communicate your ideas more clearly and effectively. You will explore new techniques that will help you to improve the flow of your talk and keep your audience focused on your main ideas. You will then study effective presentation design and development practices as you read various selections from Dr. Traci Nathans-Kelly's book "Slide Rules," which contains valuable insights and examples that you can apply in your own presentations. It is recommended to only take this course if you have completed "Redesigning Slides for Impact" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM573 - Designing Slides for Live and Legacy Use (0 Credits)**

When giving a presentation, you want to ensure you communicate all of your critical ideas while you have your audience's attention. There are more effective ways of doing so beyond the standard large amounts of text and bullet points. In this course, you will have the opportunity to rethink the way you design your presentations and slides. You will discover that there are straightforward ways to use your slide decks to serve two purposes: support your technical and business presentations while making your slide decks reusable and valuable resources inside your organization. You will then examine the life cycle of your presentations and begin to document who uses your slides, when they are used, and what clearances are needed to share and use them. You will also consider legal issues or proprietary concerns that may exist. Finally, you will start to build a process to help you protect proprietary information before you share it with external parties. As part of your study, you will review various selections from Dr. Traci Nathans-Kelly's book "Slide Rules," which provides helpful insights and enlightening examples that you can apply in your own presentations. It is recommended to only take this course if you have completed "Redesigning Slides for Impact" and "Engaging Presentation Techniques," or have equivalent experience.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM574 - Strategizing for Audiences With Different Expertise (0 Credits)**

Your work in a technical field likely means that you periodically interact with colleagues, customers, suppliers, and other stakeholders who live in a different part of the world, speak a primary language different from your own, or have expertise in a different or non-technical field. As a technical expert, your ability to anticipate the needs of audiences from diverse backgrounds and communicate effectively with them is essential. In this course, you will have an opportunity to explore how you can prepare to meet the needs of audiences with differing backgrounds, primary languages, and levels of expertise, and even varying degrees of receptivity to your message. You will examine principles of persuasion and consider how and when to apply them both effectively and ethically. As part of your studies, you will also review pertinent selections from Dr. Traci Nathans-Kelly's book "Slide Rules," and you will look at how you can prepare for the unexpected in your talks and maintain your composure when disruptions occur. By the end of this course, you will have gained techniques and insights that you can apply as you prepare and develop presentations for a wide range of audiences with varying needs and interests. It is recommended to only take this course if you have completed "Redesigning Slides for Impact," "Engaging Presentation Techniques," and "Designing Slides for Live and Legacy Use," or have equivalent experience.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM575 - Projecting Expertise and Confidence During Presentations (0 Credits)**

Effective communication skills are the hallmark of a professional no matter what the profession. In this course, you will begin to parse the ways in which you present yourself to others as a technical expert. In any presentation or talk that you give, whether face to face or online, you want to project expertise, confidence, and professionalism. The idea of professionalism, however, can vary. Everyone expects professionalism, but the definition and perception of professionalism differs greatly among individuals, organizations, nations, and cultures. In this course, you will delve into the concept of professionalism in presentations and explore how it varies depending upon the context, the participants, and their expectations. You will study effective practices for designing, developing, and delivering professional-grade online meetings and team presentations. Additionally, you will have an opportunity to examine the importance of your body language, eye contact, and voice in projecting confidence in your talks, regardless of the setting or delivery medium. You will then record a talk and take an inventory of your expert presence in the video. You will also investigate the nuances and complexities of developing and delivering team presentations. In the final part of the course, you will complete the process of preparing to deliver a professional-level team talk. It is recommended to only take this course if you have completed "Redesigning Slides for Impact," "Engaging Presentation Techniques," "Designing Slides for Live and Legacy Use," and "Strategizing for Audiences With Different Expertise," or have equivalent experience.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM576 - Constructing High-Impact Content for Global Delivery (0 Credits)**

Thanks to ongoing advances in communication technologies, you can collaborate in real time with colleagues, customers, suppliers, investors, and other stakeholders around the world. That reality presents both exciting opportunities and potential challenges. You can share ideas and receive information with great ease, but your message could encounter cultural and language barriers as you communicate with diverse audiences. In this course, you will explore effective ways to deliver high-impact content that meets the needs of multinational audiences in live, online, and face-to-face presentations. Using practical insights studied in this course, you will strategize and prepare for high-impact presentations in formal settings. You will scrutinize how to design and adapt your slides and delivery techniques to meet the needs of international audiences speaking multiple languages. You will also see how you can leverage your slide presentations to create custom videos that address the needs of your target audience. It is recommended to only take this course if you have completed "Redesigning Slides for Impact," "Engaging Presentation Techniques," "Designing Slides for Live and Legacy Use," "Strategizing for Audiences With Different Expertise," and "Projecting Expertise and Confidence During Presentations," or have equivalent experience.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM581 - Understanding Data Analytics (0 Credits)**
By some estimates, 90% of the data that has ever existed has been created in the last two years. This is a staggering figure and has given rise to new challenges and opportunities in almost every industry: What kind of data do you need to collect to compete, and how can you make sense of it once you have collected it? As technology evolves and the volume of data increases, how can you make the best use of all this information? How can you use the data to help drive your decision-making? How can you make data work for you? How can you ensure your data accurately reflects the population in which you're interested? In this course, you will determine the types of engineering and business questions you can answer, the kinds of problems you can solve, and the decisions you can make, all through using data analytics. You will explore best practices for collecting information so that you can make informed predictions, develop insights, and better inform organizational decision-making. You will see real-world examples that demonstrate how those tools work. Additionally, you will have a chance to apply some of the concepts to your own work. You will explore best practices for sampling and examine how different types of sampling are suited for different situations. Finally, you will see real-world examples that demonstrate how those tools work and have a chance to practice sampling techniques in some case-study scenarios.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM582 - Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis (0 Credits)**
Visualization is one of the most simple and effective ways to find patterns in data. These patterns include: What is the general range and shape of the data set? Are there any clusters of observations? Which variables correlate with each other? Are there any obvious outliers?As your data set grows in terms of the number of data points and variables, however, it becomes increasingly difficult to visualize all this information at once. At most, you can plot data points on a three-dimensional axis and add further distinctions of size, color, shape, and so on. Yet this can easily become too busy and difficult to read. How, then, do we find patterns in really big data sets?In this course, you will explore several powerful and commonly utilized techniques for distilling patterns from data. You will implement each of these techniques using the free and open-source statistical programming language R with real-world data sets. The focus will be on making these methods accessible for you in your own work.You are required to have completed the following courses or have equivalent experience before taking this course: Understanding Data Analytics
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM583 - Finding Patterns in Data Using Cluster and Hotspot Analysis (0 Credits)**
When you have large groups of objects, it is often helpful to split them into meaningful groups or clusters. One example of this would be to identify different types of customers so that a company can more efficiently route their calls to a helpline. As a second example, suppose an automobile manufacturer wanted to segment their market to target the ads more carefully. One approach might be to take a database of recent car sales, including the social demographics associated with each customer, and segment the population purchasing each type of automobile into meaningful groups.Specialized approaches exist if your data contains information that relates to time and geography. You can use this additional information to identify geographical and temporal hotspots. Hotspots are regions of high activity or a high value of a particular variable. These results can help you focus your attention on a particular region where a problem is occurring more than usual, such as the incidence of asthma in a large city. In both cluster and hotspot analysis, the results can help you discover new and interesting features, problems, and red flags regarding the data being analyzed.In this course, you will explore several powerful and commonly utilized techniques for performing both cluster and hotspot analysis. You will implement these techniques using the free and open-source statistical programming language R with real-world datasets. The focus will be on making these methods accessible and applicable to your work.You are required to have completed the following courses or have equivalent experience before taking this course:Understanding Data Analytics Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM584 - Regression Analysis and Discrete Choice Models (0 Credits)**
A story can play an important role in understanding data. It can help distill complex information into something manageable- something we can think about easily, relate to, and use to make decisions. For many problems that we encounter globally, however, a story that describes what already happened is not enough precision for the job we want to perform. Often, we would like to use available data to make numerically accurate predictions about what might happen in the future. This task requires the construction of mathematical models that are well suited to our real-world problems.In this course, you will explore several types of statistical models used with data to make predictions. These models bring with them a whole batch of important concerns, such as estimation and validation, that make the entire process into both an art and a science. You will implement each of these techniques using the free and open-source statistical programming language R with real-world data sets. The focus will be on making these methods accessible for you in your own work.You are required to have completed the following courses or have equivalent experience before taking this course:Understanding Data Analytics Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis Finding Patterns in Data Using Cluster and Hotspot Analysis
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM585 - Supervised Learning Techniques (0 Credits)**

Supervised learning is a general term for any machine learning technique that attempts to discover the relationship between a data set and some associated labels for prediction. In regression, the labels are continuous numbers. This course will focus on classification, where the labels are taken from a finite set of numbers or characters. The prototypical and perhaps most well-known example of classification is image recognition. The goal is to take an image (represented by its pixel values) and determine what objects are in the image. Is it a dog? A grapefruit? A stop sign?There are many practical classification tasks, such as determining whether an individual's financial history makes them high risk for a loan, whether there is a defect in a material based on some sensor readings, or whether a new email is spam or not. These problems share the same basic form and can be solved with many different types of mathematical, statistical, and probabilistic models developed by the machine learning community.In this course, you will explore several powerful and commonly utilized techniques for supervised learning. You will implement each of these techniques using the free and open-source statistical programming language R with real-world data sets. The focus will be on making these methods accessible for you in your own work.You are required to have completed the following courses or have equivalent experience before taking this course:Understanding Data Analytics Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis Finding Patterns in Data Using Cluster and Hotspot Analysis Regression Analysis and Discrete Choice Models
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM586 - Neural Networks and Machine Learning (0 Credits)**

Neural networks, a nonlinear supervised learning modeling tool, have become hugely popular within the last two decades because they have been successfully applied to a wide range of problems, including automatic language processing, image classification, object detection, speech recognition, and pattern recognition. They are mathematical models that are loosely built up based on an analogy to the interconnected neuron in the brain. They take in a vector or matrix of input data and output either a classification value or an approximation to a functional value. The beauty is that the relationships between the inputs and outputs can be highly non-linear and complex.In this course, you will explore the mechanics of neural networks and the intricacies involved in fitting them to data for prediction. Using packages in the free and open-source statistical programming language R with real-world data sets, you will implement these techniques. The focus will be on making these methods accessible for you in your own work.You are required to have completed the following courses or have equivalent experience before taking this course:Understanding Data Analytics Finding Patterns in Data Using Association Rules, PCA, and Factor Analysis Finding Patterns in Data Using Cluster and Hotspot Analysis Regression Analysis and Discrete Choice Models Supervised Learning Techniques
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM591 - Framing Decisions (0 Credits)**

Many real-world decision situations are complicated by uncertainty, complexity, and competing objectives. When you begin to frame and analyze a complex decision, you quickly realize: Defining the problem is the problem. In this course, you will explore the concepts and tools you'll need for framing and analyzing complex decisions. You will define and frame the key components of a problem and identify the values that will inform your decision. You will then begin to map your values to your objectives with applicable examples. Finally, you will apply decision analysis to a wicked problem. Overall, you will examine how your unique perspective can alter how you frame and make complex decisions.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM592 - Using Decision Trees (0 Credits)**

As you begin to frame your decisions, it's important to organize the problem in a manner that allows for the proper examination of solutions and their varying impacts. At this point, you can begin to incorporate the use of decision trees to meet that goal. What are the various kinds of decisions you can make? How is the impact of each decision path weighted and differently valued? Constructing decision trees will provide you with some answers to these questions. In this course, you will explore the aspects of decision trees and when to best incorporate them into your decision analysis. You will map how performance measures may influence different sequences and outcomes. You will calculate risk profiles, develop modeling measures, and decide on the proper usage of decision trees in discrete choice situations. While decision trees are commonly and widely used, they won't always be the right approach; you will explore in detail why that is and when it can make the most sense in given situations.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM593 - Accounting for Subjectivity and Valuing Information (0 Credits)**

When you conduct your quantitative analysis, the fact that it is quantitative may seem to imply that the data is objectively set in a definitive manner and not suited for subjective analysis. In reality, quantifiable metrics include subjectivity at several points, including how the problem is approached and how you elicit the observations of knowledgeable individuals. It may surprise you, but you will often encounter subjectivity while you're trying to frame a decision process that is objective. Many times you'll discover that the questions that you're asking, the types of probabilities you need, and other information won't involve perfectly clear observations. Making a decision, therefore, isn't always as simple as picking the "best" quantitative option. When you consider potential solutions, how does the elicitation of subjective data come into play? In this course, you will analyze the processes and theories you must consider as you begin to explore the subjectivity of objectivity in decision making and how they are related. You can potentially elicit subjective expertise to get a sense of the demand for a certain approach. You can also think about the overall riskiness of your potential choice as you deliberate over options. And there are biases and heuristics that may affect your decision. This all points to the importance of understanding the value of information and how it might influence your decisions. Evaluating how the subjectivity of objectivity can affect how you view options will provide added context and tools for decision making. These elements will help guide you as you further consider how to frame your choices.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM594 - Risk Attitudes and Key Assumptions in Utility Theory (0 Credits)**

Making a decision often isn't as simple as choosing between Choice 1 and Choice 2 because one option is clearly better than the other. In the real world, not only are there complexities regarding financial costs, but there are deeper considerations around risk. Adding risk into the equation then requires considering whether the more profitable option is not worth the risk, and adding utility theory allows for the proper modeling of these complex choices. Risk and other considerations can subsequently be placed into a decision tree for further evaluation. You have explored how subjective probabilities and the value of information can be integrated into your decision analysis. In this course, you will examine how risk attitudes and utility theory also impact your decision analysis. You will identify how risk attitudes are related to several axioms and paradoxes. You will also use utility theory to devise a model for quantifying subjective inputs to a decision then apply these additional considerations to a decision tree framework. Risk and utility theories have the potential to totally change how you may have originally framed your decision, but this fuller picture provides invaluable insight into how you should make your decisions. It will also offer clearer context for when you incorporate more complicated analysis tools into your analysis process.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM595 - Implementing Simulation-Based Optimization (0 Credits)**

In complex engineered systems and design processes, you do not have the luxury of having fully defined decision alternatives with a clear mapping of their performance trade-offs or consequences. As you transition from classical discrete-choice problems, problem structuring and evaluation tools must become more advanced in their ability to explore large design problems while providing innovative decision analytical tools for helping to clearly map possibilities, their trade-offs, and key consequences. In this course, you will discover how to formulate multi-objective design problems and more formally consider their trade-offs using the concepts of non-dominance, Pareto optimality, and a posteriori decision support.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM596 - Modeling Design Decisions and Performance (0 Credits)**

As computational simulation becomes more commonplace in design and decision processes, it is important for you to consider how uncertainty could be impacting your perceptions of performance, trade-offs, and consequences. A single simulation can be seen as mapping from your design alternative to its performance objectives based on a single set of assumptions and choices used in the model's representation of the system of interest. Monte Carlo simulation can be thought of as accounting for uncertainties in your modeling assumptions and choices where you can simulate performance if your design resides in many different but plausible alternative worlds (i.e., many states of the world). In this course, you will broaden the types of performance measures that can be used in your decision framings to include risks and vulnerabilities. You will assess the value of Monte Carlo simulation in better understanding the sensitivities, risks, and consequences of your candidate design alternatives. You will also explore the emerging insights and analytics associated with decision making under deep uncertainty. Given the many ways that our decisions shape concerns surrounding people, profit, and planet, finding solutions that maintain acceptable performance across many plausible futures then explicitly mapping their vulnerabilities is extremely valuable.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM597 - Designing for Resilience and Robustness (0 Credits)**

Decision making for complex systems often necessitates the modeling of system dynamics, optimization across multiple conflicting objectives, the analysis of uncertainty, and the visual analysis of performance. The depth of analysis is often limited by the tools available to decision makers. Recently, however, a number of software packages have been developed and deployed specifically to aid in decision making for complex systems. In this course, you will explore the latest options in real-world decision making in the face of uncertainty. You will also use the open source Python library Rhodium to examine the shallow lake problem by testing multiple problem formulations, examining trade-offs between conflicting objectives, and discovering consequential combinations of uncertainty. In your final project, you will examine your decisions in simulated situations of uncertainty.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM611 - Risk Analysis Foundations (0 Credits)**

A foundation in risk analysis is a crucial skill set in today's business marketplace. When you can understand risk and apply strategies to manage it, you set yourself up for success in an ever-changing world. In this course, you will explore key risk evaluation strategies and tools. You will begin by delving into the basics of risk analysis, studying hazards, risk management strategies, and vulnerability identification. You will then broaden your focus to visualizing and estimating risk, discussing models such as risk matrices that categorize risks by likelihood and consequence. Finally, you will analyze the causes and effects of adverse events, constructing event trees and performing fault tree analysis using practical tools like Python and R. By the end of this course, you will have a firm grasp of risk analysis and evaluation, including how to assess the likelihood and effects of adverse events.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM612 - Risk Evaluation (0 Credits)**

Evaluating risk can feel difficult without the proper statistical techniques in your toolbelt. To give yourself that foundation, you will need to understand both the concepts and the tools involved in the process. In this course, you will walk through the process of risk assessment using several statistical techniques. You will begin by learning to monitor and analyze variations to ensure product or service quality. You will then practice evaluating risk using discrete distributions and summarizing findings using common statistical techniques for risk analysis, including skewness and distributions such as log-normal distributions. You will also gain familiarity with critical functions and concepts in risk analysis, including power law functions and distributions, semi-variance, volatility and beta, and value at risk (VaR), a financial metric used to assess potential asset or portfolio losses. Finally, you will examine design methodologies geared toward improving product reliability, including design for reliability, design for Six Sigma, and quality control. By the end of this course, you will be well-equipped to analyze and evaluate risk using numerous statistical methods. You are required to have completed the following course or have equivalent experience before taking this course: Risk Analysis Foundations

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM613 - Risk Modeling (0 Credits)**
Once you have a sense of risk for a situation, how can you model that risk using the most common tools of the industry? In this course, you will assess a given situation, select the appropriate modeling tools, and perform a risk analysis. You will begin by identifying the attributes that make a model strong, providing you with a blueprint for creating user-friendly and reliable models for risk analysis. You will explore the most commonly used risk analysis tools, including simulation, fault trees, event trees, Bayesian networks, and statistical tools. Your examination of simulation tools will have you quantifying risk by creating a Monte Carlo simulation and constructing a Bayesian network. Finally, you will discuss mitigation, diversification, and transfer of risk as well as how to pick the correct combination for a given situation. By the end of this course, you will have the necessary foundation to model risk and apply strategies to set you up for success. You are required to have completed the following courses or have equivalent experience before taking this course: Risk Analysis Foundations Risk Evaluation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM614 - Risk Perception (0 Credits)**
Reducing risk in business and life is a goal for many of us, but how can we effectively assess risk in a world where everyone's perceptions are so different? In this course, you will explore risk perception, which describes how each person views and measures the nature and severity of danger. Unlike the numerical depiction of risks, risk perception is influenced by personal experiences, mental activities, context, and inherent personality traits. You will discuss the effects of risk perception on risk evaluation and decision making. You will then explore models such as expected utility, bounded rationality, and prospect theory, giving you a foundation in the elements of risk perception. Finally, you will investigate cognitive shortcuts and biases, including the availability heuristic, anchoring and adjustment, confirmation bias, and overconfidence, and determine their repercussions on behavior. These skills will give you the tools to examine the risk perceptions of various stakeholders, address cognitive biases, and identify suitable models for decision making under uncertainty. By the end of this course, you will be equipped with the methods and insights necessary to effectively evaluate and manage risks, even in complicated situations. You are required to have completed the following courses or have equivalent experience before taking this course: Risk Analysis Foundations Risk Evaluation Risk Modeling
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM621 - Navigating Technical Product Management (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM622 - Developing a Data-Driven Product Strategy (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM623 - Optimizing Product Strategy Using Analytics (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM624 - Analyzing and Communicating Consumer Insights (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM625 - Applying Project Methodologies to Technical Products (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM626 - Creating a Compelling Value Offering (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM631 - Six Sigma Statistics Essentials (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM632 - Six Sigma Tools and Methodologies (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM633 - Identifying and Measuring Risk (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM634 - Risk Analysis and Six Sigma (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM635 - Project Management for Six Sigma (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEM636 - Six Sigma Black Belt Capstone (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEEN500 - How Lasers Work (0 Credits)**
Lasers have affected the human story. Through the use of lasers, we have been able to create almost unlimited high speed global communication, modify materials ranging from the lens in your eye to carbon steel, and completely transform how our music, video, and data is stored. What's next? Currently, emerging applications such as LIDAR and remote sensing are already changing the way we think about and advance our technology, improve industrial productivity, and create new opportunities.In this course, you will analyze the design of a laser system, identifying the unique aspects of laser light that provides the power and accuracy needed to perform in the broad spectrum of applications. You will see multiple demonstrations of lasers, including all the parts of the system, and discuss how they are being used to solve complex productivity issues. You will explore the underlying fundamentals of how lasers work by calculating the energy and physics required to power and manipulate the laser beam for your own application or design goals, completing exercises modeled after real-world applications of the laser.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL501 - Leverage Emotional Intelligence for Project Results (0 Credits)**

Even experienced project leaders will ask themselves "Why won't people listen to me?" or "What went wrong with my plan?" Of all the skills critical to project leadership, emotional intelligence may be the most important and least understood. In this course, you will learn to identify, analyze, and manage emotions, both yours and your team members'. It is a common mistake among project leaders to focus too heavily on the mechanics of project management while neglecting the critical people skills that keep everyone engaged and working harmoniously. In this course, from Robert Newman of Cornell's College of Civil and Environmental Engineering, project leaders will explore concepts of emotional intelligence and practice skills relevant to managing emotions so that they can enjoy better project outcomes. You will focus on five critical aptitudes: communication, relationship management, decision making, conflict management, and motivation.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL502 - Communicate Well to Drive Project Outcomes (0 Credits)**

Even experienced project leaders often find that regular meetings and status updates don't lead to meaningful communication. When the team doesn't fully understand project goals or how the work is going to get done, that lack of clarity will have a direct impact on whether the project is on time, within budget, and will lead to quality output. At the same time, team members may mislead you about their progress. Stakeholders may not always explain their expectations. Customers may be unclear about what they want and need. What's going wrong? And how can a project leader do better? In this course, authored by Cornell Instructor Robert Newman, you will examine typical project-related communication problems and explore practical strategies for overcoming them. You'll learn to host kick-offs and lead meetings that actually guide the team toward successful outcomes. You will practice communicating with a fresh, even sometimes unfamiliar, perspective in order to bring about productive and high-functioning working relationships. The course Leverage Emotional Intelligence for Project Results is required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL503 - Turning Groups Into Teams (0 Credits)**

Getting skilled people to behave and perform as high-functioning teams can be a challenge. In this course, you'll take a look at how teams tend to progress, what might impact motivation and engagement, and how culture can influence behaviors and results. This course, authored by Cornell Instructor Robert Newman, will show you how the fundamentals as taught by top researchers like Frederick Herzberg, Bruce Tuckman, and Meredith Belbin can help turn a group of workers into a high-performing team. It is recommended to take Leverage Emotional Intelligence for Project Results prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL504 - Leading Project Teams (0 Credits)**

Seasoned project leaders sometimes apply the same leadership approach to every situation. In this course, authored by Cornell Instructor Robert Newman, you'll explore a number of leadership styles to assess their relative strengths and weaknesses. You'll learn how to manage safety concerns, when to be directly coercive, and see how creative collaboration and a shot of inspiration can turn things around for a team. After taking this course, you'll be ready to employ a particular style or model of leadership just as a carpenter would a tool. Does the occasion call for a hammer or a saw? Every style of leadership has its merits and its place. Find out what style works best for the situation. It is recommended to take Leverage Emotional Intelligence for Project Results prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL505 - Managing Conflict on Project Teams (0 Credits)**

As a project leader you need to be able to distinguish between when conflict is healthy and when it's damaging to relationships and productivity. In this course, authored by Cornell Instructor Robert Newman, you'll learn to identify various causes and sources of conflict and learn to foster healthy disagreement within a project team. It is recommended to take Leverage Emotional Intelligence for Project Results prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPL506 - Monitoring and Controlling Projects (0 Credits)**

When errors, misses, over-runs and problems occur during projects, a balanced, measured response from the project leader is critical. If you underreact, stakeholders will begin to doubt your effectiveness. If you overreact, your teams will be in fear, crushing any creative effort and stifling information sharing. In this course, authored by Cornell Instructor Robert Newman, you will examine the human elements of project monitoring and control and review common errors that occur on projects. You'll learn how to ask the right questions and improve team connectedness. It is recommended to take Leverage Emotional Intelligence for Project Results prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPM501 - Organizing the Project and Its Components (0 Credits)**

On the surface, project management seems straightforward. However, at best, only 80% of projects end up being economically successful. The remaining 20% of projects usually cost more than estimated, run late, or fail to satisfy goals or meet objectives. In this course, Linda Nozick, Professor and Director of Civil and Environmental Engineering at Cornell, shares clear, understandable, and practical methods for achieving better results. You will practice breaking down a project into pieces that can be scheduled, tracked, and controlled. While this is not a prep course for a project management certification, it will be quite valuable for anyone who is interested in pursuing one. This program will equip you with the concepts, tools, and language of project management that can be applied to any size and type of project. The course is not specific to any formal project management software (e.g. Microsoft Project), but will require that learners have Microsoft Excel with its free Solver add-on installed.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPM502 - Planning and Managing Resources (0 Credits)**
Research shows that a high percentage of projects take significantly longer than expected and cost more than anticipated. Moreover, if you ask people for an estimate of how long a task will take them to complete, their estimate will usually be overly optimistic. Sometimes, if you bring in extra people to help with a task, that actually slows down progress instead of accelerating it. Why is this so? And what can you do about it? In this course, from Linda K. Nozick, Director and Professor of Civil and Environmental Engineering at Cornell, you will examine these questions. Students will identify strategies to integrate resource availability constraints into project planning, scheduling, and control. This course is designed for project managers who seek better practical results for aligning available resources with tasks and bringing activities to completion on time. Students will examine compression strategies for bringing a project that's running late back on track and will explore how to handle common types of project creep, such as handling customer requests that require extra time, and working with team members who decide independently to invest extra effort in a task. This course combines a focus on formal project management mechanisms with an emphasis on the human element: what can project managers do to resolve issues brought about in the normal course of working with customers, team members, and stakeholders? It is recommended to take Organizing the Project and Its Components prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPM503 - Assessing, Managing, and Mitigating Project Risk (0 Credits)**
Risk management is a key function in project management. Project managers should be able to apply a variety of risk-management tools in their work, including performing risk identification, quantification, response, monitoring, and control. In this course from Professor and Director of Civil and Environmental Engineering Linda K. Nozick, you will examine the nature and types of project risk and learn to apply specific mitigation strategies. You'll have an opportunity to analyze a past project you've worked on and assess what the risks might have been and why. Then you'll analyze the outcomes: Did the known risks come to fruition? What were the leading indicators? What could they have done for contingency planning at the beginning? By asking these questions, you'll then be able to perform several calculations to compute the probability that a project will finish on time. It is recommended to take Organizing the Project and Its Components and Planning and Managing Resources prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPM504 - Using Earned Value Management for Project Managers (0 Credits)**
Project managers need to keep things on track by keeping a close eye on the scope of and resources invested in a project. Forecasting, adjusting, and applying corrective measures during the project lifecycle are also key functions of a project manager. This set of processes and protocols that help ensure project success is called earned value management (EVM). Every project manager should have at least a working knowledge of EVM and its theoretical underpinnings. This course is designed for project managers who seek an introduction to EVM to achieve better practical results for implementing project controls, including financial controls and schedule controls. The calculations presented here are meant for any experienced project manager, including those who are not engineers, to apply to any size project. Students in this course will be most successful if they have a foundational understanding of standard project management tools and processes including project networks, project budgets and schedules, and work breakdown structures. It is recommended to take Organizing the Project and Its Components , Planning and Managing Resource s, and Assessing, Managing, and Mitigating Project Risk prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CEPM505 - Agile Project Management Approaches (0 Credits)**
In traditional project management, we tend to make assumptions: the customer knows precisely what they want, or the team's workflow and tasks will go according to plan and in sequence. Practically speaking, this is rarely the case. Sometimes the customer doesn't know what they need until they see an early iteration of your team's work and can provide feedback. Because of this, work is usually done incrementally. We must build flexibility, even agility, into the model in order to succeed. This course is designed for project managers who want to get better practical results with adaptive approaches to projects. Students in this course will be most successful if they have a foundational understanding of traditional project management tools and processes including project networks, budgets and schedules. It is recommended to take Organizing the Project and Its Components , Planning and Managing Resources , Using Earned Value Management for Project Managers , and Assessing, Managing, and Mitigating Project Risk prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS511 - Identifying and Framing a Challenge (0 Credits)**
In this course you will begin an empathy-based process that leads you to a solution which serves a broad, diverse user base. Along the way, you will identify key stakeholders who will drive critical decisions later in the design cycle. Your process begins when you identify an opportunity and develop a challenge statement summarizing what you are trying to do along with your aspirations. From there, you will gather support for your idea and refine your intent. Your effort will culminate in presentation-ready document that summarizes and describes in detail the challenge you are trying to address and what you hope to achieve by taking on the challenge.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS512 - Gathering User Emotions (0 Credits)**
In this course you will conduct fieldwork to collect information about the users whose needs you are trying to meet within a challenge and empathy space that you have defined. You will venture out into the empathy field and observe and interact with people to gain the insight you need. Ultimately the insights gained from this fieldwork will help you develop a robust model of your users' needs, expectations, and connections with one another. The course Identifying and Framing a Challenge is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS513 - Crafting User Narratives (0 Credits)**
In this course you will convert the raw data from your empathy fieldwork to create a powerful problem definition that sets the right context for brainstorming solutions. You will prepare a physical or virtual space in which you will thoughtfully unpack your observations to create a robust record of your experiences in the field. You will apply methods to extract empathy data from first, second, and third person empathy experiences. You will then distill this data into a series of needs, insights, and surprises that will drive creativity and innovation later in the process. At the same time, you will analyze the empathy data to identify patterns and connections within and among your observations. The methods described in this course are an efficient approach to problem definition with results that are powerful and authentic. The resulting model is rich with not only qualitative data such as user personas, but also quantitative results that can be reviewed and shared throughout the remainder of the process. The act of constructing this model can bring into sharp focus the defining features of your problem. The ideas and insights generated may in fact be provocative, and this is very appropriate at this stage in the design process. The courses Identifying and Framing a Challenge and Gathering User Emotions are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS514 - Generating User-Centered Solutions (0 Credits)**
In this course you will build on the extraction and interpretation of emotional data generated while unpacking observations. You will work through the personas that you previously defined and situate these in context diagrams that examine the relationships between individual users and the problem space. You will also use emotional relationship data maps and flow of thoughts to create capabilities diagrams that crystallize the needs your system must address. With an actionable model of your problem in place, you will engage in a series of brainstorming sessions that use as their core inspiration the personas, capabilities diagrams, and context diagrams. From this process you will gather ideas that will propel you toward the creative solutions in your problem space. The courses Identifying and Framing a Challenge , Gathering User Emotions , and Crafting User Narratives are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS515 - Design Prototyping (0 Credits)**
In this course you will evolve a first design, called design zero , for your problem. Your design zero builds on all the prior work, including your capabilities diagrams and the brainstorming sessions you recently completed. You will create visualizations of your personas in action called persona concept sketches . You will use other modified systems engineering tools to document your product features. From this point, you will create rough prototypes and role play as end users who are working with these prototypes. From this process you will learn about your product's strengths and shortcomings. The courses Identifying and Framing a Challenge , Gathering User Emotions , Crafting User Narratives , and Generating User-Centered Solutions are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS516 - Testing and Iteration (0 Credits)**
In this course you will test your design zero , which is the culmination of the design process leading up to this point. In the testing process you will use tools similar to those used when gathering emotional data. In a similar way, you will end up collecting needs, insights, and surprises along with tensions, contradictions, and synergies. The purpose here is to hone in on a viable system that truly meets user needs. The gathering and analysis of user data will point you in the direction of a refinement of your design zero , which is referred to as design one . Your design one may look deeper into product details, and it may also lead to subtle refinements or radical changes. Your design one is the starting point for a subsequent round of testing, and in adopting this approach you will see how iterative development brings your system closer to the best possible product for your users. The courses Identifying and Framing a Challenge , Gathering User Emotions , Crafting User Narratives , Generating User-Centered Solutions , and Design Prototyping are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS521 - Defining Scope (0 Credits)**
In order to optimize your system, you first need to define it. In this course, you will learn how to use a tool called the Context Diagram to map the responsibilities and elements of your system and how those elements interact with each other. Then you will define the functionality of your system. By using case analysis, you will study the different scenarios that your system may need to accomplish in order to meet your project goals. You will learn not only how to define and analyze your system, but also how to visualize and communicate this information with stakeholders.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS522 - Developing System Requirements (0 Credits)**
This course guides you through the process of deciding how your system should interact with all the elements in the context you identified. You will articulate what your system needs to do to successfully complete its use case using a tool called the Use Case Behavioral Diagram (UCBD). With the UCBD you will derive professional, functional requirements that describe what any valid solution must do throughout its use cases. Then you will develop the UCBD in a way that will meet your customers' needs, but not so prescriptive that it prevents your team from using all of your talent in service of making your project a success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS523 - Exploring Your System's Architecture (0 Credits)**

In this course, you will bring together disparate system functions that have been described in isolation to show how they all might operate together. You will explore what different kinds of interactions might occur in a way that brings your whole team together to create a cohesive solution that truly meets the challenge's needs. Then you will interpret a flexible tool called the Functional Flow Block Diagram that will add value throughout your design-build-test process.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS524 - Assessing Your System's Performance and Value (0 Credits)**

Decision matrices are one of the most commonly used engineering tools. They are used to help rationalize why one option should be chosen over another, and you can find some form of them in just about every business, industry, and government. Decision matrices may not always be identified as such but can be used as part of a trade study, competitive analysis, or options review. As prevalent as these matrices are, they are also one of the most misused tools out there. In this course, you begin by developing performance metrics. These performance metrics will allow you to objectively determine the value of any potential solution to a challenge. You will then develop a decision matrix around these metrics by applying justifiable weights and tuning the metrics to account for the needs and priorities of specific customers. By learning how to create a superior decision matrix with these well-defined performance metrics, you can achieve tremendous influence on a project even if you do not have official authority.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS525 - Implementing the Quality Function Deployment Method (0 Credits)**

The quality function deployment (QFD) is one of the most effective methods for relating performance metrics that a customer cares about to technical criteria and engineering parameters and ultimately, the design targets a team needs to build their solution. You will learn that the QFD expresses this relationship in a way that allows you to compare your concepts to your competitors' and to understand the trade-offs between engineering parameters and their influence on performance criteria. This equips you to argue effectively that your design targets will lead your team to a winning solution. In this course, you will go through a detailed, step-by-step process to build a QFD for your own project. You will examine the interrelationship between different engineering characteristics. You will use all this information, along with factors such as cost and technical difficulty, to establish strong design targets and get an estimate of your final system's performance. The course Assessing Your System's Performance and Value is required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS526 - Defining Interfaces (0 Credits)**

Interfaces are one of the most important parts of design and design implementation. However, they are often one of the most challenging aspects to identify and manage, and one of the most common points of failure of any system. As a result, there has been a multitude of software developed to aid in managing this process. However, without a strong understanding of the interfaces and how the subsystem teams work together, the use of the software packages is futile. They are only as good as the information put into them. In this course, you will explore a number of different tools including sequence diagrams and interface matrices to help tease out and formalize your interfaces and interface specifications. This formalization step will help your team to discuss the impact and the dependencies of these interfaces. You will then produce the details and record them as interface specifications so that your team can design and create a well-integrated credible system.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CESYS527 - Identifying and Evaluating Risk (0 Credits)**

Everyone worries about risk. How do we identify risks? Is this issue more risky than another? Or even worse, "Sorry, but this project sounds too risky. We can't approve it." Wouldn't it be better if you could show an objective understanding of risks, how to plan to address them, and be able to justify the decisions behind those plans? In this course, you will learn how to assess risk with failure modes and effect analysis. You will evaluate different losses of functionality that your system could experience, and determine the possible effects and related causes. You will then develop objective ways of measuring the severity and likelihood of each of these causes, ultimately to develop a quantifiable measure of system risk. You will produce this analysis in a way that not only allows you to make decisions on how to handle these risks, but also justify your actions to others. This course equips you to recognize risk and reduce it.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL501 - Strengths-Based Technology Leadership (0 Credits)**

As leaders, we often give and receive feedback about weaknesses and development opportunities. There are typically systems and processes within organizations that encourage this type of feedback and drive employees to improve in specific areas. The question is, why do we spend so much time on weakness, and does it help? In this course, you will take a different approach to leadership development. Leading from strength is about looking at what someone is naturally good at, as well as the skills gained through experience. You will harness these strengths and learn to leverage and expand them. Leadership development takes time you won't be done with your journey when you complete this course. With that in mind, the course asks you to look into the future and set personalized development goals.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL502 - Values-Based Technology Leadership (0 Credits)**
It's not uncommon for people to act differently when at home, at work, or with different types of people; while common, this is not advisable. Everyone has a set of personal core values, but not everyone is aware of them, and often people don't spend much time thinking about their values. In contrast, the best leaders learn not only how to tune into their own values, but also how to communicate and live those values in all aspects of life. In this course, you will work to lead with integrity while inspiring and empowering those around you. Professor Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will help you to discover and align your core values. She will guide you to apply your values to your leadership and to create an action plan for the future. Those who master values-based leadership will be able to rise more effectively through the technology ranks, ultimately allowing them to emerge at the top without losing sight of what values are most important.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL503 - Decision-Making Skills for Technology Leaders (0 Credits)**
Leaders of all kinds have to make informed and resolute decisions. Tech people are often fact- and data-driven, which can make them excellent decision makers. In general, everyone has a decision-making style what separates out great decision makers is their ability to adapt based on a problem's needs. You will begin this course by evaluating your default decision-making style using a data-driven tool, "Decision-Making for Leaders" designed by Victor Vroom, a leading expert on decision making. You will then explore what quality decisions look like. These initial steps will set you up to more effectively take action and make good decisions. Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, guides you through the course, allowing you to evaluate yourself, digest the results and data, and then assess your ability to effectively adapt. The course concludes with the creation of an action plan, setting yourself on a path for future success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL504 - Collaborative Communication for Technology Leaders (0 Credits)**
Leaders need to be able to collaborate, innovate, problem solve, and build relationships. All of these core responsibilities require excellent communication skills. Often when thinking of leaders, we picture them addressing crowds, giving directives, and commanding forces. Leaders need to be able to do those things, but they also need to be top-notch listeners and have the ability to use a variety of communication tactics at the right times. In this course, Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will break down critical skills that facilitate collaborative communication. She will guide you as you practice and apply these techniques. Many of the skills in this course, including listening and asking powerful questions, are core to strong interpersonal communication. These skills help you establish, improve, and maintain relationships. You will focus on workplace examples, but these skills are applicable outside of the workplace as well. Many of the skills are hard to learn and even harder to make a habit. Your life outside of work will impact your work and your ability to have good relationships. Mastering these communication skills and learning to leverage them to create open and collaborative communication is key to the future of any leader.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL505 - Courageous Communication for Technology Leaders (0 Credits)**
Leaders need to be bold visionaries and trendsetters. They need to guide people and inspire those people to achieve the vision they lay out. To do so, leaders must be courageous. As leaders put so much of their efforts into guiding and inspiring others, it's fundamental for them to be skilled communicators. Technologists may not have spent much time refining their communication skills, especially those that involve a great deal of courage. However, leaders have and feel emotions within the workplace and can harness those emotions to improve their leadership skills and become more courageous communicators. In this course, Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will help you develop your confidence and motivation to enact courageous communication. You will start by developing a new perspective on what courageous communication in the workplace is and how emotions play a role. You will then set intentions for moving forward. Ultimately your work will help you use the skills associated with courageous communication to develop and manage your team using feedback and leveraging difficult situations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CETL506 - Influence and Motivation for Technology Leaders (0 Credits)**
The best leaders are inspirational and transformative. They motivate, inspire, and empower rather than simply dictating or directing those around them. Leaders need to garner specific results that often require sustainable behavioral changes for both individuals and groups. To get these results, you need to both influence and motivate the people around you. Many people view influence and motivation as one and the same, but they are not, and it is important to be able to use them separately or together. Influence involves having an impact on other people's actions, thoughts, attitudes, beliefs, or emotions, while motivation is about getting people to change and sustain that change after they have been influenced. In this course, Professor Erica Dawson, Ph.D., the Nancy and Bob Selander Director of Engineering Leadership Programs at Cornell University, will help you expand your repertoire of tools and techniques for influencing and motivating others, ultimately leading to the desired and sustainable behavioral changes you want to see.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE101 - Understanding the Person (0 Credits)**
People who are currently employed in helping professions may not see themselves as counselors, yet they frequently serve in this role. In this course, you will learn how client-directed counseling can be effectively blended into a variety of fields where behavioral change is needed. You will reflect on a listening experience and articulate the benefits of client-directed counseling. With a colleague, or friend, you will practice the effective use of silence in a counseling setting. You will also practice interpreting clients' nonverbal cues. You will create a plan to integrate self-management into your sessions, and finally, you will outline research-based principles and techniques to use in your practice. At the end of this course, you will be positioned to use research-based techniques to create rapport, build trust, elicit useful information from clients, and enhance their effectiveness, along with the success of the groups you serve.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE102 - Understanding the Deeper Need (0 Credits)**
In this course, you will practice techniques to elicit information from clients, uncover their deeper needs and in turn help them set better goals. You will conduct a session with a colleague, or friend to practice your client-directed counseling skills in a real-life setting, gather feedback from your partner, and then reflect on what you did well and what you would change. You will describe how the use (or lack) of continuing responses in a conversation you've had in the past has affected trust within that conversation, and you will make a plan to better integrate continuing responses into future conversations. You will observe and evaluate another counselor's use of client-centered techniques to elicit information. While identifying and overcoming challenges in implementing client-centered counseling techniques, you will create an action plan to help clients set goals that align with their true needs. At the end of this course, you will be poised to apply new techniques to better identify the client's "need behind the need."
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE103 - Eliciting New Behaviors (0 Credits)**
In this course, you will use a variety of tools and techniques to help clients set achievable goals and stay motivated. You will identify the top techniques and tips that are specifically applicable to your style of counseling or that can best help you grow as a communicator in your field, and use them to compile a resource for future practice. You will practice applying empathy in order to find out what truly matters to your clients and apply that valuable information to goal setting. You will conduct a motivational interviewing session with a colleague, or friend to practice your skills in a real-life setting, reflect on what you did well and what you would change, and receive helpful feedback from the course facilitator. Finally, you will use five best practices to create your own script for a conversation in which you help a client set a realistic and actionable goal.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE104 - Promoting Organizational Wellness (0 Credits)**
Client-directed counseling is effective for one-on-one interactions, working with groups, and working with organizations. This course allows you to further develop your counseling skills, explore wellness for groups and organizations, and solidify a plan for your future. You will create a plan to expand your wellness counseling skills and integrate them with your current area of expertise. You will then expand your counseling skills to support group facilitation. You will practice these skills by engaging with a colleague, or friend outside of the course. Finally, you will create a wellness vision and plan how you will communicate your vision to organizations and employees. By the end of this course, you will be prepared to use your counseling skills to work within organizations focused on improving the health and wellness of their employees.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE111 - Fashion Trends and Forecasting (0 Credits)**
What does it mean for something to be "on trend"? In fashion, trends guide everything from design to consumer behavior, evolving and changing over years and even decades. Trend forecasting is how industry experts predict what new trends will become popular with consumers and how existing trends will evolve over time. A knowledge of trend forecasting is necessary for staying relevant in fashion, whether you are working for an established fashion house or starting your own line. This course will guide you through the trend forecasting process so you can create a relevant trend forecast, be it for your own fashion brand, a large industry brand, or a trend forecasting service. You will research current fashion trends using primary and secondary sources to determine what trends will be prominent with consumers. This research will be used to choose a trend for your trend forecast report. You will then gather the data from your research and, using the GRAB method, interpret your findings around a target market of your choice. Once your data is collected and synthesized, you will use your findings to complete your trend forecast report.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE112 - Fashion Line Product Development (0 Credits)**
When you think about fashion, you often imagine a fashion line displayed at a store or coming down a runway. The development of the fashion line is a process that begins long before clothing is constructed and placed on a model. Product line development involves a significant amount of planning on the part of the designer as well as the other fashion professionals involved in the process. In this course, you will develop a fashion product line, either for your own brand or for a brand of your choice. You'll start by identifying the target market, brand, and product type toward which you will design. Once you establish this foundation, you will develop the concept for your line and get feedback from your peers. You will use this feedback to conceptually design a six-piece fashion product line and an accompanying line sheet
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE113 - Production Planning (0 Credits)**
The quality of your product is integral to managing a successful fashion brand. When fashion garments are created in a factory setting for a brand, every element of the garment's production cycle must be planned. Forward thinking in garment production ensures that every piece is completed to your specifications in a timely manner and that the manufacturing facilities you choose will be the best fit for your product line. In this course, you will explore the process of production planning used to create a fashion product line. You will begin by creating a bill of materials that can be used to communicate the fabric needs of each product in manufacturing. You will then consider how stitching, construction, and fit are used by manufacturers to create a garment that will appropriately fit your consumer. You'll conclude the course by examining how factories and manufacturers operate and filling out a time and action calendar that you can use to plan the manufacturing timeline of your product line.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE114 - Distribution and Marketing (0 Credits)**
Fashion is made to be worn, and consumers must have access to it in order to make that happen. Successful fashion product lines are not just well designed; they also meet sales goals, whether those goals are set by a larger fashion brand or by an independent designer. Distribution and marketing are the methods that fashion brands use to get product lines into stores and into the hands of consumers. Every element, from your sales plan and retail pricing scheme to your selected distribution channels, can be used to help reach your target customer. In this course, you will begin by setting a sales goal and creating a sales plan using resources such as the apparel retail calendar and assortment planning. After you create your sales plan, you will examine how fashion brands set a retail cost for their products and establish a retail cost for key products. You will then design a marketing strategy using distribution and promotion methods to ensure that your products are accessible and appealing to your target consumers. By using this process, you can create an appropriate targeted marketing and distribution strategy for any fashion retail space and product assortment.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE131 - Foundations of Metabolic Health (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE132 - Assessing the Effects of Obesity (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHE133 - Optimizing Metabolic Health Through Nutrition (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME121 - Creating a Budget (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME122 - Determining the Value of an Asset (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME123 - Interpreting Financial Statements and Ratios (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME124 - Assessing the Financial Viability of a Project or Business (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME131 - Quantitative Modeling of Fixed Income Debt Securities (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME132 - Equity Asset Pricing Using Stochastic Models (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME133 - Analysis of Equity Derivatives at Expiration (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME134 - Analysis of Equity Derivatives Before Expiration (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME135 - Optimizing Portfolio Allocation (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CHEME136 - Financial Decision Modeling (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA511 - Assessing Nonprofits using Financial Statements and Ratios (0 Credits)**
Nonprofit organizations may not be in business to make money, but they must still pay close attention to their finances to achieve their mission. Nonprofits, like all organizations, need to have enough money to pay salaries, run programs, purchase goods, or pay debts. Often nonprofits come under fire when they don't have a good financial balance, have too much cash, have high expenses, or are not putting the right amount of money toward programs serving their mission. Tracking the financial health of a nonprofit is not only the responsibility of the chief financial officer but also of its administrators, board members, directors, and key program staff. It's the responsibility of the entire organization to engage in the process and secure the organization's ongoing financial health. In this course, Professor Grasso draws on a wealth of first-hand experience with nonprofit management to give you a guided tour through the structure and interpretation of typical nonprofit financial statements. Professor Grasso will walk you through reading and interpreting financial statements including an income statement, balance sheet, and cash flow statement. Using financial ratios, he will show you how to analyze the health of an organization by analyzing its cash reserves, debt burden, and expenses. You will practice calculating 10 different ratios and interpreting their results. And Professor Grasso will provide you with guidance on how to adjust your organization's strategy based on those results. As you move through the course, carefully-crafted tools and activities will guide you in applying what you learn about financial assessment and management to the specifics of your own nonprofit organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA512 - Determining Appropriate Budgeting, Debt Financing, and Cash Flow (0 Credits)**
The course Assessing Nonprofits using Financial Statements and Ratios is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA513 - Fundraising and Revenue Generation (0 Credits)**
The courses Assessing Nonprofits using Financial Statements and Ratios and Determining Appropriate Budgeting, Debt Financing, and Cash Flow are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA514 - Strategically Governing the Organization (0 Credits)**
These courses are required to be completed prior to starting this course: Assessing Nonprofits using Financial Statements and Ratios Determining Appropriate Budgeting, Debt Financing, and Cash Flow Fundraising and Revenue Generation
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA521 - Framing Complex Problems with Systems Thinking (0 Credits)**

Whether you need to tackle a complex project, communicate more effectively, rethink your organization or your job, solve world hunger, or figure out your teenager, systems thinking can help you. All of these are complex and challenging real-world problems, sometimes called wicked problems. We all confront problems, big and small, in our personal and professional lives, and most of us are searching for better ways to solve them. In this course, Professors Derek and Laura Cabrera will demonstrate how we can use systems thinking to solve everyday and wicked problems, to transform our organizations, and to increase our personal effectiveness. At its core, systems thinking attempts to better align the way we think with how the real world works. Our thinking is based on our mental models, but these models, created from our unique perspective with its inherent biases, are usually inadequate representations of reality. The Cabreras illustrate how we can use feedback to recognize and adapt our mental models so that they better align with reality, enhancing our problem-solving capabilities. For systems thinking to be successful, it must be adaptive. In this course, you will explore the concept of complex adaptive systems, and while these systems seem unnecessarily complicated, the Cabreras will reveal a surprising discovery. Underlying all complex adaptive systems are simple rules, and applying these rules is the key to transforming the way we frame and solve everyday problems.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA522 - Using the Four Simple Rules of Systems Thinking (0 Credits)**

While you may not realize it, you are already making use of some of the patterns of systems thinking. For example, you may take a certain perspective on a problem however, you might not be aware of your perspective and more importantly, may not recognize that you are likely omitting other perspectives. It is these types of omissions that contribute to both the creation of our most challenging problems and our inability to solve them. This course will walk you through the four simple rules of systems thinking, which provide a new paradigm for solving problems. These rules represent distinctions, systems, relationships, and perspectives, or DSRP. Throughout this course, you will start to unlearn some of the deeply ingrained thought patterns that result in unproductive interactions, unintentional bias, and faulty binary or linear thinking. Systems thinking means intentionally reflecting on how you think, including both the information and the structure of your thoughts and ideas so that you can break old habits and think more systematically. With a variety of examples, tools, and techniques, you will practice making distinctions between ideas or things, organize ideas into systems, recognize hidden or underlying relationships, and identify the perspectives implicit in the information you analyze. As a result, you will be equipped to identify more innovative solutions, build consensus across diverse groups of people, and approach problems with more creativity, adaptability, and clarity. The course Framing Complex Problems with Systems Thinking is required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA523 - Visualizing and Modeling Complex Systems (0 Credits)**

How do you make sense of all the information you are bombarded with on a daily basis? We can barely absorb the overwhelming amount of information, let alone determine its meaning. As Derek and Laura Cabrera illustrate in this course, we humans process information best with our eyes and our hands, and we can take advantage of this fact by using visual maps. Visual maps can help you corral this information, organize and structure it, and most importantly, convert it into knowledge that you can act upon. In this course, you will use the online mapping software, Plectica, so that you can break down your complex problems using the simple rules of systems thinking, DSRP. Building maps with this easy-to-use software will help you gain insights into processes, relationships, or challenges of any kind, and enable you to quickly and easily share these insights with others. As you become more adept at creating visual maps, your systems thinking skills will increase as you deepen your understanding of complex ideas, communicate these ideas more effectively, and enhance collaboration across groups to spur innovation. The courses Framing Complex Problems with Systems Thinking and Using the Four Simple Rules of Systems are Thinking are required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA524 - Building Analytical and Emotional Intelligence with Systems Thinking (0 Credits)**

Recent surveys show that employers are looking for individuals who have both analytical and emotional intelligence. Organizational leaders across a wide spectrum of industries and professions want people with strong problem-solving skills who can handle their emotions and work effectively with others. How can you learn to better balance your emotions with critical thinking, to balance your own needs with the needs of another? This course will provide you with the tools and guidance for using the simple rules of systems thinking (DSRP) to build both your analytical and emotional intelligence. By asking more robust questions and challenging yourself to go beyond traditional forms of thought and logic, you can more quickly identify and bridge the gaps in your thinking and build new knowledge about any problem or situation. You will transcend either-or thinking to consider a wider range of possibilities that more closely reflect the real world. These same approaches for building your analytical capabilities also enable you to harness your emotions by helping you gain awareness of your own thinking. This awareness will build your emotional intelligence, which in turn will increase your ability to collaborate, think creatively, and solve tough problems. You will come away from this course with practical approaches you can apply in every area of your life to enhance your work, your decisions, and your relationships. These courses are required to be completed prior to starting this course: Framing Complex Problems with Systems Thinking Using the Four Simple Rules of Systems Thinking Visualizing and Modeling Complex Systems

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA525 - Designing Organizations for Systems Thinking (0 Credits)**

Why do we start organizations in the first place? We have a vision for the future, and we need to work with others to bring that vision to life. The whole purpose of any organization is collective action. When organizations fail, it is often the result of the failure to harness the collective power of individuals to drive toward that singular vision. However, much like you would design an iPhone, you can also design organizations that are adaptive and can focus everyone on achieving the organization's vision. In this course, Cornell University faculty members Derek and Laura Cabrera present you with the design principles of intelligent, adaptive organizations built for systems thinking. With expert guidance and hands-on activities, you will create your organization's vision and mission, and build capacity and learning systems that support your organization's ability to achieve these core principles. This approach is a systems leadership and organizational design model that will help you better design, guide, manage, and change your organization. It provides you with a blueprint to build the culture you need to attain your ultimate goal: to have your entire organization, at every level, working toward realizing your company's vision. These courses are required to be completed prior to starting this course: Framing Complex Problems with Systems Thinking Using the Four Simple Rules of Systems Thinking Visualizing and Modeling Complex Systems Building Analytical and Emotional Intelligence with Systems Thinking

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA526 - Becoming a Systems Leader (0 Credits)**

For organizations to succeed, they need to develop individuals who are constantly learning and adapting according to information on the ground. Sharing key mental models at the organizational, team, and individual levels is critical to creating a culture of learning that enables the organization to survive and thrive through chaos and complexity. In this course, Professors Derek and Laura Cabrera demonstrate how to become a systems leader; that is, someone who can use systems thinking at the organizational level, at the team level, and at the individual level. You will create a culture for your organization that is built on shared mental models and develop techniques to incentivize thought leaders to support the culture based on your vision, mission, capacity, and learning. At the team level, where the real work of the organization gets done, you will explore the process of building, sharing and evolving mental models through collaborative mapping and feedback processes. And finally, you will turn your own thinking into doing, to ensure that your actions are aligned with key organizational mental models. With tools, techniques, and expert guidance, you can begin to implement systems thinking at all levels of the organization, creating teams and individuals upon which organizational culture, values, and success are built. These courses are required to be completed prior to starting this course: Framing Complex Problems with Systems Thinking Using the Four Simple Rules of Systems Thinking Visualizing and Modeling Complex Systems Building Analytical and Emotional Intelligence with Systems Thinking Designing Organizations for Systems Thinking

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA531 - Addressing Complex Problems Using Results-Based Management (0 Credits)**

Management of the international public sector is a growing challenge of the 21st century. International organizations are increasingly charged with taking a major role in solving global problems. Management of international organizations, however, is qualitatively different from managing national institutions or private sector corporations. In this course, Professor Mathiason presents results-based management as the core tool you'll use to do this work. This course will provide you with an overview of how to define and address complex international problems. This information will help you be more effective working within this complex, historic, and ever-changing industry. You'll practice planning for results-based management (RBM), a management method that focuses on obtaining results that are outside the control of a program or project but which can be achieved through the production of outputs. Accomplishing this requires careful planning, and you'll focus throughout the course experience on how this can be done.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA532 - Creating and Enforcing International Agreements (0 Credits)**

As the world changes and more issues must be handled at the international level, there will need to be more agreements and more international systems to address specific problems. Agreements, especially those that involve consensus, are difficult to achieve even in the best of circumstances. Fortunately, there is a lot we have learned from history and through research about effectively negotiating an agreement. In this course, you'll explore what is needed for successful agreement negotiation and how you can participate in creating the required consensus. In addition, you'll think about how can you make sure states do what they say they'll do. Before you close the books on the planning stage, you'll consider a strategy for the enforcement and evaluation of the agreements you're creating.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA533 - Coordinating Services and Support at the Global and Country Level (0 Credits)**

Managing natural and political emergencies is one of the most important areas for international public management. International organizations have to collaborate with governments to anticipate and pre-plan for all types of emergencies. They have to coordinate services and support from donors and member nations in order to mobilize financial and human resources. Similarly, the international public sector aids the transfer of funds and technology from one country to another. This international development assistance is an important function that must be managed effectively. In this course, you will assess how country-level development assistance can be effective. You'll determine effective ways to provide international investment for development and explore how to collaborate with governments to anticipate and pre-plan for international emergencies. You'll look at how to coordinate services and support in an emergency as well as how to mobilize financial and human resources. You will also examine how to anticipate and address recovery needs in planning for relief.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA541 - Leadership Skills and Traits in Public Organizations (0 Credits)**

Are leaders born, or can they be made? In this course, we'll tackle this classic leadership conundrum, and at its conclusion, you will have developed your own perspective on what makes a leader successful. Using his experience as the former Deputy Secretary of Labor and background as a Cornell Visiting Professor, Professor Seth Harris will explore the skills and traits that make leaders effective in today's public-sector organizations. With real-world examples combined with scholarly research, you will analyze and reflect on both the personal characteristics and the skills and competencies that define great leadership. You will have the opportunity to assess yourself and other leaders on these critical skills and traits using leadership assessment tools. Because this course focuses on public leadership, Professor Harris will walk you through the key differences between public and private organizations to help you develop a more thorough understanding of the characteristics of your public organization. With this information, you will be able to determine your leadership readiness and create a plan for the areas you want to develop to become a successful leader within your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA542 - Assessing Your Public Sector Organization (0 Credits)**

Are public organizations different from private sector organizations? Do they require different sets of leadership skills or traits? In this course, Professor Seth Harris will provide you with a framework that you can use to better understand your organization. With this understanding, you will be well positioned to determine how you can be a more effective leader in your organization. There are many elements that affect every organization and dictate the type of leadership skills needed to thrive. You will learn about societal factors that affect all organizations, such as technology, demographics, and cultural conditions, as well as how organizations and leadership are affected by these factors in areas like mission, resource availability, and process. Additionally, public organizations have certain unique external factors that private sector organizations don't need to consider. These systems and structures, public expectations, and external influencers, which can have an enormous impact of the role of the public sector leader. Lastly, you will explore the specific internal characteristics of public organizations, including factors such as the goods or service it provides and the types of employees who are attracted to public sector organizations. At the conclusion of the course, you will have a detailed picture of your own public organization and how its defining characteristics influence the leadership skills and traits required for success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA543 - Motivating Public Sector Employees (0 Credits)**

Part of being a great leader is understanding why your employees want to work in a public sector organization, how you can motivate them individually and as a group, and what incentives and tools are available to do so. In this course, you will explore your own reasons for working in a public organization as well as the motivations of your colleagues using a well-tested survey tool. You will also determine what types of monetary and non-monetary incentives are available to you within your organization so that you can match them to the motivations of the organization's employees. Professor Harris will also explore how certain leadership behaviors can be a strong motivational force. Many employees will only be motivated by a leader when the leader's style and behaviors meet the employee's needs and those of the organization. In this course, you will explore some of these leadership styles, assess the behaviors of leaders in your organization, and determine which leadership traits are compatible with which public service motivations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA544 - Public Sector Leadership Strategies (0 Credits)**

In this course, Secretary Harris will guide you through several leadership models that you can use to identify the most effective leadership strategies for you, your employees, and your organization. You will perform a thorough assessment of the employees to determine their overall level of competence and commitment to the organization's goals. Focusing on the organization, you will examine the degree to which tasks are highly structured, your level of positional power, and the state of the relationship between employees and leaders. Using your assessment of both your employees and your organization, you will determine which leadership behaviors will be most effective in influencing and motivating your staff to perform at a high level and meet the organization's goals. You will also determine which leadership behaviors will be most effective in overcoming obstacles to achieving critical team and organizational goals. At the end of this course, you will leave with a set of leadership strategies that are best suited to your organization and its employees.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA545 - Goal Setting in Public Sector Organizations (0 Credits)**

We all know that setting goals is critical to achieving success in any endeavor. But in order to do this effectively, you need an approach that works. In this course, Professor Harris guides you through the performance pyramid, a system you can use to set challenging goals and then develop operating plans and accountability tools that will enable you to measure and monitor your organization's progress toward those goals. Mastering a measurable performance framework, navigating challenges, and utilizing goal-setting theory will help galvanize your employees around a specific vision and optimize engagement and accountability.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA546 - Leading Public Sector Teams to Success (0 Credits)**
In any organization, teams can be an effective way to organize employees, meet critical objectives and move the organization forward. But how do you lead teams in public organizations? Do you need to adjust your approach because of the limits or constraints present in public organizations? In this course, Professor Harris will present you with proven characteristics of successful teams and help you to determine how your teams measure up. You will examine a model of team leadership that will help you determine when you should intervene and when you should step back and let your team find its way. You will also explore different possible interventions and determine the right circumstances to employ each one. Finally, Professor Harris will discuss the challenges of managing team conflict and provide you with strategies and examples that will enable you to successfully navigate the inevitable issues that occur when groups of people work together.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA561 - Evaluating a Corporate Sustainability Strategy (0 Credits)**
In this course, you will critically examine the sustainability-based interactions among corporate entities, their peers, regulators, the public, and other stakeholders in order to identify opportunities for improving the outcomes of these interactions. To do this, you will examine how corporate structure affects business practices and how different industries are affected by the sustainability movement. You will then identify how these factors influence a company's motivation to act more sustainably. You will also consider the balancing act that today's corporate leaders face as they uphold their corporate fiduciary duties and navigate evolving sustainability demands. Finally, you will assess the impacts of business activities on the environment and pinpoint a company's positive and negative sustainability efforts. By the end of this course, you will be better prepared to assess your company's sustainability practices relative to industry standards.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA562 - Sustainability Risk Management (0 Credits)**
In this course, you will identify sustainability risks associated with particular corporate activities and propose actions to mitigate these risks. To do this, you will review a corporate 10k to evaluate and identify a company's identified risks. You will then examine ways that corporations disclose, report, and manage reputational risk. Finally, based on your previous findings, you will develop several strategic corporate sustainability initiatives focused on a company and its key stakeholders. By the end of this course, you will be better prepared to identify regulatory and reputational sustainability risks and develop strategies to mitigate these risks.You are required to have completed the following course or have equivalent experience before taking this course:Evaluating a Corporate Sustainability Strategy
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIPA563 - Generating Profit in the Era of Sustainability (0 Credits)**
In this course, you will explore how values-informed purchasing and investment decisions, along with generational shifts in investment and consumption patterns, create opportunities for companies that adapt to trends in sustainability. You will also examine ways in which regulatory changes, growing scrutiny, and increased pressure by civil society create growing markets for products and services that have fewer impacts on people and the planet than conventional products and services. Building on this base, you will identify how investment decisions can influence societal outcomes and how private, return-seeking capital can improve social and environmental outcomes by fostering more sustainable business activities. By the end of the course, you will be prepared to propose sound sustainability initiatives or new sustainable business ventures that you believe represent real opportunities for a company like yours to increase its profitability.You are required to have completed the following courses or have equivalent experience before taking this course:Evaluating a Corporate Sustainability Strategy Sustainability Risk Management
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS301 - Human-Centered Design Essentials (0 Credits)**
Human-computer interfaces have become a part of everyday life, whether we consider technology that we use at home or at work. People rely on technology to help them achieve a goal or solve a problem, and this idea is central to the emerging and rapidly expanding field of human-centered design: Who is using the interface, and for what purpose? How can we help them do that better? Answering these questions should be at the heart of the design process, as technologies are ultimately for people to use, and designers need to make this as intuitive and smooth as possible. Design doesn't happen in a lab; it happens in the world, and gathering information about the users of your product ensures better design. In this course, you will be introduced to human-computer interaction design, use practical methods for applying sound design principles, and execute the entire process. You'll discover the basics of how to identify a human need, how and why you need to keep that need at the center of the design process, uncover what can be measured to improve the design, and ensure that you conduct your research fairly and ethically.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS302 - Effective User Research (0 Credits)**
User-centered design does not start with the design, but rather with the users: Who are they? What are their goals? What do they need to achieve those goals? In what context will they be using your design? And how would a designer discover these things from the user base? Answering these questions requires a plan. Interviewing potential users in a controlled, systematic way helps to clarify their expectations and their requirements. Doing so helps to inform your design and make it better; no one wants to invest time, effort, and money into designing a solution no one will use. In this course, you will examine best practices for planning and conducting interviews of potential users so that they yield the most insights. Over the course of the project, you will narrow down the target user group for your design, plan your interview, create meaningful and clear interview questions, and help ensure you can leave the interview sessions with the most useful insights.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS303 - Creating User Personas (0 Credits)**

After you have conducted interviews with your users, it is time to sift through your notes and transcripts in order to get at the most important insights; this is the data, which will be your guide to what the users actually need as well as what the design requirements ultimately need to be. However, one challenge we face as designers is that the data we have gathered is qualitative and not quantitative, which means that interpreting the data requires us to make associations and inferences as we read through the users' stories, thoughts, and feelings. Fortunately, we have several strategies for translating data into design requirements. In this course, you will practice analyzing data from your user interviews and identify insights that are not always immediately apparent. After you extract insights from your interview data, you will create a fictitious user called a persona that will serve as a model of your users and help guide your design decisions. Finally, you will create design requirements that will help as you move from explaining the current state of your users to imagining a future where they use your design to better meet their needs.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS304 - Developing a UX Design Concept (0 Credits)**

When designing a product, we must always consider the experience that the user will have while interacting with it, and we do this by visually sketching the product and our vision of how a user would interact with it. A pen-and-paper sketch helps us to conceptualize abstract design ideas more effectively, communicate these ideas to others, and get feedback. Regardless of your artistic skills, you can effectively, quickly, and inexpensively communicate design ideas by sketching; it is much faster (and cheaper) to modify or throw away a pen-and-paper sketch than a full prototype. In this course, you will learn numerous techniques to improve your sketching skills in order to more clearly convey your design ideas and improve your design. In your course project, you will sketch many design ideas so that you can explore alternative ways of meeting the user requirements. You will also create a design concept based on one of those sketches, then expand the idea into a full scenario and storyboard of the user completing several tasks. Additionally, you will develop a user interface design concept to better envision how your users will actually interact with your design. Finally, you will update your sketches to better fit your user's mental model, as a designer's concept of the design doesn't always match with how a user thinks about it.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS305 - Prototyping and UX Feedback (0 Credits)**

Designers know the power of making improvements based on feedback. As you have seen already, this leads to much stronger designs in the end, but it also helps control costs, as it is far easier (and faster) to make necessary changes to sketches or storyboards than full-featured versions. Eventually, however, your design reaches the point where it needs to be a fully fleshed-out interface with which your users can interact. This is where prototypes come in, to further develop the user interface, examine design decisions and interaction flows, and gather feedback. There are several different considerations and decisions to make when creating prototypes based on what you want to get feedback on, how much you need to develop the interface, and the resources available to you. In this course, you will create three different interactive prototypes for your design concept: a paper prototype, a medium-fidelity software prototype, and a high-fidelity software prototype. You will also make iterative improvements to your prototypes using rapid evaluation methods, relying on different design principles and heuristics. Throughout this course, you will gain valuable experience working with two prototyping software applications (Balsamiq and Figma), and you will continue to iterate with each prototyping technique toward a more developed user interface design.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS306 - Evaluating Usability (0 Credits)**

After interviewing users, gathering requirements, creating a design concept, and creating and iterating interactive prototypes, it is time for the final stage of the human-centered design process: conducting an evaluation of the usability of your design. At this stage, we examine the interaction between the user and the interactive prototype to find out what improvements are needed in order for the design to achieve its goals. We do so by observing users as they interact with the prototype to complete tasks. While we often use a high-fidelity prototype at this stage, we must resist the tendency to consider the design as close to "done," as this stage of the process is still iterative. In order to get useful feedback and make the product better, we must carefully plan and conduct a usability test session, listen to the users, and make changes in response to design flaws that we find. In this course, you will create a usability test plan, including defining its goals and any metrics you will want to use for your usability tests. Based on that, you will create a usability test protocol by choosing tasks and composing task instructions for your users to follow. You will then recruit a participant to run a usability test session with your high-fidelity prototype and form a plan for what changes you will make to improve your design.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS445 - Exploring Data Sets With R (0 Credits)**
When you think about what data analysts and data scientists do on a day-to-day basis, you might have a general understanding of types of conclusions they make, but how do they arrive at those conclusions? The statistical programming language R is widely used in data science; understanding the basics of how it works can help you manipulate and visualize data in a quick, flexible manner, and it may improve your communication with data scientists on your team.In this course, you will explore the basics of statistical programming and develop R skills. As you hone your ability to use commands in R, you will combine those basic skills to complete more complex tasks, such as data manipulation and visualization. Finally, you will examine how to repeat tasks in R, which makes it easier to manipulate large data sets. This course involves many hands-on coding exercises to help you gain confidence in your newfound programming skills.System requirements: This course contains a virtual programming environment that does not support the use of Safari, Edge, tablets, or mobile devices. Please use Chrome, Firefox, or Internet Explorer on a computer for this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS446 - Summarizing and Visualizing Data (0 Credits)**
The real world is extremely complex, and revealing the patterns that underlie these complexities can be challenging. However, unlocking the power of a data set can provide you with remarkable insights and help guide decision-making. This course will prepare you to use summarization and visualization techniques to reveal patterns in real-world data, using examples from a variety of disciplines, including business and medicine.In this course, Professor Basu will guide you as you begin to understand key data collection principles and how to make conclusions from data. Choosing which analyses to use depends on your question, so you will use a framework to help you choose which methods to use with your data. Then, you will use R to perform exploratory data analyses, which will allow you to identify key patterns and trends in a ready-to-analyze data set. You will also learn the importance of quantifying the uncertainty associated with your results, and how to measure variability in your data. This course involves many hands-on coding exercises in R to help you gain confidence in your programming skills.System requirements: This course contains a virtual programming environment that does not support the use of Safari, Edge, tablets, or mobile devices. Please use Chrome, Firefox, or Internet Explorer on a computer for this course.The following course is required to be completed before taking this course:Exploring Data Sets With R
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS447 - Measuring Relationships and Uncertainty (0 Credits)**
In this course, you will explore the steps associated with testing a hypothesis and use a variety of simulation methods to test hypotheses in R; these different methods will allow you to test hypotheses for various possible scenarios. As you perform hypothesis tests, you will discover how to assess the uncertainty associated with your data set and the test. You will also analyze the relationship between two or more variables using linear regression analysis and determine how to assess these relationships with simple diagnostic tools.Throughout this course, you will perform hands-on coding exercises to practice simulations in R, which will help you gain confidence in both your programming and statistical skills. After completing this course, you will be able to test hypotheses that involve two or more variables in a ready-to-analyze data set using simulations in the programming language R. You will also understand the uncertainty associated with your hypothesis tests and how it impacts your conclusions.System requirements: This course contains a virtual programming environment that does not support the use of Safari, Edge, tablets, or mobile devices. Please use Chrome, Firefox, or Internet Explorer on a computer for this course.The following courses are required to be completed before taking this course:Exploring Data Sets With R Summarizing and Visualizing Data
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS448 - Data Cleaning With the Tidyverse (0 Credits)**
Data scientists use data collected from the real world to answer questions and solve problems that would otherwise be intractable. But since the world is complex, data collected to describe the world can also be complex, which makes it messy and difficult to work with. To successfully analyze data, data scientists need to spend time cleaning or organizing and manipulating their data to put it into a form that is easier to work with and understand.In this course, you will delve into the world of data cleaning by presenting and manipulating your data with the Tidyverse in R. You will organize data by selecting only the variables you're interested in, creating new groups of data, and summarizing data in a way that makes sense for the questions you're trying to ask. You will also create high-quality plots to quickly summarize complex data. You will become familiar with the concept of tidy data and organize data sets in a way that allows for the most efficient analysis. Finally, you will work with data types of more complexity so that you can answer increasingly difficult questions as you take your new skills into your workplace. You will practice all these skills by working with four real-world, complex data sets. This course involves many hands-on coding exercises that will help you take your programming skills to the next level.System requirements: This course contains a virtual programming environment that does not support the use of Safari, Edge, tablets, or mobile devices. Please use Chrome, Firefox, or Internet Explorer on a computer for this course.The following courses are required to be completed before taking this course:Exploring Data Sets With R Summarizing and Visualizing Data
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS449 - Classifying Data with Logistic Regression (0 Credits)**
In this course, you will examine classification questions then use summarization and visualization to obtain preliminary answers to those questions. While summarizing and visualizing data can be extremely helpful for classification problems, logistic regression is a more rigorous way to answer those questions, so you will practice performing and interpreting logistic regression. You will also use logistic regression to evaluate which variables improve your model, make predictions, and evaluate those predictions. System requirements: This course contains a virtual programming environment that does not support the use of Safari, Edge, tablets, or mobile devices. Please use Chrome, Firefox, or Internet Explorer on a computer for this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS450 - Stakeholder Presentations (0 Credits)**
When you think of what data scientists do on a daily basis, you probably think of working with data. Yet data scientists typically derive insights on behalf of their organization or for a client, so any insights they obtain from their data need to be accessible to a broader audience. Often, that audience is less familiar with or even uncomfortable with data analysis or statistics. For this reason, communication is just as important to a data scientist's success as working with data. In this course, you will explore the process of working with a client to understand their data science needs and provide them with a summary of results. You will examine how to understand their questions and perform exploratory data analysis to begin answering their questions. You will practice using your detailed data analysis to write a report then translate that data analysis for a presentation to a data science client. This course can serve as a template for working with a client from start to finish.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS531 - Problem-Solving with Machine Learning (0 Credits)**
This course begins by helping you reframe real-world problems in terms of supervised machine learning. Through understanding the "ingredients" of a machine learning problem, you will investigate how to implement, evaluate, and improve machine learning algorithms. Ultimately, you will implement the k-Nearest Neighbors (k-NN) algorithm to build a face recognition system. Tools like the NumPy Python library are introduced to assist in simplifying and improving Python code.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS532 - Estimating Probability Distributions (0 Credits)**
In this course, you will use the Maximum Likelihood Estimate (MLE) to approximate distributions from data. Using the Bayes Optimal Classifier, you will learn how the assumptions you make will impact your estimations. You will then learn to apply the Naive Bayes Assumption to estimate probabilities for problems that contain a high number of dimensions. Ultimately, you will apply this understanding to implement the Naive Bayes Classifier in order to build a name classification system. The course Problem-Solving with Machine Learning is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS533 - Learning with Linear Classifiers (0 Credits)**
In this course, you are introduced to and implement the Perceptron algorithm, a linear classifier that was developed at Cornell in 1957. Through the exploration of linear and logistic regression, you will learn to estimate probabilities that remain true to the problem settings. By using gradient descent, we minimize loss functions. Ultimately, you will apply these skills to build a email spam classifier. The courses Problem-Solving with Machine Learning and Estimating Probability Distributions are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS534 - Decision Trees and Model Selection (0 Credits)**
In this course, you will be introduced to the classification and regression trees (CART) algorithm. By implementing CART, you will build decision trees for a supervised classification problem. Next, you will explore how the hyperparameters of an algorithm can be adjusted and what impact they have on the accuracy of a predictive model. Through this exploration, you will practice selecting an appropriate model for a problem and dataset. You will then load a live dataset, select a model, and train a classifier to make predictions on that data. The courses Problem-Solving with Machine Learning , Estimating Probability Distributions , and Learning with Linear Classifiers are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS535 - Debugging and Improving Machine Learning Models (0 Credits)**
In this course, you will investigate the underlying mechanics of a machine learning algorithm's prediction accuracy by exploring the bias variance trade-off. You will identify the causes of prediction error by recognizing high bias and variance while learning techniques to reduce the negative impacts these errors have on learning models. Working with ensemble methods, you will implement techniques that improve the results of your predictive models, creating more reliable and efficient algorithms. These courses are required to be completed prior to starting this course: Problem-Solving with Machine Learning Estimating Probability Distributions Learning with Linear Classifiers Decision Trees and Model Selection
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS536 - Learning with Kernel Machines (0 Credits)**
In this course, you will explore support-vector machines and use them to find a maximum margin classifier. You will then construct a mental model for how loss functions and regularizers are used to minimize risk and improve generalization of a learning model. Through the use of feature expansion, you will extend the capabilities of linear classifiers to find non-linear classification boundaries. Finally, you will employ kernel machines to train algorithms that can learn in infinite dimensional feature spaces. These courses are required to be completed prior to starting this course: Problem-Solving with Machine Learning Estimating Probability Distributions Learning with Linear Classifiers Decision Trees and Model Selection Debugging and Improving Machine Learning Models
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS537 - Deep Learning and Neural Networks (0 Credits)**
In this course, you will investigate the fundamental components of machine learning that are used to build a neural network. You will then construct a neural network and train it on a simple data set to make predictions on new data. We then look at how a neural network can be adapted for image data by exploring convolutional networks. You will have the opportunity to explore a simple implementation of a convolutional neural network written in PyTorch, a deep learning platform. Finally, you will yet again adapt neural networks, this time for sequential data. Using a deep averaging network, you will implement a neural sequence model that analyzes product reviews to determine consumer sentiment. These courses are required to be completed prior to starting this course: Problem-Solving with Machine Learning Estimating Probability Distributions Learning with Linear Classifiers Decision Trees and Model Selection Debugging and Improving Machine Learning Models Learning with Kernel Machines
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS538 - Generative AI and Transformer Models (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS541 - Framing Front-End Web Development (0 Credits)**
In this course, students go beyond the code to understand what is really important in web development. Through creating a mental model of how web development works, student are exposed to the big picture of how users interact with websites. By building empathy and an understanding of target audience needs, students recognize the benefits of approaching design from the perspective of the user and the importance of accessibility, biases, and cultural sensitivity. Finally, students dive into the inner workings of the web to remove the mystery and build a clear picture of how websites work. Ultimately, the goal of this course is to prepare students to design and build beautiful, functional websites that meet the needs of their target audience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS542 - Structuring Content with HTML (0 Credits)**
In this course, students will start by identifying the various types of elements that exist in a web page and the importance of information architecture. They will immediately begin organizing and structuring web page content and then markup the content using HTML. This process will introduce the document object model, which enables students to build a mental model of how web pages are built and how web browsers render those pages. Important facets of writing valid HTML that is also semantically sound are introduced through a number of code writing activities. From single page coding, we zoom out to explore how websites with multiple pages, hyperlinks, and navigation are organized and developed. Students will take these new skills and apply them to building a simple multi-page website with valid code and a functional navigation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS543 - Styling Web Content with CSS (0 Credits)**
In this course, students will engage in a design-first approach, focusing on understanding the needs of the user and prioritizing designing over coding. By engaging with personas and gaining empathy for a website's audience, students identify the needs of their users and apply visual design principles to make sites accessible. With designs in hand, students will learn to write Cascading Style Sheets (CSS) and create rules to implement their design. Along with writing and implementing CSS code, students will explore validating, troubleshooting, and improving their CSS.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS544 - Composition and Responsive Design (0 Credits)**
In this course, you will employ visual design practices and principles to create attractive, functional websites styled with CSS. Through a thorough investigation of the CSS box model, you are introduced to concepts such as padding, margin, whitespace, and element sizing. These concepts are then given the context of visual design principles to help you make layout and design choices that are user-centric and functional. You will then practice the layout design process to create sketches and wireframes of your designs. With plans in place, you will then write CSS to implement the design to effectively style and layout HTML elements accurately. Finally, you will go a step further to ensure this design is flexible and responsive on the many devices that could be used to visit your site.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS545 - Improving User Experience with Interactivity (0 Credits)**
In this course, you will explore the potential of interactivity by adding JavaScript to a website. First, you will consider the use of interactivity and identify some common best practices and pitfalls. You will then dive into the JavaScript language, practicing the basics of JS syntax and jQuery. Next, you will discover event-based programming concepts such as event handlers, state, and conditionals. Finally, you will debug both the syntax and logic of your JS code.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS546 - Collecting Data with Forms (0 Credits)**
In this course, you will build a form to collect data input. This process begins with analyzing how web requests work and identifying the parameters of the hypertext transfer protocol (HTTP). Next, you will design and code a form to collect user data. You'll use advanced topics such as client-side form validation and error messages to improve the user experience and overall validity of collected data. You will then evaluate your form and implementation to ensure the final design is appropriate and functional.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS551 - Python Fundamentals (0 Credits)**
This course provides an introduction to the programming environment and explores the basics of Python. After learning how to run a script, you will work with Python expressions, functions, and variables in interactive mode. By the end of the course, you will be able to write a basic Python script that includes built-in functions and modules.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS552 - User-Defined Functions in Python (0 Credits)**
This course explores Python functions. As you expand your technical vocabulary, you will practice visualizing Python executions. In addition, you will examine the rules for writing functions and recognize a properly formatted specification. You will explore writing simple functions to process text and be able to turn an English description into code. You will also practice testing and debugging code and learn how to interpret error messages.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS553 - Developing a Currency Converter (0 Credits)**
You will take the concepts you have learned up to this point and use them in a real-world application, creating a program that can convert amounts of currency. You will define and design your own functions, design an interactive script, and test these functions and script in the development of a currency converter. You will also explore how Python can be used to work with web services. This course serves as a capstone experience to two courses: Python Fundamentals and User-Defined Functions in Python .
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS554 - Controlling Program Flow (0 Credits)**
This course shows you how to move beyond straight line code and write programs that require complex decisions. These might occur within a business workflow or a compex scientific computation. You will write conditional, try-except, for-loop, and while-loop statements, as well as use them to design functions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS555 - Mastering Data Structures (0 Credits)**
This course introduces you to mutable data structures, which are advanced Python types that enable faster updating and search than basic types like ints and strings. These types are necessary for working with large data sets but can be difficult to master. You will explore multiple methods to work with these objects, which include lists, sets, and dictionaries. You will also write expressions and employ extensive use of visualization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS556 - Auditing Datasets (0 Credits)**
You will begin by examining several types of files and objects. You will then apply the concepts you have learned in the previous courses to solve a real-world business problem: auditing an organization's regulatory compliance. Working with heterogeneous data, you will first read a series of disparate data files and determine how to integrate the data. You will then write a sequence of scripts that pull information from these files and inform the user on whether the organization has fully complied with regulations. This course serves as a capstone experience to five courses: Python Fundamentals User-Defined Functions in Python Developing a Currency Converter Establishing the Control Flow Mastering Data Structures
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS561 - Fundamentals of Programming (0 Credits)**
In this course, you will practice writing simple instructions for a computer. Through the use of a blocks-based programming language, you will implement instructions in code to create programs that complete an action. You will practice using repetition and variables to provide more flexibility and simplicity to your program. In the project, you will build a form that can use variables and basic arithmetic expressions to generate a report in HTML. Through these exercises, you will explore good programming habits and debugging techniques on your way to writing JavaScript syntax.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS562 - Writing Programs that Make Decisions (0 Credits)**
In this course, you will plan and create programs that can respond to interaction in differing ways depending on the user input. Through the use of conditional and logical expressions, you will code programs that can perform more complex actions, such as a web form that displays certain information depending on user input. You will also practice tracing and debugging to identify, distinguish, and resolve logical and syntax errors.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS563 - Coding Multi-Part Problems (0 Credits)**
In this course, you will begin by organizing data in the form of indexed and associative arrays. From here, you will begin combining programming constructs in order to perform more complex actions on data through the use of loops and nesting. In order to build more resilient programs, you will practice implementing means of recognizing and recovering from errors in your programs. Finally, you will tie this all together by writing code to create a program based on a specification document that incorporates the constructs and error handling covered throughout the course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS564 - Solving Problems Using Functions (0 Credits)**
In this course, you will begin using functions to create cleaner and more efficient code. You will begin using built-in functions as well as writing your own functions to accomplish a specific task. In order to find solutions to more complex problems, you will practice breaking down large programming tasks into smaller, well-defined pieces. At the same time you will define and execute plans to build those solutions.You will further practice planning, coding, and debugging as a full end-to-end process in order to strengthen your skills as a novice programmer.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS565 - Expanding Functionality with Libraries (0 Credits)**
In this course, you will begin using libraries to expand the functionality of your programs, such as using an API to dynamically generate content. You will use multidimensional data with a library to simplify the implementation of your programs. Through this work, you will also learn how to evaluate whether a new library will provide you the functionality you need for your specific problem or implementation. Finally, you will use various methods of programming to load data asynchronously.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS566 - JavaScript Beyond the Browser (0 Credits)**
In this course, you will differentiate JavaScript in the browser from implementation on the local computer. You will begin writing command line scripts to automate tasks and overcome development challenges when working locally. You will also explore working with existing codebases as well as the social and ethical considerations of programming. In the project, you will build a simple progressive web app, extending JavaScript beyond the web.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS571 - Natural Language Processing Fundamentals (0 Credits)**
In this course, you will explore the foundational vocabulary of natural language processing (NLP) and start writing code right away by finding patterns in strings using both simple functions and regular expressions. This will prepare you for an important component of NLP work, which is preprocessing text to reduce the size of the vocabulary being analyzed: The fewer total words that need to be analyzed, the more computationally efficient your work will be. You will then tag sentences so that you will be able to relate keywords to one another. You will also gain extensive hands-on experience writing Python, first by practicing on individual sentences then working up to a larger body of text. Overall, your understanding of and skill in NLP with Python will support you as you continue through your career and meet your goals in this area and beyond.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS572 - Transforming Text Into Numeric Vectors (0 Credits)**
If you want to compare two large bodies of text with each other, you can do that by making comparisons with the text itself: Turn the text into tokens then compare the overlap in tokens. Sometimes, however, you dont just want to know that two texts are different (a binary comparison), but you want to know how different, which is a fuzzy comparison. In this course, you will transform text into numeric vectors, which allows us to perform arithmetic operations on textual information to calculate similarity. This is a classical natural language processing (NLP) technique, and it begins by creating different kinds of vectors. You will create both sparse and dense vectors, and you will compare vectors of different sizes to see how information is captured. Finally, you will measure similarity between document vectors, which is the real power of turning text into vectors. The ability to determine how similar two or more documents are is a common use of NLP, and you will practice this technique through hands-on exercises and projects.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS573 - Classifying Documents With Supervised Machine Learning (0 Credits)**
In this course, you will start to use machine learning methods to further your exploration of document term matrices (DTM). You will use a DTM to create train and test sets with the scikit-learn package in Python an important first step in categorizing different documents. You will also examine different models, determining how to select the most appropriate model for your particular natural language processing task. Finally, after you have chosen a model, trained it, and tested it, you will work with several evaluation metrics to measure how well your model performed. The technical skills and evaluation processes you study in the course will provide valuable experience for the workplace and beyond.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS574 - Topic Modeling With Unsupervised Machine Learning (0 Credits)**
Can a computer tell the difference between an article on jaguar the animal and Jaguar the car? It can if we teach it how. In this course, you will extract key phrases or words from a document, which is a key step in the process of text summarization. Part of what makes natural language processing (NLP) so powerful is that it processes text at scale, when a human would simply take too long to perform the same task given the sheer number of text documents to be read and processed. A classic use of NLP, then, is to summarize long documents, whether they are articles or books, in order to create a more easily readable abstract, or summary.Extracting keywords or key phrases is a first step in this direction, which is where you will start in this course. Once you train a computer what the most important words in a document might be, you have to train it to identify the most important sentences. This is the second step in extracting information from a document to help create an abstract, and you will also perform this step on larger text documents. Finally, you will calculate and interpret similarity metrics to compute the degree of similarity between documents that are possibly related to one another. The techniques you use throughout this course will prove useful in specific situations at work and beyond as you support your team or achieve your personal goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS575 - Clustering Documents With Unsupervised Learning (0 Credits)**
In the previous course in the Natural Language Processing With Python certificate program, you calculated similarity scores on different documents to determine whether different texts are related topically to one another. In this course, you will turn your attention to measuring distance. This can be considered the opposite of measuring similarity, as you are measuring the dissimilarity of the documents. The goal is still to discover how alike or unlike various groups of text documents are to one another. At scale, this is a problem you might encounter if you need to group thousands of products together purely by using their product description or if you would like to recommend a movie to someone based on whether they liked a different movie. In this course, you will work with several different data sets and use both hierarchical and k-means clustering to create clusters, and you will practice with several distance measures to analyze document similarity. Finally, you will create visualizations that help to convey similarity in powerful ways so stakeholders can easily understand the key takeaways of any clustering and distance measure that you create.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS576 - Conducting Semantic and Sentiment Analysis (0 Credits)**

We have all been misunderstood when sending a text message or email, as tone often does not translate well in written communication. Similarly, computers can have a hard time discerning the meaning of words if they are being used sarcastically, such as when we say great weather when its raining. If you are automatically processing reviews of your product, a negative review will have many of the same key words as a positive one, so you will need to be able to train a model to distinguish between a good review and a bad review. This is where semantic and sentiment analysis come in. In this course, you will examine many kinds of semantic relationships that words can have (such as hypernyms, hyponyms, or meronyms), which go a long way toward extracting the meaning of documents at scale. You will also implement named entity recognition to identify proper nouns within a document and use several techniques to determine the sentiment of text: Is the tone positive or negative? These invaluable skills can easily turn the tide in a difficult project for your team at work or on the path toward achieving your personal goals.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS581 - Building Your First Software-Defined Network (0 Credits)**

To illustrate the value that software-defined networking (SDN) can bring to an organization, you must first explore the differences between SDN and traditional, distributed networks. In this course, you will differentiate between these traditional networks and SDN, which is centralized. You will also build an SDN by implementing paths, creating a simple SDN control loop, and extending simple SDN to support broadcast. Through this course, you will gain valuable foundational knowledge and skills to build on throughout your career.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS582 - Optimizing the Flow of Data Through Your Network Using SDN (0 Credits)**

To deliver on service-level agreements, networking professionals know they must continuously manage and optimize their networks, and an SDN-enabled network can be managed through software, making network optimization more efficient, flexible, and granular. In this course, you will use SDN to optimize the flow of data through a network. You will identify how network paths affect performance and use SDN to implement optimal traffic engineering. Finally, you will examine operational considerations for SDN-based traffic engineering. The knowledge and skills you gain will help you leverage SDN to ensure network traffic flows as efficiently as possible from one network node to another.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS583 - Getting Visibility Into Network Conditions Using SDN (0 Credits)**

Networking professionals need real-time data to understand how their network is functioning in order to make critical decisions for their teams and clients. Using SDN, you can capture real-time data and integrate it into a network's control plane to enable network automation and efficient scaling. In this course, you will gain the skills you need to understand a networks status. You will use SDN to get visibility into a network and detect changes in network conditions. In addition, you will implement network telemetry with SDN. Finally, you will explore how to integrate monitoring data into the control loop. With these skills, you can better understand how to assess the status of a network and apply these teachings to your projects.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS584 - Enhancing Your SDN With Special Boxes (0 Credits)**

Scaling an SDN-enabled network often requires the integration of new physical boxes such as load balancers, content caches, firewalls, and intrusion detection systems into the network. In this course, you will explore how to customize routing to integrate network functions. With SDN, you can program your network to offload some network functionality to these boxes, giving you the ability to orchestrate the flow of packets through a pipeline of middle boxes. You will discover how to scale up network functions by offloading to hardware and scale out applications using SDN and network functions.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS585 - Verifying Network Properties With SDN (0 Credits)**

Network monitoring is historically focused since it enables networking professionals to view and analyze what has happened in a network. Conversely, network verification is future focused since it enables networking professionals to predict what could happen in a network based on a specification. In this course, you will specify SDNs in terms of high-level intents. You will then practice verifying SDNs using static and dynamic techniques. By the end of this course, you will have the skills you need to better understand how networks are verified, adding to your toolkit for informed application of software-defined networking.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS591 - Individual Ethics (0 Credits)**

In this course, you will examine the foundations of ethics in both people and organizations. By acquiring the skills to identify the sources of your own ethics, you will strengthen and clarify your ethical stance in the workplace. Through this lens, you will deploy "micro-ethics" in a decisive, purposeful way to situations you might encounter as a citizen in diverse communities such as teams, professional associations, organizations, or employers. This process will be informed by a survey of the "virtue ethics" framework along with mechanisms that help you handle ethical dilemmas. By the end of this course, you will have the necessary foundation to engage with ethics on a deeper level in your personal and professional contexts.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS592 - Ethics and the Data Lifecycle (0 Credits)**
When a data project leaves your hands, the ethical choices you made will travel with it, and those choices can sometimes lead to significant consequences. In this course, you will apply your knowledge to situations where seemingly small ethical choices made by individuals result in large, "macro-ethics" problems of fairness, justice, privacy, and consent. You will trace the data science lifecycle to anticipate consequences and discuss the importance of transparency and accountability in your work. Finally, you will practice applying moral imagination to a data lifecycle and ecosystem then develop recommendations for monitoring and intervention based on that context. By recognizing the connections between desk-level choices and world-level impacts, you will acquire the skill to move your data science work in a positive direction.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS593 - Integrating Virtue Ethics Into Data Science Practice (0 Credits)**
What can you do to cultivate the right ethical choices? This course addresses this question by delving into the concept of "virtue ethics" and how it is applied in practical situations. You will explore how the virtue ethics framework relates to existing principles, practices, and codes of conduct in data science as well as how it can be used to inform decisions. First, you will develop the skill to analyze your own habits so they support your beliefs about your ethical character. You will then apply these concepts to a work setting, recognizing the guidelines that exist for your professional practice. Finally, you will discover how to navigate common situations where ethics are at odds with your professional goals or client needs, including situations when organizational ethics and individual ethics are unaligned. By integrating these concepts in practical ways, you will be set up with the tools and practices needed for success in your role and beyond.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS594 - Creating an Ethical Data Science Practice and Workplace (0 Credits)**
Managing the dynamic between individual and organizational ethics can feel complicated without the proper tools and foundations. In this course, you will be introduced to the necessary tools to understand and engage with these frequently opposing contexts. You will apply virtue ethics concepts across individual, team, and organizational levels to create an environment that encourages all stakeholders to thrive. You will discover techniques for cultivating habits, reviewing processes for ethical flags, creating low-stakes mechanisms to raise ethical concerns, and building an ethical climate in performance reviews. Finally, you will engage with workplace practices around ethics, identifying strategies for handling situations in which ethics are central, including deploying rewards for ethical practices. By the end of this course, you will have the tools necessary to apply ethical concepts in workplace settings, helping you manage the dynamic between individual and organizational ethics to help every stakeholder succeed.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS601 - Nonlinear Regression Models (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS602 - Modeling Interactions Between Predictors (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS603 - Foundations of Predictive Modeling (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS604 - Ensemble Methods (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS611 - Mastering NLP Fundamentals (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS612 - Exploring Summarization and Visualization (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CIS613 - Transforming Text to Numeric Sentiments (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE101 - Examining Scarcity and Opportunity Cost (0 Credits)**
Regardless of your specific area of work, as a manager, it will be imperative for you to understand the incentives that people face and how they are likely to respond when constraints change. A solid foundation of microeconomics will give you a competitive advantage. It will help you answer critical management questions such as: Should we expand our capacity? Should we add more staff? How can you figure those things out? In this course, you will begin with a cornerstone of microeconomics: opportunity cost. You will examine its definition as well as applications and explore the hidden cost fallacy, the fixed cost fallacy, and the cost-benefit principle. A good understanding of opportunity cost will help you understand how these principles relate to changes in human behavior and drive decisions. You will examine key concepts of supply and demand and the ways in which they affect business decisions. You will also complete a project in which you apply these concepts to practical questions facing your workplace. You will examine the profit maximizing output rule for producers, define the first law of supply, examine the price elasticity of supply, and define the supply ceteris paribus conditions. You will define the consumer surplus maximizing rule for demanders, the first law of demand, the price elasticity of demand, and the demand ceteris paribus conditions. This course will set the foundation for your microeconomics studies.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE102 - Analyzing Price and Equilibrium (0 Credits)**
While a thorough understanding of supply and demand is essential in microeconomics, you also need to delve into the factors that determine price and how the markets reach levels of equilibrium. In this course, you will examine what determines equilibrium price and quantity, gains from trade, and how changes in the supply and demand ceteris paribus conditions affect equilibrium price and quantity. You will explore critical questions related to government intervention in markets, and finally, tie these concepts into an overarching graded course project in which you will apply the lessons to relevant concerns facing your industry or organization. This course prepares you to not only understand the relationship between the factors affecting equilibrium price and quantity, but also apply these factors to your decision making for your organization. The course Examining Scarcity and Opportunity Cost is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE103 - Conducting Market Analysis and Predicting Price (0 Credits)**
To effectively lead the decision making of an organization, you will need to understand how we can use models of the labor market, the loan market, and currency market to predict changes in prices and quantities. In this course, you will familiarize yourself with an extension of the model to the labor market, loan market, and currency market. You will investigate relevant concepts that can allow you to make predictions about how prices and quantities will change when market conditions fluctuate, exploring some circumstances in which the market equilibrium is not efficient. You will then develop a model of production using a single variable input. From this model, you will determine how to derive the average and marginal costs curves. Finally, you will complete a graded course project in three parts in which you will apply these relevant course concepts to practical concerns in your firm or industry. This course will leave you prepared to analyze a imperfect market and apply those concepts to the decisions made at your organization. The courses Examining Scarcity and Opportunity Cost and Analyzing Price and Equilibrium are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE104 - Modeling Perfect Competition (0 Credits)**
In this course you will examine the model of perfect competition and how it can be used to make business decisions. You will utilize this model of perfect competition to analyze both the short-run and long-run equilibriums and the impacts they can have on your organization. You will explore how firms have access to a multitude of specialized input that are limited and how those can be exploited for the benefit of your organization. Lastly, you will analyze two significant questions: Who in particular will reap the rewards when there are profits? And how large will the profits be? Finally, you will complete a graded project in which you draw relevant conclusions related to perfect competition and your firm. These courses are required to be completed prior to starting this course: Examining Scarcity and Opportunity Cost Analyzing Price and Equilibrium Conducting Market Analysis and Predicting Price
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE105 - Comparing Monopolies and Competition (0 Credits)**
Imagine that a firm is the sole producer in a market, i.e., a monopolist. How does the monopolist behave? How does that behavior differ from the case of a firm in perfect competition? In this course, you will examine how the monopolist behaves. You will examine the cost structure that results in a natural monopoly and the choices that firms put into making pricing decisions in these contexts. Finally, you will analyze a model of monopolistic competition between firms and consider how they fight to reduce new firms from entering their industry. Throughout exploring these new definitions and models, you will work on a course project that will help contextualize these concepts into your life and work. These courses are required to be completed prior to starting this course: Examining Scarcity and Opportunity Cost Analyzing Price and Equilibrium Conducting Market Analysis and Predicting Price Modeling Perfect Competition
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE111 - Foundations of Financial Statements (0 Credits)**
This course provides a foundation in financial accounting and examines the expansion of the field as it relates to the evolution of business' accounting needs. Students will be able to speak intelligently about accounting entities, assets, and claims, along with how they are represented on an income statement and balance sheet. It then examines the application of financial statement ratios and the ways in which data can be utilized for the internal and external evaluation of a company's financial position, performance, and prospects. Students will apply financial statement ratios to analyze how profit is generated and make determinations on a company's liquidity and solvency. Finally, this course will look at non-profit organizations and the implications of restricted funds versus for-profit companies and unrestricted funds.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE112 - Accruals and Cash Flows (0 Credits)**
This course will help you distinguish between credits and debits while examining the pros and cons of cash-basis accounting versus accrual accounting. You will use the basic steps of the accounting process to make balancing account entries for a variety of transactions. You will consider the ethical side of accounting: why promises matter and how that translates to accruals, adjusting closing entries, ensuring the accuracy of your statements, correcting errors and estimates, and what to do when accounting goes wrong. You will examine cash inflows and outflows and then analyze this data to create an accurate depiction of a company's economic reality. This will be crucial information for potential investors, partners, creditors etc. You will know when to use a direct cash flow statement versus an indirect cash flow statement and how to accurately reflect transactions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE113 - Sales Accounting (0 Credits)**
This course will enable you to interpret the financial statement line items that capture the most central and important operations of any enterprise: the revenue and other cash inflows earned from customers and the related expenses or losses. It is recommended to only take this course if you have completed Foundations of Financial Statements or Accruals and Cash Flows or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE114 - Investments, Capital and Financial Forecasting (0 Credits)**
This course will help you interpret financial statement line items that capture the investments an enterprise makes in its future and claims that long-term investors hold on the enterprise. You will explore the differences between tangible and intangible assets along with the ways in which each can be capitalized and their costs can be allocated to the income statement. You will apply concepts to long-lived assets, such as the "Day Zero" assumption, depreciation (tangible assets), amortization (intangible assets), and cost allocation. Taking this a step further, you will delve into accounting methods used for depreciation and amortization and then look at ways to address impairments, fair value, and the three levels of input. Finally, these concepts will be applied to different aspects of capital such as stocks, bonds, and related valuations. It is recommended to only take this course if you have completed Foundations of Financial Statements or Accruals and Cash Flows or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE521 - Presenting Quantitative Data (0 Credits)**
While it is extremely common to hear the word "data" in business today, what is less common is an understanding of how to collect the right data and then apply it to solving business problems. In this course, you will learn foundational concepts in statistics and how to collect and interpret data while applying statistics and statistical thinking to business problems. Additionally, in the practice of business statistics, it is essential to capture accurate data but also to communicate that data clearly and effectively. You will then explore methods of presenting this type of data and try it for yourself. Lastly, it may seem far-fetched to describe numeric values collected during a business day as a story, but when quantitative data is compiled into a visual tool such as a table or graph, it can indeed tell a story about that day's business activity. In this course you will examine how to display quantitative data through tables as well as best practices you should follow to determine which method is the best choice for communicating the data at hand.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE522 - Descriptive Statistics for Business (0 Credits)**
In order to uncover insights in data, it is important to draw conclusions about the population that is being studied using numerical measures. In this course, you will identify various numerical measures including percentiles, range, variance, and standard deviation. You will then see how to visualize and draw conclusions on quantitative or qualitative variables. This course uses tables and charts to compare combinations of variables, identify the means of finding relationships between variables, and teaches you to interpret results and make predictions between variables.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE523 - Making Predictions Using Statistical Probability (0 Credits)**
In order to use data from a sample group to make judgments about an entire population, you will explore probability in order to move toward the area of inferential statistics in this course. You will identify the role of discrete variables, use them in determining probability, find the expected value, and define variance. Additionally, the normal distribution, often called the bell curve, is a practical model for many business measurements, including financial decision making, process variations, and salaries. In this course you will examine the normal distribution and identify how to determine probabilities and percentiles from each of these distributions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE524 - Inferential Statistics (0 Credits)**
It is often not feasible to capture parameters for an entire population; however, it's necessary to gather statistics to estimate population parameters. In this course, you will walk through the multiple methods of collecting samples and examining margin of error and confidence intervals, including how they are calculated. You will then explore another area of inferential statistics called hypothesis testing to start with a hypothesized value. One of the most important measures to calculate is the p-value, which helps gauge the significance of your findings. You will observe the role that p-values play in hypothesis testing and the way in which they are calculated.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE525 - Multivariable Comparisons (0 Credits)**
An ever-present need in business is to compare two populations, such as sales of related products, different customer segments, or productivity of factory work shifts, to name a few. In this course, you will examine how to compare two population means. Just as there is a need to look at two populations, the same is true for larger groups. However, the process of comparing three or more population means is significantly different. You will investigate the comparison of multiple means, including the experiment designs to choose from and the three-step process to follow. Additionally, you will explore how hypothesis testing is used to make judgments about a population. Many times, however, comparisons are needed on more than one variable, such as a survey given to two different audiences or a defect caused by different pieces of equipment. Lastly, in this course you will examine tests on two variables, having either two options or multiple options and identify the formulas used in these comparisons.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE526 - Statistical Forecasting (0 Credits)**
Forecasting can be found in every corner of the business world today. When done in tandem with accurate time series analysis, it enables sound prediction of future values. In this course, you will explore the use of time series analysis and the four components of time series data. Consider, there are a number of time series that may require forecasting but do not have any discernible trend, such as a stable product environment or a very short timeframe. In this course you will continue exploring forecasting by examining stationary time series and the situations in which they most often occur and practice forecasting techniques and stationary time series analysis. You will then examine stationary data where no substantial change is taking place. Lastly, you will move to data that is changing. A layer of complexity can be added to forecasting in the form of seasonality, where the time series being studied regularly changes with each season. This added element must be considered in any prediction of future periods.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CORE527 - Practical Applications of Statistics (0 Credits)**
A field in which statistics can play a vital role is quality control. Statistical tools assist in the monitoring and maintenance of product quality. In this course you will explore quality control and how statistical methods are utilized within quality control. You will practice preparation and analysis of charts and determine some additional quality control methods. Additionally, organizations are constantly faced with major strategic decisions. These critical choices are best made using decision analysis tools. Analysis may involve a large number of variables for each item or individual being studied. This type of study, known as multivariate analysis, seeks to shed light on the relationships between all the variables. You will examine several techniques to choose from when undertaking multivariate analysis.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA501 - Assessing Startup Viability and Funding Options (0 Credits)**

Every startup has an element of risk. Whether you are an entrepreneur or a new investor, you need to be able to articulate a business model and evaluate how it would fit with an investor type so you can identify good opportunities for investment. In this course, you will complete a strategy framework that will help you assess the viability of a startup. By assessing and evaluating the total available market and served available market, you will conduct a target market estimate to project your product or service's potential market size. You will also create a milestone chart that helps you identify the human and capital resources necessary to launch a startup. Your compilation and review of this work will help you evaluate the specific type of investment your project needs.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA502 - Pitching Your Business Opportunity (0 Credits)**

In this course, you will learn how to navigate the process of pitching a startup investment opportunity in order to gain investor interest. Through opportunities to both build and evaluate a pitch, both entrepreneurs and investors will gain insight into each other's perspective. In this course, you will analyze a real-world pitch to see how closely it conforms to the recommended format for a great pitch. You will then select three potential investors online and explain why they would make a good fit with your own or a selected opportunity. Finally, you will build a partial pitch deck based on selected key concepts, and then partner with a peer from your cohort to deliver, evaluate, and strengthen those pitch deck slides. By the end of this course you will have the confidence you need to create or assess a startup pitch. It is recommended to take Assessing Startup Viability and Funding Options prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA503 - Protecting Your Interests (0 Credits)**

In order to safeguard the opportunity or investment before the deal is closed, certain steps like incorporation, structuring future investment, and creating a term sheet serve as protection for the interests of both parties. These assets and processes lend structure to the deal. In this course, you will recognize the tradeoffs, risks, and implications of different legal investment structures and determine the right time and circumstances for switching those structures. Working with a sample startup, you will identify both appropriate and inappropriate forms of incorporation for the opportunity. You will determine the most appropriate legal structures for both non-equity and equity investment scenarios. You will then identify which sources of investment should be sought at the different phases of the business cycle. Finally, you will list the documentation required at each business cycle phase to close the deal. It is recommended to take Assessing Startup Viability and Funding Options and Pitching Your Business Opportunity prior to this course or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA504 - Financial Planning, Valuation and Dilution (0 Credits)**

To evaluate an investment opportunity, savvy investors rely on a company's records of its ownership percentages, equity dilution, and the value of equity issued in each round of financing. These records are kept in a company's capitalization table, or cap table, which is a record of the different rounds of investment. In this course, you will utilize and complete a cap table template to create and record a sample startup's financial records. Then, you will use the cap table to assess and analyze a series of financial outcomes based on a set of differing scenarios. Lastly, you will compute and evaluate approaches to valuation such as discounted cash flow and public market multiples based on estimates of future cash flow. This will position you to negotiate new rounds of financing and analyze the impact of new rounds on existing shareholders. It is recommended to take Assessing Startup Viability and Funding Options, Pitching Your Business Opportunity, and Protecting Your Interests or to have equivalent experience prior to this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA505 - Company Structure and Due Diligence (0 Credits)**

Before closing an investment deal, an entrepreneur needs to protect their interests, and an investor needs to verify the stability of the opportunity. This series of steps is called the due diligence process. In this course, you will create a due diligence project plan for your investment or opportunity that maps out how to get from term sheet to closing. This process includes key milestones, timeframes, a detailed understanding of key players' responsibilities, and consideration for the various types of due diligence. Then, you will compile a list of questions for the due diligence checklist, a key element of the process that outlines the questions that need to be answered and the documentation that is required to close the deal. Lastly, you will identify, review, and analyze the dozens of critical documents being exchanged that are needed to finalize the investment deal and retain for future use, protection, and reference. By completing these steps, you will be ready to determine if you should move forward or hold back on your deal. It is recommended to take Assessing Startup Viability and Funding Options; Pitching Your Business Opportunity; Protecting Your Interests; and Valuation, Dilution, and Financial Planning or to have equivalent experience prior to this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA506 - Post-Investment Best Practices (0 Credits)**

After closing a deal, it is essential that the founder maintain a strong affiliation with the investor. Continued mutual trust and communication can increase the company's chances for growth and success. In this course, you will formulate a structure for you company that outlines the key parties and their responsibilities. You will also draft a board meeting agenda, investor update, and delegation matrix and list the characteristics of your incentive plan. Finally, you will project an index of the company records that are likely to be added one year after your investment date. By the end of this course you will have a detailed plan to help you successfully navigate your post-investment future. It is recommended to take Assessing Startup Viability and Funding Options; Pitching Your Business Opportunity; Protecting Your Interests; Valuation, Dilution, and Financial Planning; and Company Structure and Due Diligence or to have equivalent experience prior to this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA511 - Building and Validating Prototypes (0 Credits)**
In this course, you will refine an idea for a physical product by focusing on the customer. Using the Business Model Canvas, you will list your initial assumptions about all aspects of product development, from value propositions to pricing. You will then create a low-cost consumer product prototype and validate it through customer discovery. You will develop a business model for that product using the Business Model Canvas, then build and test prototypes to gain actionable customer feedback. By the end of the course, you will have discovered the types of companies that can help you prototype. Please note that time to build the physical product prototypes will add about 1.5 hours to the time spent on the course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA512 - Developing Product Specifications (0 Credits)**
To effectively communicate with your manufacturing partners, you must have an accurate product requirements document, or PRD. In this course, you will create and iterate on a PRD. You will assess geographic, environmental, material, and design manufacturing considerations. You will then create an organizational chart to specify the team roles that you and your manufacturing partner need to fill. After selecting the appropriate manufacturing techniques for a product, you will establish product usage specifications that can get you to a manufacturable product. This course requires the purchase of a low-cost physical product kit.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA513 - Launching Small-Scale Production (0 Credits)**
Once you create a product prototype that meets your customers' needs, you are ready to plan for small-scale manufacturing. To do this, you need to know how to communicate effectively with manufacturers. In this course, you will assess a Bill of Materials, which lists each manufactured part and raw material that you need to create a product. You will also assess a Bill of Process, which is a flow chart of every step in the process of manufacturing a physical product. You will then write a plan to test your product that can ensure that it meets specifications. You will identify how to pick a manufacturer, create a positive working relationship, and understand contracting terms. You will also obtain manufacturing quotes for the product you created in the first course. Finally, you will plan post-production activities such as packaging, distribution, and shipping, with an eye toward an excellent unboxing experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA514 - Managing High-Volume Production (0 Credits)**
After you've created a low-volume production run of your product, you are ready to plan for high-volume production. In this course, you will optimize materials costs through increased volume and by designing a product for ease of fabrication. You will reduce the complexity of assembly and product variability to lower assembly costs. You will implement a set of best practices called Design for X, which will help you ensure efficient and inexpensive manufacturing that results in a high-quality physical product. At the end of the course, you will have the tools to design for high-volume production.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA515 - Sourcing a Manufacturer (0 Credits)**
Once you have worked out small-scale manufacturing for your physical product, you will explore a framework called Design for X. Design for X encompasses all aspects of planning for high-volume production, where "X" can be Manufacturing, Assembly, Testing, Upgrade, Repair, Sustainability, End-of-Life, Installation, and Start.Design for X incorporates best practices from the experiences of physical product developers in making a reproducible product. You will apply these ideas to design a large-scale manufacturing process that is efficient and cost effective. This will enable you to reduce the number of steps in the process, build quality into manufacturing, and design for customer ease in the upgrade, repair, and end-of-life of the product, among other considerations. In sum, Design for X will enable you to please your customers with an excellent product that functions as promised.This course includes a video tour of a contract manufacturing firm near Cornell University. In this video, you will observe the process of plastic injection molding, a common and inexpensive process that many physical product entrepreneurs use to manufacture their products.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA516 - Developing a Distribution and Marketing Strategy (0 Credits)**
In this course, you will explore the process of taking an unassembled product to a shippable product. You will investigate supply chain areas of fulfillment and reverse logistics (i.e., returns, recycling, and so on) as well as marketing. You will first learn how to decide whether to outsource product assembly or do it in house. You will also explore DIY sites such as Kickstarter. There are many variables that affect fulfillment and you will determine which can affect a product. After you've assembled a product, you will make a plan to design and finance the distribution strategy. You will also make a plan for what happens after the purchase: Can the customer return the product or send it in for repairs? How can they recycle the product? Is it disposable, or does it contain toxic chemicals? All these options must be defined. Finally, you will investigate how to plan product marketing.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CREA517 - Financing Your Business (0 Credits)**
In this course, you will explore options to finance all aspects of your product business. You will examine how to obtain financing for business operations and how to create inventory and product. You will then explore the post-purchase customer ownership cycle, including presale, selling straight to a retailer, or selling through a retailer. You will then apply this by building a multi-page spreadsheet to compare your options. Finally, you will examine types of pitches along with the components of an effective pitch. You will design your pitch using a storyboard template and then participate in a pitch competition to obtain financing for your product.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS431 - Systems Security (0 Credits)**
In this course, you examine security for computers and networked information systems. The focus is abstractions, principles, and their practical embodiments for implementing military as well as commercial-grade secure systems. You will learn the technical vocabulary of the field so that you can access the technical literature. You will also engage in discussions of policy issues; for example, the national debates on cryptography policy. The landscape of security mechanisms will be surveyed: authentication (for people and for machines), authorization, audit, and enforcement (through isolation, monitoring, and asymmetric costs).
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS432 - Authenticating Machines (0 Credits)**
Protocols for authenticating machines have an important role in systems security, and this course will focus on various aspects of this challenge. Using case studies of protocols that work and that have failed will help you to acquire the skill and skepticism necessary to analyze and deploy authentication protocols successfully. In this course, you will investigate shared key and public key cryptography and the trade-offs associated with these different types of keys. You will also examine some of the standard cryptographic building blocks and their use. It is recommended to only take this course if you have completed Systems Security or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS433 - Authenticating Humans (0 Credits)**
If an attacker can masquerade as an authorized user of a system, then many other defenses become irrelevant. This course addresses how a computing system can authenticate a human user, discussing implementations of mechanisms as well as their privacy implications. Passwords, biometrics, and tokens all will be discussed, along with their combination as multifactor authentication. It is recommended to only take this course if you have completed Systems Security and Authenticating Machines or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS434 - Discretionary Access Control (0 Credits)**
Access control mechanisms ensure that a user is able to read and/or update only certain objects. With discretionary access control, it is the creator of an object who decides which other users should have access. A broad set of mechanisms have been developed to enforce discretionary access control in a computing system. This class will survey the two approaches widely used in these mechanisms: access control lists and capabilities. Implementations in processor hardware, operating systems, and programming languages will be discussed. Case studies will illustrate the pragmatics.It is recommended to only take this course if you have completed Systems Security, Authenticating Machines, and Authenticating Humans, or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS435 - Mandatory Access Control (0 Credits)**
Sometimes the owner of an object is not, in fact, the one to determine who should get to access that object; rather, it is an institutional policy that dictates that decision. That form of access control is known as mandatory access control, and it is frequently used in business and military settings. This course is dedicated to discussing various forms of mandatory access control policies and their implementations, including multilevel security, commercial, and role-based access control schemes. It is recommended to only take this course if you have completed Systems Security, Authenticating Machines, Authenticating Humans, and Discretionary Access Control, or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CS436 - Enforcement Mechanisms and Strategies (0 Credits)**
Vulnerable systems are made secure by employing enforcement mechanisms. Beyond enforcement mechanisms for authentication and for authorization, this course will explore the use of mechanisms for protecting the integrity of systems and, thus, preventing an attacker from circumventing controls. You will learn about the three primary classes of enforcement mechanisms mediation/monitoring, isolation, and asymmetry and discuss how they are deployed in systems todayIt is recommended to only take this course if you have completed Systems Security, Authenticating Machines, Authenticating Humans, Discretionary Access Control, and Mandatory Access Control, or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH101 - Developing a Product Hypothesis and User Personas (0 Credits)**
Developing and launching new products involves more than a great idea. In today's fast-paced digital economy, understanding your target customers and their specific needs is essential to launching and managing successful products. In startups and established companies alike, the product manager serves as a key player in taking a product from idea to launch to success. To bring viable products to market, a successful product manager needs to balance creative inspiration with a disciplined approach, and it is with this approach that we frame this first course. This course seeks to answer the question "Who is my customer?" You will explore how to develop a product by first defining the problem your product addresses. To do this, Keith Cowing will share his deep knowledge in product management to help you map your customer's journey and articulate user personas. Once you understand and articulate target personas, you will have a much clearer picture of the real problem your product is trying to solve, paving the way for a strong product strategy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH102 - Product Vision and Goals (0 Credits)**
Have you ever thought about why some products succeed and some fail? A product manager is responsible for the product's success. This all begins with setting a vision for the future where your stakeholders visualize how your product will improve your customers' lives. From there, you can begin to break down the specific goals you need to accomplish to make this future a reality. That helps you set the vision and articulate what a winning product looks like. Visualizing and drawing the business is an important step in the process. In this course, you will learn how to break your business down into pieces so that you can carefully develop a winning strategy and focus on what matters. Keith Cowing will help you visualize and draw the business, then identify the objectives and key results you will rally the team to achieve.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH103 - Product Roadmapping (0 Credits)**
You have defined clear goals and started to define a vision for your product. The product manager now moves to answer a key question, "What do we build?" A product manager needs to define a framework for prioritization, source ideas from relevant customers, team members, and stakeholders, and make sound decisions. Then a product manager can pull it together into a roadmap that defines what the team will build and when. In this course, you will learn the art of developing a compelling roadmap, which will keep the team focused and align your stakeholders around the support you need. Keith Cowing will guide you through the nuances of product management, help you define a framework for feature prioritization, and walk you through key factors you need to consider. He will also demonstrate how to skillfully navigate the organization and present the roadmap to your team.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH104 - Product Prototyping (0 Credits)**
Now that you have built a compelling roadmap and told the story to generate support, it's time to design your product. This course addresses the question, "What should the product look like?" In this course, you will learn how to prototype, either by yourself or in partnership with a product designer. What is meant by "codeless?" It means you will simulate the product experience just well enough to get valuable feedback from potential customers. You will also learn strategies for partnering effectively with design teams. This will enable you to develop informed opinions about what the product should look like and write a Product Requirements Document (PRD), unlocking the engineering team. This is an exciting moment when you prepare to pivot from analysis and planning to designing and building.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH105 - Product Analytics and Iteration (0 Credits)**
Once a codeless prototype is built, the product manager needs the ability to assess the product and identify changes to the product roadmap that will fuel success. This is a key area in the product management process, as you want to know how people actually use the product. It's about learning what is working and what is not working, articulating the underlying reasons, and knowing if and when to change direction. In this course, you will learn how to measure progress, validate or update product hypotheses, and present product learnings. Keith Cowing will share that through data and testing. You will gain the tools to make informed decisions. As you consider the culture of your company, a common thread throughout your career, you will present your product learnings and a case to approve or potentially change the course of your product roadmap.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH106 - Product Engineering and Execution (0 Credits)**
You made it this far learning what worked and what didn't work, and presented product learnings to your team. The case was made to approve or potentially change the course of your product roadmap. The product manager now moves from analyzing to actually building, to bring the product to launch. In this course, you will learn to guide the engineering team on a day-to-day basis. To work on the right things to produce results and ensure a successful product. You will move fast to plan a sprint, write a user story/ticket, and work with engineering teams and debug. This is the product manager's mission. Are you ready?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH111 - Preparing for Digital Transformation (0 Credits)**
All businesses rely on business model evolution through identifying and using new digital tools. In this course, you will identify the best method to choose the best ideas for digital transformation for your organization or entrepreneurial venture. You will conduct a builder audit to assess the current state of the innovation process and establish what the ideal state of building should be. After completing the builder audit, you will produce a digitization audit, where you will assess the current state of digital tools utilization in sourcing, organizational processes, customer interaction, and after-sales. This analysis will lead you to identify opportunities for digital technology use.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH112 - Rapid Ideation (0 Credits)**
In this course, you will apply a number of daily ideation techniques to evolve the use of digital tools in your organization. You will evaluate your business model and determine where you can integrate digital tools to better meet your customers' needs and increase profitability. You will then identify niche digital marketplaces that are opportunities to fulfill unmet customer needs. In the culmination of this course, you will gain an extensive toolkit for developing new ideas throughout your organization or for your entrepreneurial ventures.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH113 - Generating Opportunities for Digital Disruption (0 Credits)**
In this course, you will learn best practices to quickly generate multiple ideas for new ventures. You will flex your creative muscles by using tools and activities daily to expand your list of ideas. Then, you will apply your best practices to a number of product and service design, business model transformation, and sales transformation templates to devise ideas for new products and services. By the end of this course, you will have over 100 ideas for new products or services that you can begin to refine.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH114 - Developing and Pitching Ideas (0 Credits)**
Using your own expertise, you will refine your list of business opportunities in stages to your three most viable ideas. Then you will enter these ideas into a peer-to-peer collaboration platform to receive feedback from the wisdom of the crowd. You will also rate each of your classmates' three best ideas. Finally, you will develop a one-minute pitch, practice it with a partner, and record it. You and your classmates will view and provide feedback on each other's pitches. By the end of this course, you will have selected your best product or service idea and prepared a polished pitch to present to stakeholders. To be successful in this course you will need to come prepared with a list of at least 30 ideas for new products and services.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH115 - Value Creation and the Business Model Canvas (0 Credits)**
In this course, you will conduct a five-step value creation analysis using the Business Model Canvas for a product or service idea. In conjunction with this analysis, you will evaluate your idea based on your competition and your unique value proposition. You will then craft a concise statement of why your idea will work. Finally, you will gather feedback from your peers and professionals in the industry to determine where you need to iterate your product or service idea. By the end of this course, you will have a validated Business Model Canvas for your concept. To be successful in this course you will need to come prepared with an idea for a new product or service.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH116 - Prototypes and Pilots (0 Credits)**
In this course, you will design a testing plan for your product or service. You will choose an experimental strategy such as prototyping or pilots for collecting real-world data. Then, you will formulate your experiment to ensure reliable results while being conscious of accuracy and cost. You will identify what success looks like for your product or service and develop metrics to test those factors. By the end of the course, you will be prepared to test your prototype or pilot and evaluate how your product or service idea needs to improve. To be successful in this course you will need to come prepared with a loose plan for a new product or service.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH117 - Experimentation Planning (0 Credits)**
In this course, you will investigate different strategies to reduce the impact of unknowns and other risk factors on the successful deployment of your product or service idea. You will identify and evaluate a sequence of operational tasks to develop your product or service. Your task sequence will then undergo a peer review to inform the necessary changes to reduce risk and make your plan more viable. You will leave this course with a validated strategy for the development of your new product or service where risk has been reduced. To be successful in this course you will need to come prepared with a loose plan for a new product or service.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH201 - Cryptocurrencies and Ledgers (0 Credits)**
Since the advent of the internet, programmers have been trying to figure out how to create a [digital] world in which people anywhere - even complete strangers - can transact directly with one another safely and efficiently. In essence, they have been trying to recreate the bedrock of civilization: an orderly system of bookkeeping that allows people to trust each other's claims about what they own, what they owe, and what they are owed. For most of the digital age, this "trust" has been facilitated by third parties such as banks, governments, or credible companies that are willing to guarantee that a transaction is valid and secure. But transactions via third parties are slow and expensive, and they cannot be verified by just anyone, which opens the door to fraud and theft. Today, the notion of a secure and trusted third party in a digital world isn't purely mythical. And in fact, it's exactly what blockchain technology embodies in a kind of magical way. In this course, you will explore the mechanics of blockchain technology and how the blockchain acts like a trusted third party. To do this, Professor Ari Juels will design a theoretical cryptocurrency from scratch to illustrate how Bitcoin and other cryptocurrencies make use of the blockchain to transfer value from person to person. Then, once you understand how the blockchain acts as a trusted ledger, you will practice articulating other transformative ways in which blockchains can change how commercial and interpersonal connections happen online.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH202 - Cryptography Essentials (0 Credits)**
Cryptography has been around for thousands of years and is at the heart of digital communications today. Most people rely on cryptography on a daily basis without even knowing it; most popular messaging apps use encryption to ensure the security of messaging between two people. Blockchain technology, in a similar way, relies on cryptography to protect the identity of those sending and receiving messages and ensures that all information and transactions are secure and legitimate. Thus, to really understand blockchain technology, you have to understand the core principles of cryptography. This course will walk you through the basics of cryptography: how information has historically been disguised (encrypted) and revealed (decrypted) using mathematics. You will see how a message can be turned into a number, and how that number can be encrypted and decrypted by two complete strangers. You will practice encrypting your own message to understand the basics of what makes a good encryption scheme. Then, you will delve deeper into the specific type of cryptography used in blockchain technology public key cryptography and the promises and limitations it has in carrying out the core functions of a blockchain. You will create your own theoretical gold exchange in order to more fully understand how you can send anything to anyone around the world without a middleman. Ultimately you will know exactly how information on the blockchain is secured, legitimized, and authenticated without needing a third party to verify it. The course Cryptocurrencies and Ledgers is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH203 - Blockchain Fundamentals (0 Credits)**
Variations of blockchain technology have existed for decades, but the recent hype is the result of a new kind of blockchain, one that distributes the responsibility of verifying transactions and thereby making it more secure, transparent, and enduring. This course will teach you to understand the differences between the blockchain technology of today and the former, less accessible and less transparent blockchains of decades past. You will dig into the mechanics of the [newer] Bitcoin blockchain protocol and how it ensures the longevity of a decentralized public ledger as well as how it gets consensus for approving transactions. With that knowledge you will then work to analyze what problem(s) blockchain technology aims to solve, how it solves them, and how to make sense of the promises that developers of new blockchain protocols make. You will analyze a sample protocol to determine why the protocol might not satisfy the key properties that make a "good" blockchain secure. You will be better prepared to critically analyze all the endless new cryptocurrencies that emerge and the underlying blockchain technology that they operate on. You will outline several industries and business purposes for which the blockchains of today make sense. You will solve a computational puzzle in Excel to better understand how transactions get verified in the Bitcoin blockchain protocol. In the course project, you will design a theoretical blockchain for a company, outlining advantages and disadvantages of the properties you will think the blockchain should have based on the unique aspects of your business. The courses Cryptocurrencies and Ledgers and Cryptography Essentials are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH204 - Applications of Blockchain Technology (0 Credits)**
Blockchain has recently become synonymous with "cryptocurrency," but its applications are much wider than financial transactions. Though cryptocurrencies constitute the most popular of applications, the business applications are endless. In fact, any industry that makes use of an intermediary to verify transactions could in theory make use of blockchain technology. But how do people know if their industry and/or company stands to gain from adopting the technology? This course provides you with the tools to discern the applicability of blockchain technology to your business model. You will do this by learning about smart contracts and how you can implement minimal trust applications for almost any task imaginable. You will analyze how smart contracts work, how they're used today, and how to reason about their capabilities, and what ongoing technical challenges they pose. In the course project, you will come up with your own smart contract application and outline the challenges that might exist in its adoption. Ultimately you will walk away with the ability to answer one important question: Does your business need a blockchain? The courses Cryptocurrencies and Ledgers, Cryptography Essentials, and Blockchain Fundamentals are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH301 - Creating Advantage Through Entrepreneurial Thinking (0 Credits)**
Entrepreneurship has become more than just a short-term initiative, becoming an essential component of any successful organization. In this course, students will learn to identify, assess, and implement new business opportunities within established organizations to drive and maintain competitive advantage. After completing this course, students will not only be able to formulate business models and develop processes to maximize entrepreneurial abilities, but also increase the overall entrepreneurial spirit of their organizations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH401 - How to Write Programs That Make Choices With Control Flow (0 Credits)**
In this course, you will identify the basic elements necessary to write components that make calculations and choices for you. While each programming language has its own set of rules and varying syntax, here you will be focusing on programming with Python. The logic and skills you use to write simple Python programs are useful for developing your problem-solving abilities. Throughout this course, you will examine how to break down complex problems into smaller, more accessible components and write programs that solve them, step by step.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH402 - How to Write Functions to Automate Repetitive Tasks (0 Credits)**

In this course, you will write programs to automate repetitive tasks within basic data sets. You will explore how to sort and order simple text using list structures within the Python programming language. By breaking down scripts and texts into smaller parts, you will discover how to accomplish larger tasks by tackling each individual piece. You will then practice automating these basic functions into fundamental building blocks that can be reused as you enhance and expand your coding vocabulary. By the end of this course, you will have built your own playable game that you can continue to iterate and improve as your programming knowledge grows.You are required to have completed the following course or have equivalent experience before taking this course:How to Write Programs That Make Choices With Control Flow
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH403 - How to Write Programs That Work With Databases (0 Credits)**

Databases power things that we rely on every day of our lives, from displaying restaurant menus to processing payments to tracking likes and comments. These tasks require you to work with much more data than you may be used to, as real-life data sets can be extremely large and cumbersome. Using a database to organize your data allows you to work with it systematically and at scale.This course provides you with the foundational knowledge for integrating databases into your programs and using them to read, write, store, and process data. You will cover the basics of working with files and complex data structures. You will explore important data formats like JSON and CSV, discover how to write database queries that extract information of interest from a database, and get an introduction to the SQL database programming language. With these new tools, you will be able to work with huge amounts of data that would otherwise be tedious and time consuming to process manually.You are required to have completed the following courses or have equivalent experience before taking this course:How to Write Programs That Make Choices With Control Flow How to Write Functions to Automate Repetitive Tasks
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH404 - How to Develop Web Interfaces With Online Protocols (0 Credits)**

In this course, you will begin to work with web services and applications that allow you to complete certain tasks online. As part of your coursework, you will write a program that connects and pulls data from the web. Expanding upon this, you will then scale your data collection to get large amounts of data in the form of a database, and you will use the data you collect to create your own web service. You will be introduced to a web framework called Flask that utilizes prepackaged HTML templates to allow you to systematically set up and operate your web service, enabling others to interact with your content.The following courses are required to be completed before taking this course:How to Write Programs That Work With Databases Additionally, you are required to have completed the following course or have equivalent experience:How to Write Programs That Make Choices With Control Flow How to Write Functions to Automate Repetitive Tasks
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH405 - How to Create Interactive Websites With HTML and CSS (0 Credits)**

With the introduction of three more programming languages in this course, you will create interactive web applications that let users do things in their browsers, such as upload photos or play simple games. Using HTML, you can create the basic framework of a website, write CSS to decorate and style the site, and then see how JavaScript can be used to add engaging interactive elements. You will also get a chance to automate the HTML writing by using the Flask framework to more easily produce web page structures, allowing you to connect your apps to a database to generate bulk HTML content programmatically.The following courses are required to be completed before taking this course:How to Write Programs That Work With Databases How to Develop Web Interfaces With Online Protocols Additionally, you are required to have completed the following courses or have equivalent experience:How to Write Programs That Make Choices With Control Flow How to Write Functions to Automate Repetitive Tasks
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH411 - Designing a Simple Interactive System (0 Credits)**

Interactive systems, by definition, change their output or behavior in response to user input. In this course you will build some simple interactive devices using the Arduino microcontroller board. Starting from the basics, you will first become acquainted with the electronic components in the associated kit and learn about the functionality of the most important components, including resistors, LEDs, and the Arduino microcontroller. Then you will learn step-by-step methodologies for working with circuit schematics, physically assembling circuits using a breadboard, and programming a microcontroller to interact with external components. You will encounter activities to practice breadboarding circuits and writing code for the microcontroller. To assist you in this journey, we have provided a number of tools downloadable documents that you can use long after the course is finished that include information about breadboard layout, resistor color codes, schematic symbols, and a checklist for hardware debugging. Ultimately, the goal of this course is to give you a solid grounding in the practical art of building and programming interactive devices.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH412 - Expanding Interactive Systems with Devices and Libraries (0 Credits)**
In this course you will start by physically connecting components to a microcontroller board, and then move on to the business of sorting out the code needed to make the microcontroller and the external components communicate in a fluid way. This will introduce you to the world of libraries and sample code, and you will get the opportunity to expand your coding skills by practicing with adapting existing code written by others. You will set up timing and communication functions, because there are several ways to do both timing and communication, and you will become skilled at deciding when to choose which approach.The circuit-building activities in this course will be focused on external components that involve various kinds of display (other classes of external components will be considered in later courses.)The other main theme in this course is designing interactive behaviors using state diagrams, because behind every great user interface there is a well-conceived and well-implemented diagram of what states the system gets into, and how it transitions from one state to another as the user reacts to what the device is doing. The practical work culminates in a final project: the design and construction of a simple game involving the Arduino, with your choice of input and display components.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH413 - Designing Complex Sensing and Functions in Interactive Systems (0 Credits)**
In this course you will attach sensing and input components to your microcontroller board. Your knowledge of state diagrams will be expanded to include more sophisticated interactions, and you will get to know the variety of different kinds of sensing components available to you when you want to design a new system.The core project in this course is a data logger device, so another new skill you will acquire is the management of the data storage capabilities of microcontrollers. Hand in hand with this, you will develop greater fluency in the use of software- and hardware-based modules, which will enable you to approach new components that come onto the market and understand how to use them and their associated software.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH414 - Building Actuated Interactive Devices (0 Credits)**
In this course you will go beyond output devices that simply display information to output devices that involve physical movement. Actuators are the components of interactive devices that act on the world. You will learn about servo motors and other actuators that can be incorporated into your interactive devices. Some actuators, such as motors, can draw heavy currents at times. In order to use these actuators you will need to work out the power requirements for your device. In this course you will learn some of the basics of battery selection and power management. There are a number of practical activities involving the Arduino and various external components, and during these practical sessions you will deepen your prototyping and debugging skills. These activities lead up to the final project, in which you will design and build a physical interactive device of your own choosing.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH415 - Designing Advanced Interactive Devices (0 Credits)**
In this course you will start to use the Raspberry Pi for the first time. The Raspberry Pi is like a small version of a regular computer except that you can choose all the components that you want to use with it. You can connect your self-built circuits to it in much the same way that you do with the Arduino. In this course you will learn how it is possible to add other devices such as microphones, speakers, displays to the Raspberry Pi. When adding external devices, it is important to find and incorporate the associated software to drive them, so you will learn how to do this through a series of practical exercises. In the project you will design your own interactive device using both the Raspberry Pi and the Arduino
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH416 - Create Distributed Interactive Devices (0 Credits)**
In this course you will develop an interactive Raspberry Pi device that communicates to other devices across the internet. This opens up a wide expanse of possibilities like building one Raspberry Pi that fits in your pocket, communicating via the internet to another Pi at home, which could be monitoring the cats, or your front door, or the weather. For the final project of this course you will build one such system: an internet-connected doorbell, an entry into the world of Internet of Things. The course brings into play all the skills you have learned in previous courses, and now you will get experience with the complex process of designing, prototyping, and debugging a system with distributed, networked components. You will experience firsthand the challenges of getting a device from conception to fully functional, with all the internet connectivity expected of marketable devices today.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH431 - AI and Digital Technology: Opportunities and Pitfalls (0 Credits)**
As new digital technologies become embedded in business operations, there are more questions than answers for many leaders. How can you harness the power of digital technologies to help your business thrive without falling into pitfalls along the way? In this course, you will gain a foundation in a number of technological advances. You will start by discussing ways that technologies can improve your personal and professional life, including ways to produce work more smoothly, quickly, and effectively. You will also explore ways that technologies fail to deliver on promised results and access methods to prepare your team to benefit from digital technologies. By the end of this course, you will understand ways to harness the opportunities and avoid the pitfalls of digital technologies.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH432 - Demystifying AI and Digital Technologies (0 Credits)**

Now more than ever, businesses are recognizing the common pitfalls of digital technologies. Yet leaders who adopt and implement these technologies without a critical eye will likely be held back and have trouble thriving in the strategic marketplace. It is crucial to strike a balance between adopting new technologies for innovation and strategically assessing and building new technologies into your organizational strategy. But how can you better understand the options presented by these new technologies? In this course, you will examine a variety of new technologies and the roles they could play in your industry and community. You will also assess the usefulness and suitability of these digital technologies for your own organization. Finally, you will discuss the large negative externalities that these innovations place on society. By the end of this course, you will better understand digital technologies, allowing you to strategically adopt them with purpose.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH433 - AI and the Future of Work (0 Credits)**

In a competitive business marketplace, being on the cutting-edge sets businesses apart for consumers, stakeholders, and workers. How can technology innovation improve business operations, and how can you make this happen in your organization? In this course, you will explore ways to leverage new advances in digital technology to reinvent how things get done in your industry. To do so, you will identify opportunities for improving processes and work in your organization or society using digital technologies. You will also assess key metrics for work and processes in your organization, supporting your strategy and helping you communicate your vision and goals. Finally, you will explore the idea of translating or expanding your process improvement ideas into a consulting business or standalone product for companies or individuals. By the end of this course, you will have the necessary foundation to strategize a vision for the future of work powered by digital technologies at your organization and beyond.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH434 - Identifying New Business Models Enabled by AI (0 Credits)**

With so much variety across industries and strategies, it can be difficult to ensure that your business model will support the growth and success of your business. When adding innovative digital technologies to the mix, the situation can become even more complicated. How can you create an informed, successful strategy? In this course, you will explore the ways that new technologies can enable innovative business and operating models for organizations like yours. You will analyze the existing structures in your organization and evaluate ways that technology can affect key factors such as the optimal scope, the revenue model, the timing of the processes, and the players involved. Finally, you will identify and pitch several opportunities for reinventing business models, gaining practical experience to bring back to your organization.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH435 - Creating a Digital Builder Culture (0 Credits)**

Having a great idea for a new digital product is just the beginning. Ensuring there is an effective culture behind the team bringing the idea to life is key to long-term success. In this course, you will discover how to create a digital builder culture. You will first identify common pitfalls and strategize on how to avoid them. You will then explore the values that make leaders and managers successful in this area, including a focus on exploration and fast, intelligent experimentation. Finally, you will establish a prioritization scheme to support you and your team as you sequence your learnings about any unknowns affecting your product. By the end of this course, you will have the foundation necessary to move your organization from a know-it-all culture to a learn-it-all culture.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH436 - Data-Driven Leadership (0 Credits)**

Even though all companies work with data, not all leaders understand how to harness the power of the right data for the right situation. Whether you are assessing operations or discussing data-based evidence with stakeholders, business leaders must be prepared to make informed decisions that support the success of their businesses. In this course, you will discover how to harness the value of accurate data for your organization. You will examine how to use data to both monitor and improve existing business operations and test and implement new initiatives. You will also identify ways that data can support decision making in the C-suite at your organization and beyond. Importantly, you will identify several societal concerns in the use of data in organizations. Finally, you will practice interpreting data-based evidence for a business, gaining practical skills to bring back to your organization.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH451 - Analyzing Cybersecurity Threats (0 Credits)**

When it comes to cyber threats, every organization should strive to protect themselves and their users, and it is crucial to have a plan in place to protect your organization. Threats, whether big or small, have the potential to harm an organization, so understanding the digital threat landscape is critical for organizations to build effective security measures and risk mitigation strategies. In this course, you will discover how to identify and classify cybersecurity threats to protect your organization. You will be introduced to different types of threats and vulnerabilities as well as the potential impacts each threat may have on organizational assets, gaining tools to help you identify these threats and minimize their impact. You will be introduced to cybersecurity frameworks, such as NIST, and best practices to protect possible targets within an organization. By the end of this course, you will have a foundation of the threat landscape to leverage to better protect your organization.

**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH452 - Assessing Cybersecurity Company Controls (0 Credits)**
There are different types of risks associated with the protection of assets, so understanding the significance of your assets will allow for planning ahead and budgeting realistically. Every organization needs to allocate spending on their cybersecurity budget based on their specific needs, but the allocation of cybersecurity budgets can vary depending on the industry and size of the organization. In this course, you will analyze various company controls to better strategize about cybersecurity for your organization. You will start by identifying what needs to be protected and prioritizing investments. You will then be introduced to different types of controls and assets as well as common categories of budget allocations for cybersecurity. Finally, you will determine how your company's budget can be used for cybersecurity and identify ways to maximize your cybersecurity budget in order to protect your assets. By the end of this course, you will be equipped with practical skills, strategies, and approaches to make sound cybersecurity decisions. You are required to have completed the following courses or have equivalent experience before taking this course: Analyzing Cybersecurity Threats
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH453 - Conducting Cybersecurity Risk Analysis and Planning (0 Credits)**
Being able to evaluate the overall security status of your organization's product, sites, or teams at any point is critical, and conducting a thorough and applicable risk analysis is the key to this strategy. In this course, you will assess an organization's security status to determine strengths and weaknesses. You will be introduced to the concept of security posture, and you will consider key areas to focus on when analyzing an existing security posture. You will also determine the best set of controls to strengthen security and better support weak spots to protect your organization. Finally, you will gain strategies for implementing future controls to protect your company, setting you up for success in risk analysis and planning efforts. You are required to have completed the following courses or have equivalent experience before taking this course: Analyzing Cybersecurity Threats Assessing Cybersecurity Company Controls
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH454 - Preparing a Cybersecurity Communications Strategy (0 Credits)**
Cyber communications are now ubiquitous across all types of organizations, but the necessary protections and policies surrounding their security are missing in many organizations. Every company needs to formulate policies related to privacy, cybersecurity, access, and information security for its internal and external users, and it is crucial to ensure that these policies are in line with applicable regulations, legal norms, and industry standards. Cyber communications are no exception. In this course, you will discuss the key components of a cyber communications strategy. First, you will explore various relevant regulatory landscapes, both nationally and internationally. You will then identify who your audience is for internal and external communication plans. Finally, you will apply best practices to create both internal and external communication plans. By the end of this course, you will have new knowledge and practice to apply to your organization's policies and plans for cyber communications. You are required to have completed the following courses or have equivalent experience before taking this course: Analyzing Cybersecurity Threats Assessing Cybersecurity Company Controls Conducting Cybersecurity Risk Analysis and Planning
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH461 - Machine Learning Foundations (0 Credits)**
Machine learning (ML) is the use and development of computer systems with the ability to learn and discover patterns in data. You even encounter some of these systems on a daily basis; for example, a computer program can determine whether an email is spam or not spam, and a computer program can find patterns among shoppers and recommend products tailored toward their needs and interests. Learning to analyze and visualize data in meaningful ways is a critical step in your study of ML. In this course, you will start by exploring the role that machine learning plays in the industry for decision making and its impact on your role. The characteristics of a particular problem, the data you have to work with, and the questions you want to answer will dictate what type of ML approach, method, and algorithm needs to be used. Once you cover the basic role of machine learning and the process from start to finish, you will gain experience in industry-relevant tools such as Jupyter Notebooks, NumPy, and Pandas.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH462 - Managing Data in Machine Learning (0 Credits)**
With the rise and acceleration of AI, machine learning (ML) has become an increasingly critical tool for the development of computer systems with the ability to learn and discover patterns in data. Gaining a foundation in the concepts and practices of ML can set you up to understand new advancements and grow your career in this field. In this certificate program, you will gain the skills that will enable you to build ML solutions in real-world conditions through an ethical and inclusive lens. You will discover the machine learning lifecycle, explore common machine learning packages, and work with industry-relevant tools to analyze large data sets. By the end of the program, you will have hands-on practice and experience building machine learning workflows and optimizing ML models from scratch to solve problems or achieve goals. In order to be successful in this program, students must be familiar with the programming language Python. The courses in this certificate program are required to be completed in the order that they appear.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH463 - Training Common Machine Learning Models (0 Credits)**
With the rise and acceleration of AI, machine learning (ML) has become an increasingly critical tool for the development of computer systems with the ability to learn and discover patterns in data. Gaining a foundation in the concepts and practices of ML can set you up to understand new advancements and grow your career in this field. In this certificate program, you will gain the skills that will enable you to build ML solutions in real-world conditions through an ethical and inclusive lens. You will discover the machine learning lifecycle, explore common machine learning packages, and work with industry-relevant tools to analyze large data sets. By the end of the program, you will have hands-on practice and experience building machine learning workflows and optimizing ML models from scratch to solve problems or achieve goals. In order to be successful in this program, students must be familiar with the programming language Python. The courses in this certificate program are required to be completed in the order that they appear.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH464 - Training Linear Models (0 Credits)**
With the rise and acceleration of AI, machine learning (ML) has become an increasingly critical tool for the development of computer systems with the ability to learn and discover patterns in data. Gaining a foundation in the concepts and practices of ML can set you up to understand new advancements and grow your career in this field. In this certificate program, you will gain the skills that will enable you to build ML solutions in real-world conditions through an ethical and inclusive lens. You will discover the machine learning lifecycle, explore common machine learning packages, and work with industry-relevant tools to analyze large data sets. By the end of the program, you will have hands-on practice and experience building machine learning workflows and optimizing ML models from scratch to solve problems or achieve goals. In order to be successful in this program, students must be familiar with the programming language Python. The courses in this certificate program are required to be completed in the order that they appear.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH465 - Evaluating and Improving Your Model (0 Credits)**
Once you have trained your model, how do you know whether it will generalize well to new data? In this course, you will focus on techniques that can be used to properly evaluate and improve a model's performance with the view toward producing the best model for your data and machine learning problem. You will explore different model selection methods that are used to find the best-performing model, and you will apply common out-of-sample validation methods that are used to test your model on unseen data in support of model selection. You will also discover how both hyperparameter configurations as well as feature combinations play roles in model performance. Using your own implementation along with built-in scikit-learn libraries, you will determine the optimal hyperparameter configuration for your model and perform feature selection techniques to find the combination of features that results in the best model performance. You are required to have completed the following courses or have equivalent experience before taking this course: Machine Learning Foundations Managing Data in Machine Learning Training Common Machine Learning Models Training Linear Models
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH466 - Improving Performance With Ensemble Methods (0 Credits)**
Ensemble modeling is a helpful and important technique used in machine learning. It's a powerful approach to train multiple models and quantify them into a single prediction. There are three commonly used ensemble techniques: stacking, bagging, and boosting. So how do you know which ensemble method to use and when to use it? In this course, you will explore stacking, bagging, and boosting techniques, including the motivation behind using each and understanding their optimal scenarios as well as their tradeoffs. By the end of this course, you will have observed a number of robust algorithm case studies, such as random forests and gradient boosted decision trees, that employ these methods. You will also have the opportunity to put this new knowledge into action by practicing building and optimizing various ensemble models. You are required to have completed the following courses or have equivalent experience before taking this course: Machine Learning Foundations Managing Data in Machine Learning Training Common Machine Learning Models Training Linear Models Evaluating and Improving Your Mode
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH467 - Using Machine Learning for Text Analysis (0 Credits)**
Natural language processing (NLP) is a branch of artificial intelligence that helps machines process and understand human language in speech and text form. In order for machine learning models to process words and blocks of text, the text must first be transformed into numerical features. There are various NLP preprocessing techniques that accomplish this. In this course, you will explore these techniques and the typical workflow for converting text data for NLP. You will also use a special scikit-learn utility that allows you to automate the workflow as a pipeline. At the end of the course, you will have the opportunity to explore neural networks, powerful ML models that are heavily used in the field of NLP. You will also discover different Python packages used to construct neural networks and see how to implement a feedforward neural network using Keras. You will then delve into deep neural networks, which are used to solve large-scale complex problems, and you will implement a deep neural network for sentiment analysis. By the end of this course, you will have a foundation in using ML for text analysis relevant to limitless real-life applications. You are required to have completed the following courses or have equivalent experience before taking this course: Machine Learning Foundations Managing Data in Machine Learning Training Common Machine Learning Models Training Linear Models Evaluating and Improving Your Mode Improving Performance With Ensemble Methods
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH471 - Generative AI: Capabilities and Compromises (0 Credits)**
As generative AI takes center stage in our digital landscape, how can you harness its power and set yourself up for success in a rapidly changing world?In this course, you will develop a conceptual understanding of the recent advances, current capabilities, and limitations of generative AI. You will build a framework to keep up with new developments and assess where the technologies might and might not go next. You will begin by exploring how generative AI tools represent a categorical leap in the cognitive capabilities of computers. You will examine the three conceptual ideas that unlocked these new capabilities machine learning, reinforcement learning, and pretraining (i.e., the P in GPT) along with the advances in data, computation, and algorithms that fueled these ideas. You will also build a comprehensive understanding of the capabilities and compromises that go along with these new cognitive capabilities. Finally, you will extrapolate the patterns from past general-purpose technologies to map out AI s potential societal and economic promises as well as its perils.By the end of this course, you will have a solid foundation for making strategic decisions to utilize generative AI to transform your organization, enhance your productivity, and stay ahead of the curve.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH472 - Working With Generative AI to Become More Effective (0 Credits)**

Unlocking the potential of AI can revolutionize individual, managerial, and team productivity. In this course, you will discover how to harness the power of AI to significantly enhance performance, recognizing that while AI can dramatically boost productivity for some, it may hinder others if not used correctly. The key lies in discerning where and how to effectively employ AI.You will build a mental model of AI by considering its three personas then applying several use cases associated with each persona to identify where you can use AI to increase the effectiveness of your work. You will also master the art of how to use AI: selecting the right tools for each scenario, crafting effective prompts, seamlessly integrating AI outputs into your workflows, and strategically deploying these tools within your organization. Finally, you will apply your skills to design an AI co-pilot for a critical job role that is currently a profitability bottleneck due to scaling, cost, or quality constraints. By the end of this course, you will be able to apply the necessary skills to harness the power of generative AI to become more effective in your work.You are required to have completed the following course or have equivalent experience before taking this course: Generative AI: Capabilities and Compromises

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH473 - Using Generative AI to Transform Business Processes (0 Credits)**

It is critical for leaders to be able to harness the power of AI to transform their business. In this course, you will master the use of modern AI to enhance the profitability, productivity, quality, flexibility, and efficiency of your business operations. You will explore three key frameworks for how AI can transform business processes. You will identify ways in which AI increases productivity by allowing for new information gathering, monitoring, and control; by creating new interfaces for seamless information sharing; and by enabling analytics on new information modalities. You will then identify opportunities for the automation of cognitive and physical tasks within your business processes enabled by generative AI to reduce associated cost and overcome scale, speed, and quality constraints, focusing on five key principles that separate successful automation efforts from ones that fail. Finally, you will explore how you can use AI to make your processes more flexible and modular, allowing them to adapt to evolving market conditions and support new business models. By the end of the course, you will take away specific opportunities for AI-driven business transformation at your organization and in your industry overall.You are required to have completed the following courses or have equivalent experience before taking this course: Generative AI: Capabilities and CompromisesWorking With Generative AI to Become More Effective

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH474 - Generative AI Law and Ethics (0 Credits)**

AI models provide very few performance guarantees. Models are often trained on unfiltered internet-scale data; as a result, they have unpredictable outcomes which can create legal liability. How can you better understand this risk for yourself, your work, and your organization? In this course, you will explore the laws and ethics of generative AI. You will begin by considering AI s performance guarantees and unintended consequences. You will also examine the legal liability from unpredictable AI outcomes and the concerns around copyright when it comes to utilizing this technology. Finally, you will delve into the ethics surrounding generative AI, including the effect of unintended use of the models by unscrupulous actors. By the end of this course, you will have new insight into the foundational law and ethics of generative AI that can be applied to help protect your work and your organization.You are required to have completed the following courses or have equivalent experience before taking this course: Generative AI: Capabilities and CompromisesWorking With Generative AI to Become More EffectiveUsing Generative AI to Transform Business Processes

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH475 - Derisking Generative AI Ventures (0 Credits)**

How can you apply AI within your teams using a transformative, low-risk strategy? In this course, you will explore a counterintuitive approach to validating, building, and scaling new AI ventures that allows for quick learning and the increased success of AI transformation initiatives.You will use examples of several high-profile venture failures to understand alternate development strategies and build intuition on how to develop new AI transformation ventures. You will then formalize these skills, exploring a recipe to derisk new AI ventures. You will also discover how to assess the ROI of AI transformation ventures without committing too many business resources. As you are introduced to the art and science of designing good business experiments, you will examine three key experimentation strategies for AI ventures: prototypes, pilots, and equivalent experiments. Finally, you will put these learnings into practice on a new AI venture, applying strategic recommendations as you develop a plan to experiment with an AI transformation initiative at your organization. By the end of this course, you will have new knowledge and practice at assessing and developing plans for strategic AI transformation in your organization and beyond.You are required to have completed the following courses or have equivalent experience before taking this course: Generative AI: Capabilities and CompromisesWorking With Generative AI to Become More EffectiveUsing Generative AI to Transform Business ProcessesGenerative AI Law and Ethics

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECH477 - Generative and Agentic AI (0 Credits)**
Looking to get up to speed quickly on generative AI? Today's professional landscape is being transformed by AI advances that fundamentally redefine how we work. This comprehensive crash course is designed to help you and your teams engage with and deploy artificial intelligence effectively within your organization. Progressing from foundational AI literacy through practical implementation, the program covers the latest developments in AI technology, including large language models, generative AI, and automation tools such as AI agents.Through interactive demonstrations, hands-on activities, and practice problems using real-world scenarios, you will develop essential skills in using AI tools like ChatGPT, Claude, and Perplexity, while also discovering how to differentiate between content generation platforms and agentic AI models capable of complex problem solving. The course explores both automation and augmentation approaches, teaching you how to delegate tasks to AI, enhance human capabilities through AI assistants, and redesign business processes for improved efficiency. You will also have the opportunity to participate in a live session with Cornell Tech faculty and course author Karan Girotra to discuss and debate best practices for implementing generative and agentic AI models in your workflows. By the conclusion of the program, you will be equipped to lead and implement AI initiatives while staying current with this rapidly evolving technology.This course includes a year of free access to our AI Symposium! These events feature live, highly participatory virtual Zoom sessions with Cornell faculty and experts to explore today s most pressing topics. Throughout the year, you may participate in as many sessions as you wish. Attending a Symposium is not required.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECHIP07 - Product and Tech Executive Leadership Program (0 Credits)**
Want to learn from today's leading product and technology experts? In collaboration with several of the world's most innovative companies, Cornell Tech has created an immersive 3-day program in New York City that is a must-attend for current and aspiring product managers and technology leaders. Join peers, industry leaders, and AI researchers to learn, network, and discuss how you can leverage digital transformation to have a positive impact on the world. These thought leaders will share their experiences and expertise on a range of topics, including the ethical considerations of AI, trends shaping the future of tech, and how to balance technical and business demands with complex market dynamics. The program will help you develop a deeper understanding of the complex challenges that technology and product leaders face and equip you with the skills and knowledge you need to effectively navigate them. You'll discover how to drive digital innovation, build inclusive high-performing teams, and articulate a compelling product vision and strategy that will propel your organization forward.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECHIP08 - Cornell Tech Board of Directors Forum (0 Credits)**
As the corporate landscape continues to evolve at an unprecedented pace, staying ahead of major developing technologies, regulatory trends, and geopolitical shifts is crucial for corporate boards. Join us for an immersive, two-day program at Cornell Tech in New York City, coupled with virtual pre-work, to prepare for todays most urgent opportunities and challenges, including AI and other developing technologies. Designed specifically for board members and senior leaders, this unique executive program will equip participants with the knowledge and tools necessary to navigate a rapidly evolving global business and technology environment. Through engagement with Cornell faculty, seasoned business and legal practitioners, former senior government regulators, and directors of public and private companies, youll come away better prepared to capture the upside and effectively manage the disruptions presented by major developing technologies and international dynamics. In addition to presentations and panel discussions, youll have the opportunity to participate in peer-to-peer sessions to share experiences and explore practical ways to implement best practices where there is a gap. Ultimately, this certificate program aims to enhance the capabilities of corporate boards in strategically leading their organizations into a future with resilience, innovation, and sustainable growth.
**Instruction Mode:** In-person; Cornell Tech Campus
Schedule of Classes (https://classes.cornell.edu/)

**eCornell CTECHIP09 - General Counsel Summit: A Strategic Leadership Program (0 Credits)**
As the corporate legal landscape undergoes rapid transformation, anticipating and adapting to key legal developments is paramount for in-house legal professionals. Join us for an immersive two-day summit at Cornell Tech in New York City, tailored specifically to senior in-house legal practitioners including general counsel, corporate counsel, and legal advisors. This unique executive program will enhance leadership skills, delve into emerging legal trends, and provide insight into navigating the complex challenges of the contemporary legal and business environments. The program combines leading-edge legal insights with strategic management principles to provide senior lawyers with the tools and perspectives needed to be a strategic thought partner to the C-suite and board of directors. Guided by expert Cornell Law faculty and seasoned legal and business practitioners, this program equips you with the knowledge and tools to become a better strategic decision maker and problem solver. Throughout the program, you will engage in panel discussions, case studies, tabletop exercises, and other experiential learning activities and networking to gain insights and explore practical ways to implement best practices. Youll come away with enhanced leadership skills, a deeper understanding of the evolving legal landscape, and the strategic mindset needed to lead your legal team as a key business partner. This program includes both recorded and live online coursework. Participants who successfully complete this program will earn CLE credit and a professional certificate from Cornell University.
**Instruction Mode:** In-person; Cornell Tech Campus
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS510 - Client-Directed Counseling for Nutrition Professionals (0 Credits)**
This program provides Registered Dietitian Nutritionists (RDNs) with proven techniques for refining their counseling skills a critical component in promoting positive client behavior change. Nutrition professionals can significantly enhance their clinical expertise, along with client satisfaction and success, by using skillful counseling techniques, especially those that encourage open, productive partnerships. Upon completion of these courses, learners will be positioned to increase their effectiveness and confidence as in-demand nutrition counselors through improved knowledge, skills, and practice.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS601 - Nutrition and the Digestive System (0 Credits)**
This course will teach you how the digestive system works to extract critical nutrients from food, how we incorporate those nutrients into our body, and how the autonomic nervous system facilitates these processes. You will also learn how bacteria from the environment may affect our digestive processes and why consuming foods containing specific nutrients can minimize some illnesses that occur with normal living.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS602 - Energy and the Role of Carbohydrates (0 Credits)**
The nutrients our bodies use fall into two major categories: macronutrients and micronutrients. In this course, you will learn about carbohydrates macronutrients that comprise the majority of all calories we consume. You will explore why we need to eat carbohydrates, how their energy is transformed and stored in our bodies as glucose, and how diseases like diabetes can be managed by regulating the intake of carbohydrates and the expenditure of energy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS603 - The Role of Fats in Atherosclerosis (0 Credits)**
In this course, you will learn about fats a major macronutrient in our diets and how they are used and transported in our bodies. You will also learn how atherosclerosis develops; this dangerous condition, in which fats build up and clog arteries, is a major cause of heart disease and stroke. This course walks you through what happens when too much fat circulates in our arteries and offers ways to delay and prevent atherosclerosis so you can live the longest and the healthiest life possible.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS604 - Energy Expenditure and Theories of Eating (0 Credits)**
The rise in chronic diseases linked to obesity is one of the most important public health issues facing our society today. From diabetes and heart disease to certain kinds of cancers and breathing disorders, such conditions lead to costly lifelong management and suffering. In this course, you will learn why obesity is on the rise, the underlying metabolic causes of weight gain, and how to correctly measure energy intake and expenditure in order to compare the effects of each on weight loss. You also will build your understanding of how biological and environmental factors determine body weight, as well as the amount of food we eat daily.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS605 - Managing Weight, Exercise, and Nutrition (0 Credits)**
For people who want to lose weight, navigating the hundreds of weight loss programs available can be confusing. How then to choose a sound, workable method? This course provides you with the tools you need to critically evaluate weight loss claims and understand who stands to profit from each program. Then, you will learn how social and psychological mechanisms impact how much you eat in order to learn what factors you can control to manage your weight in a healthy, sustainable way.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DNS606 - How Nutrition Affects Cancer, Osteoporosis, and Hypertension (0 Credits)**
In this course, you will learn the latest research on how nutrition may prevent and improve symptoms of cancer, hypertension (high blood pressure), and osteoporosis. Specifically, you will explore the relationships between the food we eat and risk, understanding the role of animal protein, vitamins, and minerals in these major diseases and conditions. This course also builds your ability to critically analyze nutrition labels, understand dietary recommendations, and provides three key principles to follow for leading a healthy lifestyle.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS511 - Managing People in a Healthcare Setting (0 Credits)**
Managing people in a healthcare organization is all about effective communication and good leadership practices both of which will allow you to create a top-notch team. In this course, Dr. Karpman will share his expertise in medicine and business and give you a framework to evaluate yourself and the people you work with through the lens of your organization's mission, vision, and values. You'll also work to solve communication issues at both the organizational and individual levels. In the five-part course project, Dr. Karpman will challenge you to define goals and values, plan for performance management, find efficiencies by planning better meetings, refine your mediation skills, and evaluate organizational communication. Dr. Karpman will also talk to you about the importance of promoting a culture of safety, and using time-tested teamwork and performance strategies to improve your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS512 - Assessing Your Organization's Finances (0 Credits)**
To be an effective leader, healthcare professionals must be able to monitor, analyze, and make decisions about the financial status and growth of their organizations. In this course, Dr. Robert Karpman, a surgeon and entrepreneur, explores the basic elements and practices of financial monitoring and management. The course begins with a look at common financial statements. You will then examine financial ratios and determine how they can be used for benchmarking and performance management. Finally, you will look at financial projections and how they are used to support business plans. At the end of this course, healthcare professionals who have little or no financial experience will be able to analyze and work with their organization's financial reports. It is recommended to only take this course if you have completed Managing People in a Healthcare Setting or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS513 - Planning Healthcare Investments and Marketing (0 Credits)**

To be a true leader in your healthcare organization, you must be able to give informed opinions on strategic investment opportunities. This means you must understand the basics behind capital building projects, new healthcare programs, or any other major initiatives that require critical analysis of investment versus returns, and consideration of funding options. In this course, Dr. Robert Karpman, a surgeon and entrepreneur, leads you through the processes used in cost-benefit and cost-effectiveness analyses. You will learn about return on investment (ROI), risk, the role of inflation, and how to compare investment opportunities against the returns expected from a simple cash investment. You will also become well-versed in healthcare marketing, another important form of investment. Included in this course is a five-part course project which will guide you in applying what you learned to your own career. You will also gain a set of tools and resources you can download for future use. It is recommended to only take this course if you have completed Managing People in a Healthcare Setting and Assessing Your Organization's Finances or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS514 - Addressing Healthcare Economics (0 Credits)**

Healthcare in the United States is a business and, like most businesses, its leaders, staff, and advisors must be focused on revenue. However, there are opportunities unique to the healthcare industry that leaders need to be aware of to truly lead their practice to success. In this course, Dr. Robert Karpman, a seasoned medical professional, will guide you through must-know information when it comes to surveying the financial and economic opportunities within your organization. Much of the course will focus on becoming more profitable by reducing costs, evaluating contracts, improving processes, and maximizing reimbursements. In the course project, you will apply best practices and personal experience to real-world scenarios. You will walk away from this course equipped to make economically sound decisions in your organization while also keeping your patients' safety and care standards at the forefront. It is recommended to only take this course if you have completed Managing People in a Healthcare Setting, Assessing Your Organization's Finances, and Planning Healthcare Investments and Marketing or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS515 - Guiding Your Organization's Costs and Budgets (0 Credits)**

Healthcare organizations today must pay as much attention to their financial performance and profitability as they do patient care. This means that healthcare leaders must have a firm grasp on cost accounting and budgeting. This course is designed to help you to use accounting and budgeting techniques to improve your organization's bottom line. It begins with a look at best practices in cost accounting, and then moves to broader, strategic steps you can take to implement managerial accounting. The latter half of the course focuses on budgeting, including different approaches to budgeting and the importance of addressing budget variances. The four-part course project helps you apply what you learn to your own situation, and a set of templates and downloadable tools provide resources designed to assist you as you implement key concepts in the course.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS516 - Improving Quality and Performance of Healthcare Services (0 Credits)**

Patient care, outcomes and safety are of utmost importance in healthcare. This course will explore how to provide stellar service that focuses on safety and positive patient experiences while implementing new systems to enhance operational efficiency. This course focuses on the processes, standards, measures, and tools that enable you to improve both the quality and efficiency of your healthcare services. The course begins with a look at expectations and standards upheld by rating services and regulatory agencies, and then considers how inpatient and outpatient performance measures can be implemented. It moves on to address the use of root cause and failure mode analyses as well as efficiency improvement tools relevant to healthcare. The course concludes with specific steps you can take to improve patient satisfaction scores. The five-part course project helps you apply what you learn to your practice, and provides a set of templates and downloadable tools designed to assist you as you implement key concepts in the course. It is recommended to only take this course if you have completed Managing People in a Healthcare Setting, Assessing Your Organization's Finances, Planning Healthcare Investments and Marketing, Addressing Healthcare Economics, and Guiding Your Organization's Costs and Budgets or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS517 - Navigating the Healthcare Regulatory Environment (0 Credits)**

With lives at stake, the healthcare industry is subject to many complex regulations. Understanding and navigating the government regulations is an important responsibility of all healthcare leaders. With a practical focus, this course outlines an approach designed to help you understand and comply with the essential requirements of regulatory agencies. The course begins with a look at regulations and the government bodies that issue them. It moves on to discuss the role of compliance officers within an organization and the steps an organization can take to ensure regulatory compliance. The course concludes with a discussion of healthcare liability and how organizations can reduce their exposure, routinely as well as in the case of medical error. The four-part course project helps you apply what you learn to your own situation, and a set of templates and downloadable tools provides resources designed to assist you as you implement key concepts in the course. It is recommended to only take this course if you have completed Managing People in a Healthcare Setting, Assessing Your Organization's Finances, Planning Healthcare Investments and Marketing, Addressing Healthcare Economics, Guiding Your Organization's Costs and Budgets, and Improving Quality and Performance of Healthcare Services or have equivalent experience.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS521 - Women in Leadership: Navigating the Double Bind (0 Credits)**

Most women in a leadership role face a very common dilemma: If she's a strong, assertive leader, she's viewed as domineering and abrasive, encountering resistance as a result. If she isn't assertive enough, she's viewed as weak and a pushover, making it hard to get support within the organization. In this course, you will examine that very common double standard and identify strategies to deal with it. All leaders, regardless of gender, face conflict and resistance and have to work with people who think, act, and communicate differently from themselves. In this course, Deborah Streeter, the Bruce F. Failing, Sr., Professor of Personal Enterprise at Cornell, will show you how to recognize when there's gender bias at play and when there isn't, and how to address any issues that arise.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS522 - Women in Leadership: Negotiation Skills (0 Credits)**

Many women say they would rather go to the dentist than negotiate for themselves. Why? Women are taught early to create equity in relationships. When you negotiate with someone and you feel that you're taking something away from them, that feels like a violation of the social contract with which you were raised. There's little wonder, then, that negotiation feels deeply uncomfortable for many women. Yet negotiating is a critical skill that everyone, especially women, has to practice and master in order to be an effective leader. In this course from Cornell Professor Deborah Streeter, you will practice key behaviors that help negotiations, including asking for what you want something most women are not taught to do. The course emphasises the gender dimension of negotiation strategies and the critical skills on which women leaders in particular need to focus. This course will be most helpful for women leaders who are not already practiced and comfortable in negotiation settings, and those who find negotiating stressful, uncomfortable, and difficult. Negotiating is a routine part of daily life and leadership, and approaching it with confidence and skill signals that you know your worth.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS523 - Women in Leadership: Using Emotional Intelligence to Drive Results (0 Credits)**

Research shows that emotional intelligence is a critical predictor of performance as well as a very strong driver of leadership and personal excellence. Those with high emotional intelligence can typically read a room quickly, clue into subterfuge, and more easily show respect and empathy. While soft skills such as those may not sound impressive, they can be imperative for a woman in a leadership role. You can be a top performer without any emotional intelligence, but the numbers are against you. In this course from Professor Deborah Streeter, women leaders can develop their emotional intelligence and learn how to use it to their advantage to manage their team to greater success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS524 - Women in Leadership: Giving and Receiving Feedback (0 Credits)**

Research shows that feedback is critical for leaders and that creating a culture of feedback is key to a team's success. The more successful a team is, the better an organization's bottom line. However, there is an art to giving and receiving feedback, and if not done properly, feedback can have a negative impact to morale. Conversely, teams who receive feedback in a positive, supportive way will strive to continue to do well. There can be a gender dimension to giving and receiving feedback that is critical for women in leadership roles to understand, as men and women react differently. In this course, Professor Deborah Streeter will examine the gender dimensions of giving and receiving feedback and explore strategies for working as effectively as possible to lead a high-performing team.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS525 - Women in Leadership: Outsmart the Work-Life Balance (0 Credits)**

To maintain energy and positive focus, it's critical for women in leadership roles to cultivate a healthy and productive balance between their professional and personal lives. In this course, Professor Deborah Streeter examines the typical work-life balance conflicts that interfere with productivity and happiness. Students will also examine ways to create various checks to ensure they stay in balance, allowing them to move forward effectively and focus energy on the tasks that will have the greatest positive impact.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS531 - Power and Gender Dynamics (0 Credits)**

Research shows that both women and men equate being a leader with being male. Leadership itself is male gendered. How does that affect women's ability to advance to the highest levels of leadership? How does it impact the aspirations of women aspiring to top levels? Just look at any of the lists of 50 or 100 top leaders and you can count the number of women on one hand. Do an online search of leadership authors: They are mostly older (and mostly white) men. Both women and men inherently associate leadership power with men. Why is this so? For centuries, men have held the highest power in all kinds of organizations. This predominance of men as leaders has an impact on our concept of leadership. We associate leadership with stereotypically masculine traits: aggression, decisiveness, willingness to engage in conflict, strength, orientation towards action, and other masculine stereotypes. This remains true even though not all male leaders exhibit such traits. What we can say with certainty is that our mental map of leadership for many years has been dominated by white male role models. This gendering of leadership is true even though when researchers study the key aspects of leadership, there are no gender differences in effectiveness. In this course, co-authored by Cornell University's Deborah Streeter and Susan S. Fleming, students will assess their own organizations to determine the gender status and power dynamics present. They will use tactics to reduce gender bias in themselves and in the organization. They will identify strategies used to influence the workplace culture to be one of greater parity and use practical strategies to bring forward the contributions of both women and men in group settings. Leadership efforts are also personal: students will create an action plan for themselves, choosing among the recommended strategies to find those most appropriate for their specific context to enhance their own status and power.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS532 - Developing Executive Presence for Women Leaders (0 Credits)**

The concept of "authentic leadership" has become very popular in recent times. In addition, much has been written about executive presence and how to cultivate it in yourself. Both of these things are affiliated with rising to the top. There is an inherent dilemma for women trying to apply these concepts. Everyone expects that to move up in leadership they will have to display the "right" professional identity and work style ones that "fit" with expectations. But what is right and fits is heavily influenced by the majority culture of the organization, which in most cases has been established by men (mostly white, mostly older). So on the one hand, the professional identity needed to succeed includes behaviors more prominent in male culture. On the other hand when women go too far in exhibiting those behaviors, they get pushback. As a result, in certain very traditional masculinized settings, women learn to alter, repress, or hide some of the characteristics of their identities (being a mom, caregiver, acting communally). In essence, some women in certain contexts find they have to restrain their personal style in order to fit in. In this course, designed for women in leadership positions, learners will examine strategies for incorporating being self-aware and genuine without suppressing their unique personal style.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS533 - Gender Bias and Negotiation Strategies (0 Credits)**

Research indicates that women - even high-ranking women in leadership positions - face a fundamental obstacle when negotiating: women come to the negotiation table with lower perceived status and less power than men. Women must tread carefully in attempting to level the playing field, though, because negotiating with a stereotypically "male" style could result in social consequences that negatively affect the outcome of the negotiation. The burden is on women, therefore, to skillfully adapt their negotiation style to suit the styles of other negotiators and the context of the situation. As women in leadership roles ascend the ranks of their organizations, they face increased responsibilities to negotiate successfully for their teams and institutions as well as themselves. This course, designed specifically for women in leadership by Deborah Streeter, the Bruce F. Failing, Sr., Professor of Personal Enterprise at Cornell, challenges learners to evaluate their negotiation style through the lenses of gender and power and use their emotional intelligence to tailor their style to any situation. Learners will explore advanced negotiation techniques that help women capitalize on their strengths and avoid triggering the double bind in negotiations.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS534 - The Network Effect (0 Credits)**

Leaders often ascribe different causes to their success in ascending to senior positions in their companies. Research shows that women are likely to point to the merit of their own work as the reason for promotion, whereas men tend to attribute upward mobility to their skill forging strategic relationships. In reality, strong professional networks - and the ability to leverage them to meet individual goals - are a crucial component of career advancement regardless of talent. Unfortunately, many potential women leaders undervalue or underutilize this critical tool. In this course, designed specifically for women in leadership by Deborah Streeter, the Bruce F. Failing, Sr., Professor of Personal Enterprise at Cornell, you will deconstruct your own professional network and how it is working - or not working - for you. By defining key roles and relationships, you will identify and address areas in your network that can be strengthened. This course will also provide you the tools to overcome common challenges to developing and maintaining networks that women face due to harassment or the double bind.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS535 - Decoding the Gender Gap in Board Membership (0 Credits)**

Men overwhelmingly outnumber women on public boards of directors, but times are changing and more boards than ever are actively seeking qualified women to help steer their companies. For interested women, the challenge is that the typical path to board membership through the C-Suite is optimized for the male executives who often land senior leadership roles. This course, designed specifically for women with leadership experience by Deborah Streeter, the Bruce F. Failing, Sr., Professor of Personal Enterprise at Cornell, and Susan S. Fleming, a senior lecturer at the Cornell School of Hotel Administration, will demystify the journey to board membership for women and break down the responsibilities and opportunities that women can expect once on a board. In this course, you will prepare yourself for board membership by assessing your personal competencies and potential barriers to joining a board. You will write your own value proposition for what you could bring to a board and then identify potential boards and make a plan to approach them. You will also analyze how, as a woman, you can make a positive impact on a board, all while successfully navigating the double bind.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS541 - Getting Started with Spreadsheet Modeling and Business Analytics (0 Credits)**

To successfully and quickly solve business problems you need more than just intuition; you need solutions based on data. Data analytics is essential for any successful business. It helps us frame problems, make comparisons, forecast outcomes, and make decisions. You can use simple but very effective tools to analyze your data and make better, more informed decisions. In this course, you will explore spreadsheet-modeling for applied decision making. You will work with data sets and navigate in an Excel 2016 Workbook. You will examine data cleaning and modeling concepts, practice core Excel skills, and explore ways to apply data management techniques to the spreadsheet system by using its math and logic capabilities to their full potential. By performing data management, you can improve the structure and usefulness of your data.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS542 - Harvesting Spreadsheet Data (0 Credits)**
Organizations go to great lengths to collect data to inform business decisions. However, given the volume of data, it can become difficult to sift through and find the needed answers. In this course you will gain exposure to the challenges of working with data and learn how you can use Excel to efficiently harvest data to make business decisions. Using Excel as a tool you will be able to quickly answer business questions by applying criteria to your data using Excel's logic functions, quickly retrieve information from a large set of data, and visually enhance your data. The course Getting Started with Spreadsheet Modeling and Business Analytics is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS543 - Visualizing and Communicating Insights In Excel (0 Credits)**
When your audience can quickly and efficiently understand what the data is telling them without having to scour every row and column, they can gain insights from your analysis more efficiently. In this course, you will apply the power of Excel pivot tables to see your data from multiple perspectives, use data visualization techniques that effectively communicate your analysis to your audience, create charts that quickly and clearly visualize your analysis, and apply the principles of graphical integrity to your charts. The courses Getting Started with Spreadsheet Modeling and Business Analytics and Harvesting Spreadsheet Data are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS544 - Making Predictions and Forecasts with Data (0 Credits)**
In order to execute the most informed business analyses, we need the right tools for making predictions from data. Excel provides powerful predictive analytic tools that let the user forecast trends and make predictions with historical data. In this course, you will conduct financial analyses by comparing loan scenarios using financial functions, identifying what values are needed to achieve a desired result, and quickly identifying how changes in your data will impact outcomes. You will leave this course with the ability to leverage reliable historical data to generate simulations and make predictions. These courses are required to be completed prior to starting this course: Getting Started with Spreadsheet Modeling and Business Analytics Harvesting Spreadsheet Data Visualizing and Communicating Insights in Excel
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS545 - Using Prescriptive Analytics in Excel (0 Credits)**
Most decisions are made based on the desire to find the best way to do something. Solving complex business problems related to organizational goals can be a challenge. The ability to do this can be maximized with a little preparation and the power of Excel. When you use data in your analysis to prescribe what should happen next, you're performing prescriptive analytics. With this knowledge, you can build models and generate results that maximize outcomes by actually suggesting a course of action. In this course you will gain the skills needed to execute efficient and effective decisions backed by your data analysis. These courses are required to be completed prior to starting this course: Getting Started with Spreadsheet Modeling and Business Analytics Harvesting Spreadsheet Data Visualizing and Communicating Insights in Excel Making Predictions and Forecasts with Data
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS546 - Creating and Sharing Interactive Data Models (0 Credits)**
Have you ever had to do an analysis of data but found that the data you needed was not all in one place? It could be online, in separate Excel files, or you might find that it's in different formats. It could take hours to convert and organize everything you need. In this course you will learn Excel's options for data management and modeling to relate data from multiple sources quickly and create interactive dashboards that answer dozens of questions. You will be able to import data from different Excel workbook files into one file or even import data in different formats like Notepad for the web and different databases. These courses are required to be completed prior to starting this course: Getting Started with Spreadsheet Modeling and Business Analytics Harvesting Spreadsheet Data Visualizing and Communicating Insights in Excel Making Predictions and Forecasts with Data Using Prescriptive Analytics in Excel
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS551 - Finance and Accounting Principles (0 Credits)**
At the heart of any business is the ability to track, invest, and manage money. Without the ability to do these three things successfully and honestly, a business will not survive, no matter how good their product or service is. A clear understanding of how money flows into and out of an organization allows us to attract investors, identify investment opportunities, decide with what organizations to form relationships or partnerships, and even manage your own personal finances. In this course, you will examine the different roles of accounting and finance and how each influences a business. You will analyze the financial documents used by accounting and finance in all businesses: the income statement and the balance sheet. Understanding the numbers on these documents will allow you to interpret financial information to inform decision making in numerous personal and professional capacities.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS552 - Marketing Fundamentals (0 Credits)**
Marketing is more than just an advertisement; it is the intersection of numerous decisions that allow a product or service to exist in the world and be purchasable. Whether an organization plans to serve individual consumers or other businesses, they need a plan for how they are going to discover, keep, and grow their customer base. In this course, you will be introduced to a systematic way of thinking about marketing all products and services. You'll discover how to define your target market, how to focus on their needs and wants by providing the right kinds of value, and how to attract them (and retain them) as customers. A three-part course project to create a strategic marketing brief will give you practice in performing all of the valuable activities that enable you to discover, target, reach, acquire, and retain your customer base.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS553 - Strategic Business Planning and Forecasting (0 Credits)**

As the saying goes, "A goal without a plan is just a wish." It's not enough to simply have a product or service worth buying; there are many factors you need to consider, such as: How many choices do customers have for a similar product? How many competitors do you have, and what are their strategies for competing with you? If you suddenly need a new supplier, will it interrupt production or force you to raise prices? How likely is it that new competitors enter your market? Answering these questions requires careful planning as well as a thorough understanding of your competition, your suppliers, and your customers. In this course, you will identify the three major strategies that your company can select as it competes in the marketplace, and you will examine the characteristics of companies that pursue each strategy. You will also identify the various activities involved in supporting your chosen strategy alongside the complexity of acquiring raw materials and converting them into products for the end customer. Additionally, you will conduct an analysis to help assess your company's strengths, weaknesses, opportunities, and threats. Finally, you will balance your planning against the often conflicting needs of a company's stakeholders, its shareholders, and the society in which it operates.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS554 - Managing Organizations (0 Credits)**

Operating as an organization takes coordinated effort. Companies need to structure themselves in a way that supports their goals. They need to describe job duties clearly so everyone knows how their role supports those goals. They need to attract and support the right talent, and determine how employees can best influence each other to achieve their common objectives. It takes a lot of work to get and stay organized. In this course, you will examine the various organizational methods that help support a chain of command. You will also analyze, describe, and specify a job position to help ensure that everyone knows how their role supports overall company goals. You will design an HR management process to recruit the right potential employees, identify the best candidates, welcome them to the organization, and support them as they work. You will describe the organizational culture of a company and determine its role in helping employees do their best work. Finally, you will describe the uses of power in organizations, as employees influence one another in pursuit of common goals. In the five-part project, you will develop an organizational brief that considers each step of organizing a firm so that you can better structure the inner workings of a company to support its goals.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS555 - Leading Without Authority (0 Credits)**

Leadership is not just for leaders. Whether you have formal leadership authority or not, everyone faces leadership challenges. At heart, companies are people, and many challenges in the workplace come down to how to inspire, support, and reward people. In this course, you will explore several different strategies to help motivate and lead people. Initially, you will distinguish between factors that increase job satisfaction and factors that decrease job dissatisfaction, as research shows these are not always connected. You will also design strategies to influence motivation, effort, and job performance. You will identify the types of capital in a group or team and explain how this capital can help build and support high-performing teams. Finally, you will design conflict resolution strategies and employ negotiation tactics when conflict inevitably occurs in the workplace.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS556 - Navigating the Global Business Landscape (0 Credits)**

Today's business world is dramatically different from what it was 20 years ago. We communicate faster, more frequently, and with more people than ever before. We're expected to sift through massive amounts of information in very little time, come up with valuable ideas constantly, bring them to market quickly, and solve problems rapidly. In this course, you will practice using the skills needed to succeed in changing global markets. Keeping up with change requires sharing good information with colleagues. This course will help you practice communicating formal and informal messages to various stakeholders in order to make sure that messages are clear and that misunderstanding is minimized. You will also create a personal networking strategy that helps focus your professional development. Additionally, you will explore the entrepreneurial process of ideation and describe the transformational power of disruptive technologies in industries, firms, and occupations. You will also select and categorize a business according to its stage of globalization and evaluate its strategy. Finally, you will examine various business actions according to different ethical frameworks.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS561 - Innovating with 5G (0 Credits)**

5G wireless technologies offer dramatic improvements over previous generations of wireless communication and will enable applications never seen before. By developing a thorough understanding of these capabilities, you will be prepared to take advantage of these improvements and identify innovative products and services you can develop to better meet the needs of your customers. In this course, Cornell University professor Aija Leiponen will guide you through the key capabilities of 5G wireless networks, including significantly increased speed, reliability, responsiveness, and device-to-device communication. Using an analytical framework and other supporting tools, you will begin to re-envision your business operations, products, and services by utilizing these transformative technologies. Additionally, you will hear from industry experts who will provide straightforward explanations of complicated technologies and offer case studies from a variety of industries that will enable you to more quickly visualize the possibilities for your organization. At the conclusion of this course, you will be better prepared to capitalize on 5G wireless technologies and proactively identify innovative opportunities that will move you to the forefront of your industry.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS562 - Launching 5G Applications (0 Credits)**

5G innovations will not only be based on the telecommunications network, they will also often have a social network structure to themselves. Services taking advantage of 5G might involve people communicating with each other using phone handsets with VR or AR capabilities or firms using IoT technologies to collect data and remotely adjust machine operations. In both cases, 5G enables communication and information exchange through a network of connected devices or people. In this course, you will devise a strategy to build your network which involves getting many parties to adopt your innovation simultaneously. Finally, you will manage the boundaries of the network to your advantage and help customers and complementors switch into your product or service while moderating entry of competitors. These are basic network strategies that are critical for any innovator of communication network applications to master.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS563 - Building Your Market Advantage (0 Credits)**
Your business model is the organizational arrangement that allows your 5G innovation to thrive in the technological and business ecosystem. First you will articulate the value proposition of your offering: who benefits from the product and how. Next you will design your intended revenue mechanism, that is, who pays for what and how much. You will also consider how much it costs to create and maintain the offering. If the resulting price-cost margin is positive, then the innovation has immediate potential. If not, you will need to reconsider how to either further improve and differentiate the innovation to enhance users' willingness to pay or lower its cost of production. Once the margin is positive, you can then develop strategies to protect that positive margin over time. There are two critical strategic challenges. First, you will explore strategies to prevent imitation of your product. If it can't be protected and competitors can easily copy or substitute the product, then there is no long-term business viability. Second, you will consider the scalability of the innovation. If the margin is positive but there is a high fixed cost of development, then the market for your product needs to be large or rapidly growing in order to provide an opportunity to scale the business.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS581 - Automating Processes With Macros and Excel VBA (0 Credits)**
In this course, you will explore Excel automation techniques using Excel macros and Visual Basic for Applications (VBA) code. This practical course equips you with the knowledge to streamline repetitive tasks efficiently, whether you re an Excel novice or you re looking to enhance your existing Excel skills. Without any previous coding experience, you ll be able to write and utilize VBA code to perform tasks in Excel.You will discover how to record and run macros before delving into some of the limitations of recording macros. You ll then begin to enhance Excel functionality with VBA, manipulate ranges, and engage in hands-on projects. By the end of this course, you ll be well prepared with the basics of using Excel VBA to automate tasks, save time, and boost productivity. Please note: This course requires Microsoft Excel for Windows. You must have access to a Windows version to successfully complete the course. Microsoft Excel for Mac does not offer the comprehensive VBA functionality necessary to complete the course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS582 - Applying Logic for Efficient Task Processing (0 Credits)**
Whether you re a curious learner, a beginner data analyst, or a seasoned Excel user, this course provides a solid foundation for streamlining repetitive tasks effectively. Combining two key components of efficient data manipulation, you will use conditional statements and loops to solve complex business problems that mirror real-world scenarios. Perhaps you re tasked with optimizing inventory management, calculating shipping costs, or handling customer inquiries. You will examine how to develop algorithms to solve such problems and practice breaking down the problem logically by converting your decision-making steps into VBA code. Now imagine that your task involves a vast dataset rows upon rows of transaction records, inventory levels, or customer feedback. How do you process this data systematically? By using various loop structures that execute tasks automatically and allow you to iterate through data. You will discover how using conditional statements and loops together can give powerful results that will improve accuracy and efficiency in performing repetitive tasks in Excel.Please note: This course requires Microsoft Excel for Windows. You must have access to a Windows version to successfully complete the course. Microsoft Excel for Mac does not offer the comprehensive VBA functionality necessary to complete the course.You are required to have completed the following course or have equivalent experience before taking this course: Automating Processes With Macros and Excel VBA
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS583 - Enhancing the Excel User Experience With VBA (0 Credits)**
This course will provide you with the skills needed to create powerful and customized solutions within Excel that improve the user experience. You will discover how to write your own custom functions in VBA, allowing you to perform calculations and automate repetitive tasks that go beyond the built-in Excel functions. You ll then delve into importing data from external files, understanding how to access data from various sources. Practical examples will guide you through importing worksheets and handling multiple external files efficiently. You will also practice designing and coding interactive forms that communicate with users. From basic form design to retrieving information and handling user input with VBA code, you ll gain confidence in creating user-friendly solutions. Finally, you ll explore workbook settings, sheet navigation, and access restrictions, enabling you to zoom in on specific content, protect your workbook, or control user access. By the end of this course, you ll be equipped with the confidence to design user-friendly solutions.Please note: This course requires Microsoft Excel for Windows. You must have access to a Windows version to successfully complete the course. Microsoft Excel for Mac does not offer the comprehensive VBA functionality necessary to complete the course.You are required to have completed the following courses or have equivalent experience before taking this course: Automating Processes With Macros and Excel VBAApplying Logic for Efficient Processing of Tasks
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYS584 - Accessing Advanced Excel Solutions (0 Credits)**
This course offers valuable insights and practical skills that will empower you to tackle complex tasks in Excel effectively. You will begin by immersing yourself in VBA events, where you ll discover how to automate actions based on specific triggers. You ll explore event triggers, brainstorm creative business solutions, and create event handlers. From workbook events to worksheet interactions, you ll gain the ability to respond dynamically to user actions. You will also examine Excel s new dynamic array functions and assess how they are different from traditional functions. While this is not specifically about VBA, it addresses essential Excel functionalities that can significantly enhance your projects. Finally, you will apply your VBA skills to a case study in which you ll design a comprehensive business solution for a small coffee shop. You ll determine how to create a user-friendly interface to manage daily operations and automate some repetitive tasks. This case study will serve as a practical summary of many of the foundational VBA concepts studied previously, allowing you to apply your knowledge to realistic situations.Please note: This course requires Microsoft Excel for Windows. You must have access to a Windows version to successfully complete the course. Microsoft Excel for Mac does not offer the comprehensive VBA functionality necessary to complete the course.You are required to have completed the following courses or have equivalent experience before taking this course: Automating Processes With Macros and Excel VBAApplying Logic for Efficient Processing of TasksEnhancing the Excel User Experience With VBA
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYSIP502 - Food Executive Program (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYSIP503 - Omnichannel Leadership Program (0 Credits)**
Offering a compelling omnichannel experience is essential in today's hyper competitive, rapidly evolving retail and consumer goods market. The key to unlocking the future of retail requires offline-online innovation that allows consumers to buy anywhere they shop.Cornell University has joined forces with industry executives and visionaries from across the globe to create a new Omnichannel Leadership Program designed to help you build a high-performing customer journey. In this immersive 5-day program at Cornell Tech, industry thought leaders and researchers will come together to share best practices for optimizing the customer experience, addressing topics such as: prioritizing the customer, operations and execution, technology, data analytics, ESG, stakeholder management, and change management.Coming out of the Omnichannel Leadership Program, your leaders will have a fresh perspective on customer needs and the strategic capabilities to accelerate the transformation of your organization for the future of omnichannel.*If it is not possible to travel to the program location due to COVID-19 restrictions, you will have the option to transfer to a future date or receive a refund for your registration.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell DYSIP504 - Retail Media Strategy (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EEAMPC01 - The Higher Education Leadership Certificate (0 Credits)**
Designed for higher education administrators, the Administrative Management Program, offered by Cornell University and the Eastern Association of College and University Business Officers (EACUBO) will help you become a more effective leader, hone your managerial skills, and provide you with the latest strategies to excel at your college or university. This intensive program combines engaging faculty-led presentations with in-depth discussions led by senior university administrators and managers working in innovative and highly effective ways. Through presentations, workshops, and case studies, you'll explore a variety of timely topics while learning from and networking with your higher-education peers. Experience beautiful Cornell University in Ithaca, NY, while expanding your network and discovering best practices through collaborative and thought-provoking sessions. The Administrative Management Program is a long-standing collaboration between Cornell and EACUBO, widely known as the Administrative Management Institute.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EIN111 - Building a Better World With Community-Engaged Learning (0 Credits)**
There are countless paths to making tangible, positive differences in the world through community-engaged learning (CEL), including coursework, internships, community-based research, international engagement, and student organizations. The modules in this course offer opportunities for you to explore your vision for impacting the world through the design of a CEL course or program. In each of the modules, you will discover key concepts, best practices, and various CEL resources to support your vision.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EIN112 - Developing, Understanding, and Strengthening Cultural Humility (0 Credits)**
In this course, you will examine different dimensions of cultural humility to improve students' cultural self-awareness, their ability to communicate across difference, and their skills in addressing inequities by holding institutions accountable through community-engaged learning (CEL). You will incorporate strategies to facilitate students' ability to enact cultural humility in interpersonal and institutional relationships. You will also assist students in connecting the complexity of identities with CEL in order to create a healthy, thriving classroom community.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EIN113 - Supporting Partnerships (0 Credits)**
The value of community-engaged learning (CEL) courses and programs hinges on the quality of the relationships developed with community partners. This course provides you with the tools and resources you need to design a learning experience that ensures students will be primed to learn from, as well as work with, community partners. By the end of this course, you will have applied the cornerstone principles of both developing and sustaining reciprocal community partnerships. Exploring asset-based strategy and collaborative approaches will strengthen your capacity to draw on the unique wisdom of community partners and organizations both present and future. Your work will continue to benefit from an expanded focus on functional flexibility within your design mindset and the confidence that your CEL course or program will effectively weather and thrive in the inherently dynamic and unpredictable environment of CEL partnerships.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EIN114 - Critical Reflection in Community Engagement (0 Credits)**
Critical reflection is an essential learning philosophy and process, and it is a core outcome for community-engaged learning (CEL). The design of any community-engaged course or program must include critical reflection strategies that are intentional, integrated, and systematic. This affords you multiple opportunities to describe, analyze, interpret, and communicate the value of your CEL experience to both internal and external audiences. This course encompasses the critical reflection definitions and models the techniques and best practices necessary to maximize student learning and community impact. You will receive the guidance, tools, and resources needed to effectively incorporate and assess critical reflection in community-engaged projects and programs.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell EIN115 - Cultivating Community-Engaged Learning and Leadership (0 Credits)**
In this course, you will recognize your role as a leader in community-engaged learning and discover ways to inspire and enact change in the community and the institution. You will explore tools and strategies to facilitate change and challenge the status quo while defining what outcomes you intend to create. You will determine what it means to be an engaged leader and flip the idea of leadership to include everyone. With the tools and models provided, you will confront assumptions and embrace theories of change to invite learning and reflection on institutional contributions and constraints. You will also identify challenges in your institution and create a plan for addressing them in order to build capacity and promote lifelong learning within the institution and wider community.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME501 - Becoming a Powerful Leader (0 Credits)**
In this course you will define and differentiate between leadership and management, develop a strategy for overcoming new leadership challenges, and evaluate motivational techniques and determine when to use them. You will also identify the skills needed to develop relationships crucial to your career development as a leader, based on the research and expertise of Professor Kate Walsh, Ph.D. of Cornell University's School of Hotel Administration. Using tools provided in this course, you will explore what motivates others, assess leadership styles, and examine communication with your leadership team. With the completion of an action plan at the end of the course, you will be ready to apply what you learn to your own organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME502 - Building High-Performing Teams (0 Credits)**
In this course, you will create a strategy to turn a work group into a high-functioning team by evaluating challenges and applying techniques to generate positive team outcomes. Based on the research and expertise of Professor Kate Walsh, PhD, of Cornell University's School of Hotel Administration, you will learn how to enable a team to take ownership of its own success and shift leadership roles as the team assumes greater responsibility. Using tools provided in this course, you will explore best practices in leading teams, assess case studies, and examine functional conflict. With the completion of an action plan at the end of the course, you will be ready to apply what you learn to your own organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME507 - Mastering the Time Value of Money (0 Credits)**
Managing a business means managing its financial resources, regardless of your job title. Your ability to make smart decisions about projects relies on your understanding of timelines and cash-flow calculations to track cash flow and payments, the value of securities and investments, and how to determine overall cost effectiveness. To do this, you need a good working knowledge of a number of financial concepts.This course introduces you to those concepts and shows you how to perform important calculations using financial calculators and popular spreadsheet applications. You'll develop an intuitive understanding of the concepts and have a chance to practice applying the tools. You will come away with the tools to ensure that your company has the best possible chance of project success through managing its financial resources wisely. * Participants in this course need one of the two financial calculators below. Hewlett-Packard 12C, or Texas Instruments BA II Plus Both calculators are available at most office supply stores and from a variety of online sources. There is also a Texas Instruments BA II Plus app for iPhone and iPad , which meets the calculator requirement for this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME508 - Making Capital Investment Decisions (0 Credits)**
The key to financial success for any business is choosing the right projects to pursue at the right time, for the right price and with the right financing structure. Your role as a manager includes participating in decisions about which projects make sense for the company and are likely to return a profit.To do so, there are six concepts you need to understand: net present value, internal rate of return, payback period, discounted payback period, profitability index, and equivalent annual cost. Non-financial managers need to be conversant in how each of these concepts work to be able to offer valuable insight and expertise.Working through the examples in this course using both a financial calculator and popular spreadsheet applications will help you practice applying the tools and strategies, and will set you up to make project decisions that lead to growth and profitability. * Participants in this course need one of the two financial calculators below. Hewlett-Packard 12C, or Texas Instruments BA II Plus Both calculators are available at most office supply stores and from a variety of online sources. There is also a Texas Instruments BA II Plus app for iPhone and iPad , which meets the calculator requirement for this course. The course Mastering the Time Value of Money is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME509 - Risk and Return: How to Identify, Measure, and Incorporate Into Capital Budgeting Decisions (0 Credits)**
Every financial decision a firm makes is a balancing act between risk and return. Funded projects can return significant revenue to the company. The risk is that the cost of the project may exceed the return, especially when the need to compensate capital providers is factored in. Being able to accurately assess both the risk and potential return of capital budgeting projects is an important part of your role as a manager.Your work in this course will include learning how to calculate the hurdle rate, which is the minimum value a project must return, and then how to forecast the expected return. You will get to know the different asset classes and how to think about them in terms of the associated risks.The tools from this course will help you measure risk and calculate the weighted average of the required returns as a way to ensure that your company chooses the right capital projects.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME510 - Raising Capital: The Process, the Players, and Strategic Considerations (0 Credits)**
Your new project not only needs funding it needs the right type of funding. You need to know how to choose between debt and equity funding, and when to consider acquiring funds from capital markets. These outside funding sources will have their own expectations for rates of return, and the cost of this funding is driven by a number of external factors such as the state of the economy and the industry.Making sound capital budgeting and funding decisions is a vital part of your role as a manager, and this course shows you how characteristics of capital markets impact the process and prospects of raising capital. Learn how to observe external economic data, tips for developing strategies to balance debt and equity at your firm, and how decisions regarding corporate restructuring, mergers, acquisitions and bankruptcy are made.These concepts, when put into action, will help ensure that you are maximizing the value of your firm using the correct balance of debt and equity. The course Risk and Return: How to Identify, Measure, and Incorporate Into Capital Budgeting Decisions is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME513 - Understanding Financial Statements (0 Credits)**
Every property's finance function keeps detailed records of the daily transactions involved in the running the organization. Periodically, they create reports that allow management, stakeholders and regulating authorities to have insight into the financial health of the organization. As a manager, you need to understand both the metrics that are reported in income statement, balance sheets, and cash flow statements, and how they relate to each other. You also need to understand how comparing numbers across your company, the industry, and from year to year, can help you assess the overall financial performance of the firm. The in-depth review of sample case studies in this course will provide you with the tools you need to examine your own property's reports. As you make budgeting and investment decisions, your knowledge of how vital financial markers indicate relative health in the organization will help drive initiatives to meet your company's financial goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell HAME514 - Using Ratio Analysis to Evaluate Financial Performance (0 Credits)**
A company's financial performance, and its ability to grow and thrive over time, can be assessed through ratio analysis, the basic evaluation tool for asset management, solvency and profitability. Whether you are managing the financial performance of a department, unit, or the organization as a whole, working with these ratios can help identify opportunities and allow you to make adjustments to improve performance.As you become familiar with asset management ratios such as days sales outstanding and days to turnover, you will be able to apply these techniques in comparing your company's performance against others in the industry and against its own financial history. The ratio analysis tools you learn will help your organization to design and implement initiatives for increased productivity and profitability. The course Understanding Financial Statements is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR501 - Mediation for Managers (0 Credits)**
Mediation is widely used to settle disputes ranging from conflict between neighbors to conflict between nations. Though personal disagreements and international commerce don't share the same substance or consequences, the key procedural elements of the mediation process are the same for both, so workplace conflicts tend to take the same shape regardless of the industry or the size of the conflict. In this course you will focus on the use of mediation in resolving organizational conflict where the manager or supervisor serves in the role of mediator. Even if you are not a trained mediator, you can draw on proven mediation techniques to help resolve workplace conflict in productive ways. During this course, you will closely examine a workplace scenario and practice properly setting expectations for mediation of that conflict. In each module, new information will be revealed that will ask you to adapt to the various needs of the disputing parties. Additionally, you will practice handling unforeseen emotional outbursts in a productive way and ultimately propose solutions that consider everyone's interests. Through creative work in examining the scenario and reflecting on how the lessons might apply to your own workplace conflicts, you will learn how to expertly prevent inevitable workplace conflicts from escalating.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR511 - Interpreting and Communicating Data (0 Credits)**
This course aims to make statistical analysis approachable and practical, as you learn how to read and interpret statistical reports in a business environment, and how to communicate statistical results to stakeholders. First, you will practice assessing the statistical components and representations of statistical results in a case study. You will then identify the appropriate method and conduct a summary analysis of a data set. Finally, you will prepare an executive summary of the key statistical points identified through your analysis and create a narrative summary with supporting graphics.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR512 - Using Statistical Tests to Make Decisions (0 Credits)**
In this course, you will practice making informed decisions based on statistical results. You will be introduced to the techniques you will use to view statistical tests critically and recognize the limitations of statistical conclusions. Next, you will examine statistical reports in order to identify the underlying research question. You will then use these insights to compare tests and rate their validity. Finally, you will prepare a report for stakeholders, providing recommendations based on your interpretation of statistical results. It is recommended to only take this course if you have completed Interpreting and Communicating Data or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR513 - Applying Statistical Tests (0 Credits)**
Choosing the most appropriate statistical test to answer your research questions will affect every aspect of your report. This course will focus on identifying the right test for your question. You will explore the relationship between the data set and the results obtained through statistical tests. You will practice writing a memo to your data analyst specifying the appropriate statistical test to answer your question. In selecting your testing methods, you will also consider the ethical implications of the test results. It is recommended to only take this course if you have completed Interpreting and Communicating Data and Using Statistical Test to Make Decisions or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR514 - Making Predictions With Data Models (0 Credits)**
Making statistical predictions based on real-world data is complex and requires a more rigorous statistical model. In this course, you will learn to apply multivariate regression statistical models to make predictions. First, you will identify the variables that best explain your results and define the relationships between dependent and independent variables. You will then practice identifying and interpreting the results of a multiple regression model and making predictions based on that model. It is recommended to only take this course if you have completed Interpreting and Communicating Data, Using Statistical Test to Make Decisions, and Applying Statistical Tests or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR521 - Collective Bargaining Foundations (0 Credits)**
This course establishes a foundation in collective bargaining, with a focus on identifying and analyzing key aspects of a contract and how they relate to your role. You will gain insights into the bargaining process and what happens when negotiations break down. Those insights will prepare you to assess contracts and determine the requirements for administering its key components.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR522 - Preparing for Labor Negotiations (0 Credits)**
This course will help build your skills in the "nuts and bolts" of effective labor negotiations. You will start by identifying the organizational goals central to your bargaining strategy, then see how to move from these business goals to negotiation goals. You'll take a look at the impact of external factors and share your analysis of these factors in a discussion with your peers. Your deep understanding of the collective bargaining agreement, the unit, and the employer will lay the groundwork for success. This course provides a combination of theory and practical applications, down to expert advice on how to manage the administrative aspects of negotiations. Finally, you will choose an appropriate collective bargaining strategy for your organization. Will you take a fostering approach or a forcing approach? And how do you determine which is best? How do you mix the two approaches effectively, and what are the pitfalls you need to avoid? And lastly, you'll evaluate behaviors and styles that make negotiating so challenging. This course includes a negotiation simulation with peers.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR523 - Principles of Costing (0 Credits)**
The parties in any collective bargaining contract negotiation are seeking to balance costs and benefits in order to achieve mutual agreement. Developing proficiency in assessing relative value and costs of a benefit improves your ability to compare apples to oranges. Costing a contract entails a comfort with the fundamentals of workplace math and statistics, as well as the ability to effectively communicate this aspect of negotiation. Are you prepared to estimate numbers and explain them? The importance of this foundation is often underestimated. This course fills gaps for both management and labor by developing a new mindset for costing a contract. You will use basic costing tools to calculate the value of a collective bargaining contract with a focus on calculating and communicating relative value and costs. You will explore the six key principles to estimate costs in order to create agreement proposals. At the conclusion of the course, you will have applied the tools and principles to a sample proposal and counterproposal. You will have practiced the skills to assess the contract's impact to employees and developed strategies for educating stakeholders. Whether you're making a counterproposal or you're ready to get a contract ratified, you will be better able to explain your numbers with the confidence and experience gained from this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR524 - Handling Grievances (0 Credits)**
When grievances occur, taking a strategic approach is the key to productive outcomes. It takes preparation and a solid grasp of the facts and context of a situation to conclude whether a complaint is a grievance that should be heard and resolved. A complaint becomes a grievance when the issue is specified in the contract language. By reading the grievance clause carefully, you can determine whether a complaint should be heard as a grievance and consider resolution possibilities from the perspective of both parties. This course will advance your ability to read grievance clauses effectively. You will explore the specific language included in these clauses and recognize meaning provided by common rules of interpretation. With the tools needed for solving problems and the confidence to employ them, you can overcome potential obstacles in the grievance resolution process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR525 - Arbitration (0 Credits)**
For a variety of reasons, workplace grievances aren't always resolved through negotiation and require arbitration. The outcome of the arbitration hearing is determined by the arbitrator, but as a participant in an arbitration you have a critical role in the process and the results. In this course you will review the typical components of a hearing and, using proven processes and tools, practice the steps of arbitration. You'll discover what a hearing looks like, how a hearing proceeds, and who participates. You'll analyze cases to identify facts critical to your argument and develop a theory that will lead to an issue statement. By becoming familiar with strategies for questioning witnesses, you will be prepared to present your opening and closing arguments.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR531 - Public Regulation of Human Rights (0 Credits)**
More than likely, the garments you are wearing were manufactured by workers in the Asia-Pacific or Latin American regions especially if you are wearing "fast fashion." You might reasonably assume that the worker who sewed your shirt is paid fairly, can take a bathroom break when needed, and is not a child; in other words, a European or American style of labor relations. Yet labor laws vary from one country to the next. This course is designed to give you an overview of global labor relations regulations. You will analyze the model used in your own country and compare it with a country in which your firm does business. You will examine how trade agreements impact workers and explore the influence of regionalized initiatives such as the European Union and the North American Free Trade Agreement (NAFTA).
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR532 - Private Regulation of Human Rights (0 Credits)**
Many organizations have established a code of conduct a kind of self-regulation that clarifies how workers will be treated and these codes often extend to the rest of the supply chain. But how can you ensure that your purchasing team and your suppliers are in compliance? In this course, you will examine methods for verifying that regulations are followed accurately and consistently. You will explore the advantages and disadvantages of auditing and how to look for and address violations. Whether you reward suppliers for being in compliance or punish them if they are out of compliance or both you will recognize the difficulties of assessing the supply chain and determine how to make appropriate decisions that support your organization's code of conduct.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR533 - Improving Regulation of Human Rights (0 Credits)**
A firm may state goals and values for global labor practices but might not actually meet them in practice; this gap between formal policies and actual practices is known as organizational decoupling. In this course, you will examine ways to overcome decoupling. You will discover which data can provide accurate measures of policies and practices then identify data sources for your own firm. You will understand the responsibilities of and barriers to transparency in multi stakeholder institutions. Finally, you will analyze what is within your locus of control to improve transparency as well as how your organization itself might be contributing to labor violations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR541 - Identifying and Fighting Inequity (0 Credits)**
In this course, you will examine what equity means and how it manifests within a community. You will identify causes of and solutions to equity issues by looking at systemic forces, power differentials, and implicit biases. You will hear directly from activists working for equitable communities, and you will consider how arts and culture are essential in building community, supporting development, and contributing to economic opportunity. In addition, you will investigate how the stories of a place are told by examining who gets to tell them. You will also look at how these stories advance group interests and consider what impacts the stories have.Throughout this course, you will gain a basic understanding of major forms of inequity in the United States economic, race, gender, sexual orientation, disability, national origin, and religion. You will participate in several relevant discussions with peers, advancing your own and others' knowledge of the issues, and work on a course journal, using multiple ways of learning to examine equity through different lenses. Your course experience will culminate in a multi-part course project, in which you will work on writing your own letter to the editor of a newspaper.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR542 - Analyzing Power and Systems (0 Credits)**
It can feel as though the defining challenges of our modern era, such as racial and economic inequality and climate change, are problems that we cannot solve. We may feel like we, as individuals, don't possess the agency or power to make any headway in ensuring that this world is a better and more equitable place. We may be well intentioned but feel that we just can't do much to create real and lasting change. If we ever want to break this cycle, we will need to alter the way we think: We must recognize that we have agency and identify exactly where we can apply it in pursuit of change that is both meaningful and enduring.This course delves into how you can take part in this important shift in thinking by using tools of systems thinking and power analysis. You will examine how to map systems and perform power analyses to determine the sources of persistent racial, social, and economic inequities and injustices in your community. You will then perform a power analysis that will identify actors and institutions that are blocking change, bringing best practices and tools back to your communities to empower lasting change.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR543 - Leveraging Data for Social and Community Change (0 Credits)**
Raw data requires further processing for it to become useful, valuable information. Although raw data has the potential to become "information," it requires selective extraction, organization, and sometimes analysis and formatting for presentation. This course introduces you to the processes by which data is analyzed and converted from raw resources into valuable information and knowledge. Data is crucial for equity, as it can be created, collected, used, and disseminated by organizations and social movements to advance equitable community change.In this course, you will have an opportunity to ask and write questions about a community's social, economic, and environmental conditions and how those conditions change over time. You will develop data-gathering techniques and determine where to find reliable data to answer research questions. You will identify data analysis techniques and ways that data are used in racial equity analyses, environmental impact statements, and other critical examinations of community conditions. Finally, you will use basic data analysis techniques to answer specific community research questions, directly equipping you with the necessary awareness and knowledge to build better communities through equitable change.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR544 - Designing Policies and Policy Change (0 Credits)**
Public policy is a course of action created and enacted, typically by a government, in response to an issue or problem that requires attention. In this course, you will analyze the many forms of policy, and you will use tools to help identify both policy problems and potential solutions. In addition, you will consider tough questions about how our policies create and reinforce inequitable outcomes, and you will explore strategies for fighting back. Ultimately, you will design a policy change program to help enable a shift from inequitable to equitable development.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR545 - Engaging in Collective Action (0 Credits)**
In this course, you will discover the importance of solidarity and collective action in equitable community change. More specifically, you will investigate the forces that intentionally seek to disempower ordinary people and undermine democracy. You will create a personal story for use in a larger public narrative that will be used to persuade members of a target audience toward collective action. Using the tools gained in this course, you can support your personal and community goals with awareness and best practices.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR546 - Performing Social Action Research (0 Credits)**
Perhaps you do not see yourself as a "researcher." In reality, however, we all perform some kind of research in our daily lives. Interestingly, the skills you use to navigate through day-to-day choices are the same basic skills you use in social action research projects that aim to define and propose solutions to collective problems.In this course, you will begin to perform social action research to inform community change efforts. More specifically, you will study what social action research is and how to formulate and execute a plan for your research. Finally, you will explore how to communicate the findings of your research to a target audience who can help you to create equitable social change in the communities you serve. You will also see examples of action research and effective research communications that you can apply in your own research projects.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR551 - Fundamentals of Organizational Design (0 Credits)**
Organizations are so entrenched in our everyday lives that we often don't notice them. Each of us exists within a unique ecosystem of organizations that include where we work, shop, go to school, volunteer, acquire healthcare, and manage our personal and professional lives. Becoming aware of the ways that these organizations are structured and the choices behind these structures are fundamental skills necessary for organizational design.In this course, you'll analyze an organization in terms of how it is structured, what it does, and how it interacts within the larger ecosystem. You'll develop ways of thinking about these categories and the language you'll need to describe them, whether you are focusing on organizations in your immediate neighborhood or global organizations. Description is the first step. You will also develop the analytical skills to explain, from an organizational design perspective, why some organizations function more successfully than others so you can anticipate future changes that may create a need for redesign.Organizational design professionals use different models to assess organizations. In this course, you'll practice using the Congruence Model to assess whether an organization is well designed. By combining all the skills you develop in this course, you will be able to look critically at organizations to identify their key components, understand how they are related, and assess whether the organization would benefit from a redesign.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR552 - Assessing Organizations in Context (0 Credits)**
An organization doesn't exist in a vacuum. In most cases, every organization is part of a larger industry, engaged in collaborative and competitive interactions with other organizations. Organizational designers rely on a common nomenclature to describe how organizations fit within their ecosystem.In this course, you'll take a look at the broader contexts the ecosystems in which organizations function. You'll articulate and analyze the different dimensions of this bigger picture. You'll also explore the various strategies that organizations tend to rely on for growth as well as the design implications of these strategic choices. The course brings together perspectives from different and complementary disciplines to provide a multifaceted approach which you will use to assess your own organization and where it fits within the larger context.You are required to have completed the following course or have equivalent experience before taking this course:Fundamentals of Organizational Design
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR553 - Analyzing Formal Organizational Structure (0 Credits)**
Have you ever wondered why any organization you are affiliated with be it academic, nonprofit, governmental, or business is set up the way that it is? Chances are that decisions about how to structure your organization were made in the distant past, under conditions that no longer exist, in response to concerns that are no longer relevant. These choices make a difference in terms of how an organization works as well as how it feels to be a customer or an employee.In this course, you will take a look at the elements of formal structure how an organization is set up in order to achieve its goals. Looking through the organizational design lens, you will begin to evaluate how each structural decision impacts the overall organization. How does the work get done? How do employees communicate or fail to communicate? You'll dive down to the unit level to assess workplace challenges that may be the result of formal structural choices.Finally, you will have the opportunity to address workplace challenges using an objective, analytical approach and create alternative design proposals to address these challenges.You are required to have completed the following courses or have equivalent experience before taking this course:Fundamentals of Organizational Design Assessing Organizations in Context
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR554 - Designing Organizational Systems (0 Credits)**
In times of change, organizational designers may respond by proposing modifications to the formal structure of an organization, perhaps by adding new divisions, changing the vertical hierarchy, or adopting alternatives to the traditional structures. While these are all methods of adjusting the formal structure of an organization, sometimes it is not feasible to make changes to the formal structure of an organization.In such cases, an organizational designer may choose to use policies, systems, practices, and culture to overcome the limitations of formal organizational structure. The proper adjustments to these powerful mechanisms can enhance organizational effectiveness and achieve desired outcomes by linking groups and activities.In this course, you will review research-based approaches to redesigning policies, systems, and practices to better manage your business and your workforce. You will consider which policies, systems, and practices to change and which to leave alone based on examples of real-world success and not-so-successful stories from companies around the globe. You'll also gain the skills you need to analyze organizations as social entities and consider ways you can use things like social capital, organizational culture, and informal groups to smooth the work functions. Finally, you will consider ways to combine and align these integration mechanisms policies, systems, practices, and culture to solve a specific organizational issue. You'll also look critically at some of the latest fads or trends in organizational design.You are required to have completed the following courses or have equivalent experience before taking this course:Fundamentals of Organizational Design Assessing Organizations in Context Analyzing Formal Organizational Structure
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR561 - Building Diverse Talent Pools (0 Credits)**
Your talent pool represents all of the potential candidates you can hire for a job. As the first step of the hiring process, it is the first critical indicator of whether your hiring process is inclusive. A diverse talent pool is one that encompasses the many potential candidates on the market who could successfully apply for a particular role at your organization and mitigates areas of bias that often prevent marginalized candidates from joining and staying in the talent pool. Without a diverse talent pool, you cannot interview a diverse array of candidates and hire those candidates to create a more inclusive and representative workforce. By eliminating bias in the hiring process, your organization can build a diverse talent pool and create the foundation for inclusion, from recruitment all the way through to retention and success.In this course, you will establish what diversity and inclusion mean in relation to the hiring process and specifically how they connect to building diverse talent pools. You'll also evaluate your organization's sourcing methods for opportunities to establish more inclusive talent pipelines. You will then enhance your company's messaging to attract a diverse array of candidates and address sources of bias in the initial screening processes that your organization uses for early-stage job candidates. Finally, you'll explore different methods for measuring the effectiveness of your inclusion-based recruitment strategies. These methods will help you create an inclusion-centered approach to hiring that will broaden your talent pool and create more opportunities for your organization to hire candidates of marginalized identities and experiences.It is strongly encouraged for students to take this course first, unless they have a strong amount of hiring and DEI experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR562 - Adopting Inclusive Hiring Practices (0 Credits)**
Candidate evaluation is the second stage of the hiring process. The evaluation stage allows your organization to determine which candidates from your diverse talent pool are the most qualified to meet the needs of an open position. During candidate evaluation, every step, from reviewing r sum s to conducting interviews and making selection decisions, offers an opportunity for inclusion. Yet each step within this stage of the hiring process also has pitfalls that can result in candidates of marginalized identities being excluded and impacting your organization's long-term inclusion goals.In this course, you will begin by examining how the candidate evaluation stage fits within an inclusive hiring approach, including the power of decision making in candidate selection. You will explore best practices for early-stage candidate evaluations and for interviewing candidates, and you'll evaluate the potential challenges of common approaches like pre-interview assessments and interviewing for "fit." You can use these best practices to make inclusive selection decisions that reduce bias and emphasize equity in candidate selection.You are required to have completed the following courses or have equivalent experience before taking this course:Building Diverse Talent Pools
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILR563 - Promoting Inclusive Onboarding and Employee Success (0 Credits)**
The hiring process does not stop at making a job offer. Onboarding and retention that lead to employee success make up the final stage of an inclusive hiring process. When you hire a new candidate, that candidate will be integrated within your organization through onboarding and hopefully grow over their time of employment. Candidates from marginalized backgrounds do not want to enter a new organization only to feel excluded immediately upon onboarding or to find themselves unable to advance. By providing candidates with inclusive onboarding measures and equitable, proactive opportunities for growth, you can maintain inclusion both within your hiring practices and within your organization as a whole.In this course, you will begin by reviewing the concept of employee integration and how it is impacted by onboarding and cultural inclusion. You will then determine the value of making inclusive offers to your candidates, including what equitable benefits and negotiation practices look like. You'll explore how to build an inclusive onboarding experience as well as how to sustain an employee's success beyond onboarding through internal hiring practices. Finally, you will revisit methods of tracking and monitoring DEI and inclusion progress over time to ensure that your organization recognizes the tangible benefits of an inclusive approach to hiring.You are required to have completed the following courses or have equivalent experience before taking this course:Building Diverse Talent Pools Adopting Inclusive Hiring Practices
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI001 - Improving Engagement (0 Credits)**
Research shows that engagement is the key factor that promotes higher performance and effort, greater returns, and lower turnover. Yet across companies, industries, and countries, studies show that only 11-19% of employees are highly engaged. In this course, you will examine the foundational drivers of engagement, explore the components of successful engagement initiatives, and identify strategies for creating stronger engagement in teams.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI002 - Counteracting Unconscious Bias (0 Credits)**
There is no such thing as a workplace that lacks diversity. Despite decades of legal and social reform aimed at reducing discrimination in the workplace, inequality continues to be a significant problem in all societies and most workplaces. In this course, you will identify the perceptual and psychological processes that impact the way that individuals interact with people who are demographically dissimilar from them. You will examine the psychological processes that impact decision making within organizations and identify how professionals can design better work practices and help to more effectively leverage the potential among employees. As a trained psychologist with research and consulting expertise related to diversity and inclusion, Cornell University Professor Lisa Nishii is uniquely positioned to help course participants understand the complex dynamics underlying diversity challenges and opportunities within organizations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI003 - Diversity, Equity, and Inclusion at Work (0 Credits)**
The management of diversity, equity, and inclusion has evolved from a focus on compliance to a strategic-level effort with a demonstrated positive impact on an organization's performance. In the current business climate, companies that strive for diversity, equity, and inclusion are achieving intended business results. They provide proof that diversity, equity, and inclusion are much more than a legal or moral requirement; they're also a competitive advantage. This course provides an overview of the evolution of the management of diversity, equity, and inclusion and presents targeted and high-involvement diversity practices. It examines diversity in the contexts of teams and leaders, and it frames diversity in terms of current business and cultural challenges. During this course, you will complete a project in which you identify sources of inclusion and how equity fits into your diversity and inclusion goals, align inclusion to improve employee engagement and business results, and determine methods to assess the effectiveness of inclusion initiatives. At the end of the course, you will use the results from the project to prepare a final presentation describing how to apply your work to your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI004 - Fostering an Inclusive Climate (0 Credits)**
Inclusion is a relational construct. It's ultimately about how your team functions and performs based on the quality of social connections, openness to learning, agility, and depth of decision making. How can you foster greater inclusion within your workgroup? Throughout these modules, you will be asked to reflect upon your own experiences and apply the lessons in the modules in your own role. You will examine the concept of climate, specifically inclusive climates, as well as learn about the specific behaviors and skills you need to demonstrate in order to be successful in shaping an inclusive climate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI005A - Dialogue Across Difference (0 Credits)**
Achieving meaningful dialogue across difference is the essence of taking diversity, equity, and inclusion efforts deeper. Research shows that positive relationships at work help diminish role ambiguity, provide employees with task-related help and information, and enhance employees' identification with their work and their workgroups. In this course, you will use the tools provided to practice engaging in meaningful dialogue with others. Participation in three 90-minute synchronous dialogue sessions is a requirement for successful completion of this course. These weekly sessions are led by trained facilitators from Cornell's Intergroup Dialogue Project and will occur on the three days during the course. The Intergroup Dialogue Project (IDP) at Cornell University is an academic initiative grounded in theory and practice. In the last few years, IDP has developed and implemented an innovative DEI education model focusing on four key development areas drawn from existing research and internal assessment: human connection, social identity, intergroup communication, and strategic change. Its objectives are to raise awareness and to effect both behavioral and institutional change.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRDI006A - Strategic Influence (0 Credits)**

You can't make strategic change if you don't understand your role in challenging the systems of which you are a part. As social agents, we reproduce critical social constructs such as norms, status hierarchies, and social identities through our everyday actions and interactions. This is true of every single one of us. If we want to influence change for the better, it's crucial that we understand our own roles in reinforcing complex systems of inequity but also our capacity to leverage personal and collective resources to promote inclusion and equity. In this course, you will examine the ways in which we as individuals participate in the maintenance structures and behaviors that hinder inclusion and equity. You will also apply frameworks and practice using dialogue-based tools to improve inclusion and equity. You will observe and analyze identity, interpersonal, and intergroup dynamics in the workplace and explore strategies for how to address them. Participation in three 90-minute synchronous dialogue sessions is a requirement for successful completion of this course. These weekly sessions are led by trained facilitators from Cornell University's Intergroup Dialogue Project and will occur for three days. The Intergroup Dialogue Project (IDP) at Cornell is an academic initiative grounded in theory and practice. In the last few years, IDP has developed and implemented an innovative DEI education model focusing on four key development areas drawn from existing research and internal assessment: human connection, social identity, intergroup communication, and strategic change. Its objectives are to raise awareness and to effect both behavioral and institutional change.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR521 - Aligning Employee Performance with Organizational Goals (0 Credits)**

Based on the research and expertise of John Hausknecht, Ph.D., you will evaluate the possibility of working with or without a system, identify the properties and benefits of different systems, and explore different approaches to performance management. Steps to mitigate risk will be outlined, common rating and feedback errors will be examined, and support in delivering feedback will be provided using tools such as a Communication Plan. With the completion of an action plan at the end of the course, you will be ready to apply what you learn to your own organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR522 - Total Rewards Compensation (0 Credits)**

Cornell University ILR School professors Kevin Hallock, Linda Barrington, and Stephanie Thomas are the thought leaders behind Cornell's prestigious Institute for Compensation Studies. This team of authors and educators offers a learning experience that combines real-world case studies with an evidence-based, social science approach to the field of compensation. This course equips HR professionals with the tools and insights they need to apply a total-rewards view to compensation that aligns with their organization's strategic goals and operational realities. This includes the Compensation Calculator, created by the Dean of the ILR School, Kevin Hallock, offering a method of job comparison that incorporates the total rewards view.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR523 - Navigating Labor Relations (0 Credits)**

Drawing on their deep knowledge of labor relations and conflict management, Professors Alex Colvin and Harry Katz guide students through a series of activities that apply labor relations concepts to their own workplace (or a workplace with which they are familiar). The course examines the regulatory and organizational labor relations environment and assesses the current state of relations between management and workers. Students learn how to prepare for possible labor disruptions and look at effective negotiations and conflict management. Videos by Colvin and Katz, backed up by additional interviews with industry experts, provide informative content that assists students as they complete a five-part course project aimed at applying the concepts in a practical manner. While union environments are a significant focus of the course, many of the concepts can be applied to non-union environments as well.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR524 - Facilitating Staffing Decisions (0 Credits)**

HR professionals need to adapt to changing objectives and market conditions to recruit, select, and retain employees with the necessary skills to further organizational goals all while steering clear of legal and other risks. Professor Hausknecht draws on his research, teaching, and consulting experience in staffing to provide a relevant and rigorous overview of the field. He offers numerous practical examples to help build the skills needed to staff modern-day organizations and grounds his recommendations in the latest research findings.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR525 - Driving Engagement for HR (0 Credits)**

People may assume that it's employee satisfaction or commitment to their job that promotes higher performance, but it's engagement. In this course, you will examine the foundational drivers of engagement and explore the components of successful engagement initiatives. When completed, this course will help you identify strategies for bringing about engagement in organizations. In companies where 60-70% of employees are engaged, shareholder returns are approximately 24%. Compare that to companies where only 50-60% of employees are engaged: shareholder returns are as low as approximately 5%. Similarly, teams with high engagement experience 4.1% turnover, as opposed to approximately 14.5% turnover for teams with low engagement. These figures clearly illustrate the significant impact that managers and HR professionals can have if they better understand what impacts the engagement of employees.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR526 - Employee Training and Development (0 Credits)**

In this course, you will learn when training is the right course of action and how you can design and deliver instruction to meet your training needs. Professor Bradford Bell of Cornell's ILR School will take you from the analysis stage to the evaluation stage, as you explore training within your organization. In the process, you will conduct your own analysis, create a training plan, incorporate instructional events that facilitate learning transfer, and determine evaluation methods and measurements for your program.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR527 - Countering Bias in the Workplace for HR (0 Credits)**
In this course, you will learn about perceptual and psychological processes that impact the way that individuals interact with people who are demographically dissimilar from them. You will examine psychological processes that impact personnel decision making within organizations. This understanding will help HR professionals to design better practices and will help line managers to more effectively leverage the potential among employees from diverse backgrounds.The course will also help you understand why "Diversity" is now often referred to as "Diversity & Inclusion" by explaining what inclusion is and how it differs from diversity. Why is inclusion so important, and what are its building blocks?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR528 - Fostering a Coaching Culture (0 Credits)**
In this course, developed by Professor Diane Burton, Ph.D. of Cornell University's ILR School, you will learn the skills necessary to reassert your HR role as a trusted, neutral advisor to employees at all levels within your organization. Students will develop coaching skills and learn how to foster a coaching culture while managing organizational HR needs with the most effective response for each situation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR529 - Consulting Skills for Internal HR (0 Credits)**
This course develops the skills needed to be an effective internal HR consultant, based on the research and expertise of Christopher Collins, Ph.D. Learn how to define the scope and nature of a consulting relationship, work with clients to diagnose problems and identify the root cause, present findings and recommendations, and determine appropriate solutions. Take a close look at implementing solutions and managing change. By completing the multi-part course project, you'll gain practical experience by applying what you've learned to an actual or simulated consulting scenario.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR551 - Human Resources Leadership (0 Credits)**
Effective HR leadership goes beyond managing all the tasks and responsibilities carried out by the HR function. It also requires the critical soft skills needed from any leader courage, judgment, influence, political agility, effective communication all of these applied to the unique position that HR occupies in an organization. Written by Cornell University's Christopher J. Collins, Associate Professor and Director of CAHRS, ILR School, this course will teach you to assess competencies for great HR leaders. You'll learn how to provide value to leaders at all levels by supporting and advising them as they execute their strategy. Discover new effective coaching techniques and learn how to become a leader in the unique position that the HR function occupies.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR552 - Aligning HR Strategy with Organizational Strategy (0 Credits)**
A thorough understanding of your organization's value creation model and ability to develop competencies through processes, technology, and people are essential to ensuring that the HR organization is aligned vertically and horizontally to produce superior results. With this understanding, HR will be able to articulate how it can improve processes, people and customer outcomes, and financial results. This course, based on the research and expertise of Christopher Collins, PhD, Associate Professor and Director of Executive Education for Cornell University's School of Industrial and Labor Relations, develops the skills needed to assess how organizations create value and to align the HR function to execute the organization's strategy. Participants analyze the Balanced Scorecard approach as a means of vertically aligning the HR system with organizational objectives. They learn how to create a vertical-alignment strategy and use it to improve HR decision-making, people outcomes, processes, customer outcomes, and financial results. And they learn the skills required to plan and assess horizontal alignment of HR systems and practices. Finally, the course discusses best practices related to workforce partitioning, performance variability, value identification, and employee impact.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR553 - Diversity, Equity, and Inclusion in Practice for HR (0 Credits)**
The management of diversity,equity, and inclusion has evolved from "counting the numbers" to "making the numbers count." Organizations that no longer look at inclusion as having a good mix of diverse people, but as a way to fully engage employees, partners and customers have an opportunity to compete globally. Diversity, equity, and inclusion must be embedded in an organizational culture to make a positive impact on performance. This course, based on the expertise of Cornell University Professor Lisa Nishii, differentiates diversity from inclusion and how organizations often miss the real opportunity. Students assess three levels of inclusion and identify evidence that can be used for each level to assess presence and effectiveness. HR executives and leaders share their perspective on diversity and inclusion and how they made the shift to inclusion at organizational, managerial and work group levels.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR554 - Getting Results through Talent Management (0 Credits)**
Organizations today face a multitude of challenges when it comes to effectively managing their talent. In mature markets, demographic trends are forcing companies to accelerate their efforts to build a pipeline of future leaders. In emerging markets, companies must develop talent strategies that are both nimble and effective at engaging and retaining key human capital. To achieve these goals, companies need an integrated, systematic approach to attracting, developing, engaging, and retaining critical talent. Cornell University Professor Brad Bell offers a learning experience that challenges students to dig deeper into understanding their organization's key talent management challenges and uncovers solutions that can be used to overcome these challenges. This course adopts a systems view of talent management in order to demonstrate that various talent practices and processes need to be aligned to create effective solutions. It also examines current trends and cutting-edge thinking in the talent management field.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR556 - Strategic Engagement (0 Credits)**
In recognition of the strong association between employee engagement and performance, many companies have used or considered using engagement surveys. However, many of these efforts are off-the-shelf engagement surveys that are not fully leveraged or tailored to an organization's specific wants and needs or tied into performance management. The purpose of this course is to help managers understand the difference between an average, generic engagement effort and one that has the potential to really drive superior organizational performance. Students will explore the importance of aligning engagement with the organization's strategic goals, review data collection and analysis considerations, and will analyze methods of using engagement data to drive organizational change at the line manager and broader organizational levels. In this course, you will examine how organizations that are recognized as leaders in this field integrate practices that heighten employee engagement, and find ways to adapt those best practices for your own use. Cornell University Professor Lisa Nishii offers a research-based learning experience that can position leaders to more effectively better navigate the popular (but often misunderstood) area of employee engagement.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR557 - Using Design Thinking in HR (0 Credits)**
This course brings the time proven benefits of design thinking to the field of employment. You will identify factors affecting the workplace and the personal experience of employees. You will then use a six-step approach to analyze employee issues and develop appropriate solutions. The goal is to enhance employees' workplace experience and improve the ability of an organization to attract and retain a productive workforce.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR562 - Finding and Managing Talent Through Social Media (0 Credits)**
Explore and leverage current trends in using social media as a tool for attracting, selecting, and retaining key employees with employment brand.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR563 - Creating and Sustaining Remote Work Programs (0 Credits)**
Remote work continues to proliferate as businesses embrace the benefits of a distributed workplace. Discover how HR professionals screen, train and work with management using social media and internet tools to leverage the virtual work environment to everyone's advantage.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR571 - Measuring and Compensating for Performance (0 Credits)**
Learn how to assess and measure performance and then determine proper compensation in a way that aligns with the goals and needs of the organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR572 - Attracting and Retaining Talent with Performance Pay (0 Credits)**
Learn how to use incentive compensation to attract and retain talent in a way that is both profitable for the organization and fair to the employee.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR573 - Assessing the Financial, Strategic, and People-Related Return on Pay for Performance (0 Credits)**
Learn how to evaluate pay-for-performance practices as they relate to financial performance, strategic alignment, and talent management. The courses Measuring and Compensating for Performance and Attracting and Retaining Talent with Performance Pay are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR581 - Essentials of HR Analytics (0 Credits)**
Analytical skills are becoming a crucial job requirement for HR as organizations strive to become more data-driven. Unfortunately, there is a shortage of analytical talent to meet this need. Less than 20% of companies identify as having a strong HR analytics function in their business, and over 75% of HR professionals reported difficulty recruiting for essential data analysis positions. To remain competitive, organizations need to rapidly upskill their HR talent. In this course students will develop and sharpen HR analytics skills as they analyze and visualize data to inform recommendations and decisions. Drawing on his experience and research, John Hausknecht, Professor of HR Studies at Cornell's ILR School, guides students through key steps in identifying insights from HR data and analysis. Students will review HR data, identify key questions that drive the analytical process, and explore basic calculations for correlation and regression. Taking this a step further, students will mindfully interpret findings, looking beyond data as they take a holistic view of the situations they encounter. Through a course project, students will compose a presentation to visualize essential HR data and communicate findings to key decision makers. This course does not assume students have prior analytical training or knowledge, nor does it require access to current HR data or metrics. Using Excel and datasets provided, this program equips students with the concepts, tools, and language to start their journey in HR analytics.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR582 - Strategic Talent Analytics (0 Credits)**
More than ever, HR leaders are expected to be proficient in the use of HR data and analytics. However, figuring out where to start with analytics, how to evaluate and critique HR data, and how to best communicate and translate results to the broader organization remain key challenges. This course focuses on building analytical acumen and taking a strategic view of talent analytics. Using a framework presented in this course, students will examine outcomes and drivers throughout an organization to assess strategic needs. As they complete activities throughout the course, they will also fine tune their evaluative, presentation, and communication skills using critical thinking coupled with analytical best practices shared by Professor Hausknecht. This course is designed for HR professionals who want to build their organization's HR analytics capabilities, derive meaning from metrics and results, and tell persuasive stories involving HR and organizational data. With these skills, students will have a stronger voice in using talent analytics to persuade others toward actions that best align with organizational goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR583 - Applied Predictive Analytics in HR (0 Credits)**
As organizations strive to succeed in a continuously evolving world, talent must be continuously assessed and evaluated to ensure alignment with strategic goals. It is no longer acceptable to serve in a consultant capacity on problems that arise or to offer strategic advice based solely on experience and policy. Today, HR teams must partner with senior leadership in driving effective and efficient change based on solid data and analysis. Predictive analytics help organizations anticipate and plan appropriately for the future. In this course, learners will apply rigorous measurement and analysis techniques to common HR areas involving hiring top talent, evaluating workforce diversity, engaging the workforce, and managing retention. Through activities and assignments, learners will explore foundational frameworks that are relevant to analyses ranging from basic descriptions to more advanced predictive models that involve machine learning, artificial intelligence, or big data. As learners examine key inputs and data sources, they will use data to predict patterns and trends in areas such as diversity, engagement, and performance. Ultimately, students will use metrics and analytics to assess the current talent landscape of an organization and outline recommendations as they create a presentation for senior leadership. This course assumes a basic comfort level in working with HR data and analysis. It is designed to equip students with the concepts, tools, and language specific to key areas within HR analytics. The course provides examples using Excel. Other data analytics software will not be presented, although the information shared is transferable for those fluent in other programs.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR584 - Valuing HR Initiatives (0 Credits)**
The need to justify spending and the use of resources applies as much to talent as it does to business in general. With that in mind, how can HR professionals show the return on investment in human resource programs? In this course, learners will walk through the steps involved in conducting a credible return on investment (ROI) analysis and will be provided strategies for overcoming common ROI challenges such as isolating the impact of a program and converting the benefits of a program to a monetary value. This course also goes beyond the steps involved in calculating ROI it provides learners with a framework to decide when ROI makes sense (and when it does not) as well as tools for planning a successful ROI and effectively communicating the results to key stakeholders. This course does not assume learners have a data analytics background but does assume learners possess basic exposure to HR analytics (from experience or a prior course such as Applied Predictive Analytics in HR).
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR591 - Conducting Effective Employee Relations Conversations (0 Credits)**
Employee relations is an increasingly important role within the HR function. Maintaining positive employee relations helps boost morale, reduce conflict, and raise workforce productivity. In this course, you will develop an understanding of how to best facilitate relationships between an organization and its employees, employees and their managers, and employees and other employees. You'll be introduced to the Effective Employee Relations Conversations framework, which enables HR professionals to conduct effective conversations with team members at all levels of the organization. Throughout the course, you'll have an opportunity to apply key components of this framework by working through a variety of practice activities.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR593 - Internal Investigation Fundamentals (0 Credits)**
Internal employee investigations are complex and require a step-by-step process. Following a proven process helps organizations ensure that a fair and thorough method is being used for determining whether there have been serious policy violations. In this course, you will focus on the role and competencies required of internal investigators, be introduced to the components of the internal investigations process, and explore topics that impact the entire process. You will also have the opportunity to identify specific knowledge, skills, and insights you would like to transfer and apply to your role as an investigator. It is recommended to only take this course if you have completed Conducting Effective Employee Relations Conversations or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR594 - Conducting Internal Investigation Interviews (0 Credits)**
Conducting interviews and conducting them effectively is a critical step in the complex process of internal employee investigations. In this course, you will focus on the common structure of intake and investigatory interviews, as well as note taking and communication skills for conducting interviews. The course will introduce a case study that focuses on conducting the intake interview. It is recommended to only take this course if you have completed Conducting Effective Employee Relations Conversations and Internal Investigation Fundamentals, or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR595 - Investigating Internal Complaint Issues (0 Credits)**
When investigating the complaint issues, it's important to have a defined method for gathering information during the internal investigation. In this course, you will concentrate on investigating the issues, which includes planning, structuring, and conducting by actively gathering the information. The course will build on a case study that focuses on a continuous approach for acquiring sufficient information. It is recommended to only take this course if you have completed Conducting Effective Employee Relations Conversations, Internal Investigation Fundamentals, and Conducting Internal Investigation Interviews, or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR596 - Concluding an Internal Investigation (0 Credits)**
In order to effectively conclude an internal employee investigation, there are a number of critical steps that need to be followed. In this course, you will focus on concluding the investigation, determining and implementing outcomes, and evaluating the process. The course will complete a case study that focuses on the final details related to closing an investigation. It is recommended to only take this course if you have completed Conducting Effective Employee Relations Conversations, Internal Investigation Fundamentals, Conducting Internal Investigation Interviews, and Investigating Internal Complaint Issues, or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR631 - Total Rewards Compensation (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR632 - Designing and Managing Compensation Structures (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR633 - Benchmarking Competitive Pay Levels (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR634 - Introduction to Employee Benefits (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR636 - Executive Compensation Essentials (0 Credits)**
This course provides a foundational overview of the governance process that shapes executive compensation and the components of executive pay packages, including base salary, short- and long-term performance incentives, benefits and perquisites, and a variety of contingent payments that can be included in compensation contracts. In this course, you will evaluate the context in which executive compensation plans are designed and implemented, assess the priorities and influence of constituent parties, and analyze executive compensation tools. The course content focuses on publicly traded, United States-based, Fortune 500 corporations.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR652 - HR Strategy (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR655 - Business Strategy for HR Leaders (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRHR658 - Effective Internal Coaching (0 Credits)**
The purpose of this course is to explore the idea of coaching within your organization and help you develop yourself as an internal coach. You will start by defining the term internal coach and examine the necessary conditions required to make this type of coaching effective. You will then delve into the concept of non-directive coaching, which uses questions to lead the coachee through a process of self-discovery. You will also discuss a directive approach to coaching, which involves the challenge of delivering difficult feedback in a constructive manner. Finally, you will explore the role of supporter as an important part of coaching, where you continue to provide the person you've coached with further guidance following the completion of the coaching session to make sure the coachee is able to sustain the change they worked to achieve.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRME502 - Managing Team Performance (0 Credits)**
Most managers only think about performance once a year when they have to conduct annual appraisals for their direct reports, or when things are going poorly. This course equips managers to move beyond this approach and develop an ongoing and proactive developmental process that helps their employees to perform best in their jobs. When your people are performing well, you're performing well and your organization can succeed.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRME503 - Managing Time and Priorities (0 Credits)**
Every day is filled with new tasks, new challenges, and new distractions. Every so often you need to take a step back to audit how you are using your time and what your priorities should be. Doing so will allow you to effectively manage not only your own time and priorities, but the time and priorities of your direct reports as well. In this course, Professors Diane Burton and Allison Elias will help you determine the needed frequency of audits, as well as how to create and conduct evaluations of yourself, your teams, and the organization. They will help you examine priorities and tasks on seven critical levels. In the course project, you will examine your work situation, and work-life balance, all with the goal and tools to become more efficient and effective. Project Management Institute (PMI ) Continuing Certification: Participants who successfully complete this course will receive 6 Professional Development Units (PDUs) from PMI . Please contact PMI for details about professional project management certification or recertification.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRME504 - Effective Hiring and Interviewing (0 Credits)**
Instead of HR professionals, front-line managers are now being asked to assess their personnel needs in the workplace and make hiring or firing choices that fit those needs. Many managers have not been trained on how to decide among candidates to make the best choices to fit their team. These choices are not just about creating test questions or reading resumes, but also about managing the interpersonal communication that must occur between hirer and candidate. Cornell University's Professor Livingston's teaching combines well-supported theoretical evidence with real-world examples and case studies to make the subject matter both understandable and easily applicable to a wide variety of managing environments. She focuses not just on the "how" of hiring and interviewing, but on the "why" so that individual managers and decision makers can be flexible and agile in changing environments and with changing needs.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRME505 - Addressing Workplace Behavior Issues (0 Credits)**
Managers must foster a good workplace atmosphere and be able to deal effectively with behavior issues as they arise. Doing so improves productivity and employee engagement and helps an organization avoid costly legal liability. Professor Alexander Colvin, Ph.D. of Cornell University's ILR School explains how new and aspiring managers can prevent or reduce the occurrence of behavior issues. His lessons will show you how to assess issues as they arise and provide guidance and best practices on resolving behavior problems, primarily through the proven principles of progressive discipline. Professor Colvin draws on his legal and research credentials to provide guidance in dealing with harassment and bullying, planning and carrying out terminations when required, and managing requests to accommodate special employee needs and practices. Throughout the course, you'll remain engaged as you participate in interactive discussions and complete a five-part course project, applying the key concepts to your own situation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRME506 - Effective Interviewing (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC511 - Diagnosing Workplace Conflict (0 Credits)**
Every workplace has conflict. We all see it, and at some point, we all feel its impact. The word conflict has a negative connotation for most people, but despite that feeling, not all conflict is bad. Most often, the problem arises when conflict is ignored and people just wish for it to go away on its own. If you jump right to solving a problem before you fully understand it, you might miss the root cause or underlying issues. Because of this, effectively managing any conflict starts with fully diagnosing it. That's where we'll begin in this course. Professors Klingel and Nobles, both experts in conflict resolution from the Scheinman Institute on Conflict Resolution at the School of Industrial Labor Relations, will help you master diagnosing conflict. You'll get a chance to map out a conflict in your own workplace in the course project. You'll also spend time discussing your experiences and lessons learned with your peers. After completing the course, you'll have the tools and skills to fully diagnose any conflict in your life. You'll also be ready to determine if a conflict is worth addressing, which sets you up to successfully use a problem-solving approach to resolve a conflict. Please note that this course has been designed as a prerequisite to the companion eCornell course, "Applying a Problem-Solving Approach to Conflict".
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC512 - Applying a Problem-Solving Approach to Conflict (0 Credits)**
When most of us face conflict, we often either avoid dealing with it, or we jump in and try to force a solution. These responses may be driven by a lack of comfort with or even a fear of conflict. Unfortunately, neither response is always correct, and neither approach should be the first step. Professors Klingel and Nobles will share how to overcome these instincts and successfully apply a problem-solving approach to conflict. The first course in this series, "Diagnosing Workplace Conflict," focused on fully diagnosing a conflict without jumping into problem solving. In this course, you'll look at how to best handle a fully diagnosed conflict using a problem-solving approach. A common issue we'll address is jumping to solutions before understanding the scope of the conflict and the needs that will have to be addressed to resolve it. Thus, you'll begin by determining the scope. Depending on the scope you may move forward with the problem-solving approach, or, you may decide to let it go. The problem-solving approach, which consists of eight steps that can be broken down into three key elements, is the framework through which this course is taught. In the course project, you'll practice applying this approach to a conflict of your choosing. The approach is intended to be used when solving conflict you are directly involved in. Despite this, we'll offer practical advice on how you could adapt this for other use cases. The course Diagnosing Workplace Conflict is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC513 - Leading Challenging Conversations (0 Credits)**
Sometimes there's a person, a situation, or an issue that really drives you crazy. Often, the only way forward is to face the issue head on by having a conversation about it with those involved. While that may sound simple, the situations are often emotionally charged, and people tend to avoid these conversations at all costs. Generally, issues that require these conversations don't rise to the level of a conflict and aren't considered performance issues, making it even harder for those involved to know how they should move forward. Leading challenging conversations is about facing your discomfort and dedicating yourself to the conversation that needs to happen. You'll learn to identify issues that require a conversation, and to self check if you are the correct person to have the conversation. Once you've identified a conversation, you'll follow a process that helps you create a plan, conduct the conversation, and follow up. Let's be clear, having a conversation doesn't automatically lead to a resolution. Not having a resolution can be frustrating for many of us, so it's important that you think about success as either fully resolving the issue or helping you identify a path for productively approaching the problem using tools that you have. In the course project, you'll identify a conversation in your workplace, create a plan, practice having the conversation, and determine the appropriate next steps. Professor Nobles will guide you on how to do this using proven strategies and a refined process. This course focuses on conversations you'll have, not coaching others to have these conversations. However, the process that is taught can be shared with peers as they face situations requiring challenging conversations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC521 - Employment Law and Policy Issues (0 Credits)**
Human resource professionals must navigate and deal with a wide range of legal and policy issues in the workplace. They must know the responsibilities and boundaries of their own role, and they must assess issues and consult appropriate legal or expert counsel. This course will help current and aspiring HR managers and staff to establish a structured framework for systematic analysis of employee issues that may have legal implications. It focuses on the layers of employee rights, the HR role, appropriate consultation with legal counsel, and the use of a step-by-step process in the assessment of workplace issues. By the end of this course, you will develop a systematic foundation for managing employment law issues.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC522 - Equal Employment Opportunity and Employee Treatment Issues (0 Credits)**
Human resource professionals in the United States must assess and manage workplace issues relating to discrimination, harassment, retaliation, medical and family leave, and other matters dealing with treatment of employees. This course is designed to give you a broad understanding of US laws such as Title VII of the Civil Rights Act of 1963, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, and similar laws. The course begins with a look at basic terminology and provisions relating to equal employment opportunity, affirmative action, diversity, and inclusion. The focus then moves to legal protections for certain classes of individuals before addressing issues relating to disability, religion, harassment, and retaliation. The course Employment Law and Policy Issues is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC523 - Benefits, Compensation, Safety, and Other Legal Issues (0 Credits)**
HR professionals today must consider the legal implications of policies and practices relating to employee leave, compensation, benefits, safety, workplace agreements, electronic communication, and privacy. These often go beyond questions of discrimination or employee treatment and require a basic awareness of relevant laws and the need for appropriate consultation when issues arise. This course provides an overview of US laws in key areas, including the Family and Medical Leave Act, the Fair Labor Standards Act, the National Labor Relations Act, the Occupational Health and Safety Act, and others. You will leave this course prepared to work with colleagues and legal experts to address legal issues within your organization. The courses Employment Law and Policy Issues and Equal Employment Opportunity and Employee Treatment Issues are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC524 - Employment Laws Around the Globe (0 Credits)**
Employment laws vary widely from one type of legal system to another, from country to country, and even from one state or province to another. Human resource professionals may be faced with a need to analyze workforce laws and regulations in places where they have little prior experience. This course provides a bird's-eye view of how employment laws vary by country or region and the underlying reasons for that variation. Practical guidance will be provided for HR specialists who need to research relevant employment requirements and work with relevant authorities and organizations. By improving your knowledge of global employment law, you will gain a competitive perspective allowing you to employ effective strategies with all stakeholders. These courses are required to be completed prior to starting this course: Employment Law and Policy Issues Equal Employment Opportunity and Employee Treatment Issues Benefits, Compensation, Safety, and Other Legal Issues
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRSC525 - HR Policies in International Contexts (0 Credits)**
Human resource professionals may need to go beyond simply gaining a knowledge of how employment laws vary in different parts of the world and in specific countries. When a company begins operations in a new country, HR staff must make changes to their current policies or establish new ones that meet local requirements. This course examines key practices and issues relating to employment and is designed to help your organization adapt its current policies and practices to a new legal environment. Through a multi-part course project, you will have an opportunity to apply what you learn to your own personal or organizational situation. These courses are required to be completed prior to starting this course: Employment Law and Policy Issues Equal Employment Opportunity and Employee Treatment Issues Benefits, Compensation, Safety, and Other Legal Issues Employment Laws Around the Globe
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ILRVR512 - Human Rights in Global Supply Chains - Live Sessions (0 Credits)**
The device you are using to read this page was created by people in the global workforce. Do you know from which country it originated? Or which international labor agreements, if any, affect the workers who made it? What about the company that sells the product; does it promise fair treatment of those workers? In this certificate program, you will examine labor practices in the global supply chain and consider how those practices vary and evolve. First, you will examine the regulatory framework for global labor relations, including the impact of national treaties on workers. To do this, you will explore labor models in your own country as well as other relevant countries, including where your organization does business. You will then explore industry self-regulation, such as Nike's Labor Standards, and consider the realities of auditing overseas partners. You will also identify the risks of and barriers to transparency along with the ways that reliable data can be made available to consumers and industry partners. To complete the certificate, you will attend two 3-hour live virtual sessions with Cornell ILR School professor Sarosh Kuruvilla and Jason Judd, Executive Director of Cornell's New Conversations Project. You'll gain access to current research and share experiences with Cornell faculty and industry experts. Completing this certificate will enable you to evaluate and identify strategies to improve labor practices both in your organization and within companies you conduct business with across the globe. The courses in this certificate program are required to be completed in the order that they appear. If you choose to complete the certificate by attending the live virtual courses, please choose the dates and times that work for your schedule.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB401 - Senior Living Fundamentals (0 Credits)**
We are approaching a radical shift in the makeup of our population: Soon 20% of the U.S. population will be over 65. That means our population will have around 90 million older adults! This is an exciting time for those interested in careers serving seniors; not just in wellness and healthcare, but with technology solutions, self- and assisted care, and designing and building living facilities. In this course, you will develop the fundamental competencies to successfully work in the emerging and complex senior living industry. In this course, you will assess the senior living landscape and identify senior living workplace challenges as well as the solutions to those challenges. You will also explore best practices for facilitating service excellence. Finally, you will prepare for future trends and emerging complexities in senior living. In your course project, you will select a senior living option you work at or one that you believe is best aligned with your personal career interests.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB402 - Design Consideration for Senior Facilities (0 Credits)**
Whether you're working as a designer of a new senior residential care facility, an administrator of an existing facility, or within the senior healthcare field, you can use the research to inform decisions about design choices for the space. This relatively new science addresses not only how human beings perceive their surroundings, but the ways in which good design can optimize people's interactions with the physical world. In this course, you will examine how psychological factors affect our relationship to the environment in senior living facilities and reflect on how well those factors are being applied in a real-life setting. Youll explore how to apply environmental psychology principles to the design of senior living facilities. Youll conduct an online literature review to help inform your design of senior living facilities. To help you better understand the challenges seniors face so that you can design to address those challenges, youll participate in a hands-on exercise where you simulate the physical limitations that occur naturally in the aging process and then reflect on your experience. You'll get a chance to map out a conflict in your own workplace in the course project. You'll also spend time discussing your experiences and lessons learned with your peers. After completing the course, you'll have the tools and skills to fully diagnose any conflict in your life. You'll also be ready to determine if a conflict is worth addressing, which sets you up to successfully use a problem-solving approach to resolve a conflict. Please note that this course has been designed as a prerequisite to the companion eCornell course, "Applying a Problem-Solving Approach to Conflict".
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB403 - Dining Innovation in Senior Living (0 Credits)**
Can you offer a menu that excites your residents and/or guests, meets their nutritional needs, and doesn't break your budget? In this course, you'll examine a framework to help you align your food service operation with your organizational needs. You'll also examine trends and how they might have a place in your food service operation, and you'll access resources to help you keep on top of those trends. You'll review a healthcare facility menu and reflect on what's good and where there's room for improvement. You'll design, or re-design, your own menu and then build a plan to collect and analyze feedback on that menu. You'll also interact with a tool to help you make sure your concept is viable.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB404 - Effective Process Management in Healthcare (0 Credits)**
What is process thinking? How can it help you improve your healthcare organization? In this course, you'll explore the concept of process thinking and access several reusable tools to help you develop and improve processes at your organization. You'll examine how to spot what's wrong in a process and determine solutions to those problems.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB405 - Effective Process Management in Senior Living (0 Credits)**
What is process thinking? How can it help you improve your senior living facility? In this course, you'll explore the concept of process thinking and access several reusable tools to help you evaluate, develop, and improve processes for an organization. You'll examine how to spot what's wrong in a process and explore solutions to fix those problems. You will also monitor how long a process takes at your own organization and reflect on the results of your observations. You'll examine a process flow at your organization and explore ideas for how to improve the process. You'll participate in a hands-on activity to examine how to improve the wait time of a process at your organization. Finally, you'll write a plan for how process flow can help improve decision-making at your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB406 - Quality and Process Improvement Metrics and Strategies for Healthcare (0 Credits)**
How can you ensure your organization is providing a service that meets the expectations of both patients and guests? Are there ways your organization could improve customer satisfaction while reducing costs? In this course, you'll explore how to measure quality and diagnose what's causing issues with quality in your organization. You'll also explore methods for improving processes while maintaining quality at your organization.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB407 - Quality and Process Improvement for Senior Living (0 Credits)**
How can you ensure your organization is providing a service that meets the expectations of both patients and guests? Are there ways your organization could improve customer satisfaction while reducing costs? In this course, you'll explore how to measure quality using standard assessment metrics and diagnose areas of concern within your organization. You'll also be introduced to frameworks for improving processes while maintaining quality at your organization. Throughout the course, you will identify a process in need of improvement at your organization and reflect on how it could be improved. You'll access several tools to help you understand the source of a problem with a process and use those tools to assess an issue in your organization. As your course concludes, you will explore strategies for addressing quality issues and access a reusable tool to help remind you of best practices for improving a process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB408 - Design Consideration for Healthcare Facilities (0 Credits)**
Effectively applying environmental psychology principles and theories to the design of health care settings can powerfully enhance the quality of life for residents. Whether you're working as a designer of a new health care facility, an administrator of an existing facility, or within the healthcare field, you can use the research to inform decisions about design choices for the space. This relatively new science addresses not only how human beings perceive their surroundings, but also the ways in which good design can optimize people's interactions with the physical world. In this course, you will explore how to access and analyze design research to evaluate the world around you in order to create environments that support health and wellness.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB411 - Brand Purpose (0 Credits)**
In this course, you will evaluate your brand and define actions you can take to enhance your brand's performance. You will start by exploring the elements that make some brands great, why some brands garner premium consideration, and, as appropriate, how to improve a brand. You will work to create a great brand purpose and learn how to monitor the market to support the longevity of your brand by analyzing the impact of trends on your brand. You will also assess and strengthen your brand's mission, vision, and values. By the end of this course, you will have a strong vision, mission, a list of values for your brand and strategies to propel your brand forward.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB412 - Brand Strategy (0 Credits)**
In this course, you will focus on how to optimize a brand's strategy approach to the market. By identifying opportunities and threats to a brand using Porter's Five Forces model, you will analyze how you can strengthen a brand's position. You will then take this analysis a step further with "Z-SWOT", where you will identify the brand's opportunities and threats in relation to its strengths and weaknesses. You will then create an action plan where you will prioritize strategies that can enable the brand performance to be maximized. By the end of this course, you will have clear strategies on how a brand can best capitalize on its position in the market.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB413 - Brand Positioning (0 Credits)**
In this course, you will assess the market to identify opportunities for a brand, determine a strategy to best position the brand, and draft a strategy to achieve the brand's goals. You will then apply this information to a brand of your choice. You will start analyzing the competitive space by identifying the brand attributes most important to your end users. You will use this customer focused analysis to create a positioning map that includes competitive brands. You will then create an opportunity space strategy and a brand positioning strategy to penetrate the market. By the end of this course, you will optimize a brand's position in its brandscape by completing a brand positioning mapping.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB414 - Brand Planning (0 Credits)**
Brand planning is the process of devising the specific actions needed to enable the brand to attain brand performance goals.The process of developing the brand plan helps to identify opportunities to grow and create value for your brand. In this course, you will refine your ability to create a brand plan by investigating each step of the process and developing a plan for an existing brand of your choice. You will start by completing a situation analysis for your chosen brand. You will then draw conclusions from the analysis and determine objectives and strategies for the brand. Finally, you will develop an executional roadmap to deliver on at least one of your identified strategic directions for your brand.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB415 - Brand Activation (0 Credits)**
In this course, you will see that brand activation is much more than clever communications or perfectly placed messages. You will begin developing your skills in brand activation by identifying and analyzing a brand target market and determining consumer insights that will prepare you to create an activation plan. You will then define the brand values, personality, and purpose, and craft a brand positioning statement for your selected brand. These elements help ensure the activation plan aligns with the brand. You will also write key elements of a communication brief to ensure that all messaging and communication pieces align with the brand and with each other. Finally, you will outline a marketing communications approach specific to your brand and your target market that will lend itself to successful brand activation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB416 - Brand Measurement (0 Credits)**
In this course, you will determine which data sources and types of data are needed to assess your brand's performance against your brand's objectives and determine where adjustments are needed. You will practice identifying trends and analyzing the potential effect of these trends on the brand. You will use these insights to identify options to adjust your brand plan to help your brand attain its objectives. By the end of this course, you will be able to confidently analyze and assess the health and progress of your brand strategies.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB421 - Persuasion (0 Credits)**
The key to persuasion is knowing your audience, their perspective and needs, and how your solution will benefit them. Through this course, you will understand that the bulk of the persuasion process is spent learning about your audience. Once this is achieved, you use what you've discovered to persuade them toward your way of thinking. While this goes against a natural tendency to think of persuasion as being about you your cause, your beliefs, your mission true persuasion requires you to take your needs out of the equation. By focusing on your audience's needs, you will more solidly persuade them and, ultimately, everyone will benefit.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB431 - Data Privacy in Marketing (0 Credits)**
In this course, you will explore your organization's current data privacy approach and assess how vulnerable your customers' personal identification data is to data breaches. First, you will explore various categories of data breaches, both intentional and unintentional. You will then determine the privacy risk for your customer data by classifying each data element's identifiability and sensitivity. Next, you will explore the Organization Data Privacy Journey model and assess where your firm is in that journey. By the end of this course, you will have drawn the connection between data privacy and risk through the exploration of customer relationship management and digital advertising use cases.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB432 - Defensive Data Strategies (0 Credits)**
In this course, you will determine the best defensive strategy for data usage under privacy constraints. You will explore the relationship between transparency and control by conducting an audit of your organization's privacy policy. You will evaluate high-level protection approaches to masking customer data and examine data from a customer acquisition campaign to assess accuracy of the metrics. Finally, you will measure profitability loss from defensive data protection measures.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB433 - Data Protection Solutions (0 Credits)**
In this course, you will create the best data protection solution to optimize marketing insights for your organization. There are privacy issues and risks associated with customer data as well as various tactics to reduce the identifiability of individuals, while also maximizing revenue from that customer data. By exploring graphical techniques, you will choose the point at which you can best maximize profitability and customer privacy. This course will guide you through a four-step process that will transform your data. In addition to existing best practices, this course explores a cutting-edge technique that allows you to use synthetic data to maximize a firm's revenue.Defensive Data Strategies is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB434 - Emerging Data Privacy Challenges (0 Credits)**
Unstructured data is more difficult to protect than data that is structured. In this course, you will examine new and emerging data privacy issues and solutions surrounding unstructured data. This data includes textual data, time series data, and spatial-temporal data (e.g., mapping and location apps). You will also explore Internet of Things (IoT) data, how it can add value to your organization, and the accompanying privacy issues associated with that data. While striving to maximize revenue for your organization and simultaneously respect the privacy of your customers, you will explore the privacy challenges associated with geospatial data and ways to mask your customers' identities. In the final phases of this course, you will consider different strategies for achieving differential privacy to both satisfy your organizational business goals and protect your customers' privacy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB441 - Leveraging Problem-Solver Profiles (0 Credits)**
Without a doubt, you've already made major life decisions. Some may have turned out well, while others may have left you feeling disappointment, frustration, or other negative emotions. Chances are that complex decision-making is not over for you yet; your personal and professional lives will likely continue to be full of complex decisions. This course will help you gain more confidence in yourself as a problem-solver as you build your decision-making skills.We'll start by focusing on you: What kind of a decision-maker are you? And what kind do you want to be? You'll explore your decision-making archetype, what that means for how you tend to approach complex problem-solving, and what inherent pitfalls may lie within your default approach. You'll spend time in this course examining your own cognitive biases don't worry; we all have them, and they actually serve some very important purposes to help us navigate through our busy lives. Being aware of these biases is the first step towards changing them, and in this course you'll discover how to apply some remedies when you notice those biases surfacing. Finally, because no decision is made in isolation, you'll have the opportunity to consider yourself as a decision-maker within the context of the people around you. You'll gain strategies that you can use to strengthen your ability to work with others.This course will provide you with many examples of decisions, both big and small, that are impacted by Problem-Solver Profiles. It will also give you a framework by which to distinguish between complex and simple problems and decisions, providing you with a better sense of when not to "sweat the small stuff." This course is designed to build your self-awareness and tools for working with others, ultimately resulting in more confidence the next time you are faced with a complex decision.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB442 - Framing and Breaking Down Complex Problems (0 Credits)**
It can be messy and overwhelming to figure out how to solve complex problems. Where do you start? How do you know where to look for information and evaluate its quality and bias? How can you feel confident that you are making a careful and thoroughly researched decision? Whether you are navigating a career decision or expanding your business, this course will enable you to use the AREA Method decision-making system. AREA, created by Cheryl Strauss Einhorn, is an acronym for Absolute/Relative/Exploration/Exploitation/Analysis. It's a powerful system for making complex decisions with confidence and conviction. You will develop the conceptual awareness and shared nomenclature necessary to apply this innovative approach to your own problem-solving.Note: Enjoy your digital copy of Cheryl Strauss Einhorn's e-book "Problem Solved" (New Jersey: Career Press, 2017), included with this course. While it is not necessary to read the book to successfully complete this course, this book will provide you with detailed case studies and a wealth of resources to assist your problem-solving and decision skill-building. You will continue to have access to the book as a reference after you have completed this course. If you would like to purchase a hard copy of the book, it is available from The Cornell Store or anywhere you buy books.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB443 - Researching and Analyzing Information to Make Your Decision (0 Credits)**

This course explores the Relative, Exploration, Exploitation, and Analysis phases of AREA and provides guided processes for applying each phase to a complex decision. Using your work from the Absolute phase, you'll now research sources related to your decision to put it into a broader context. Next, you will conduct interviews in the Exploration phase. In Exploitation, you will confront your assumptions and judgments with evidence. Finally, in the Analysis phase, you will determine what your data can and can't tell you and consider how your decision might go awry or fail so that you may better ensure your decision success.Note: Enjoy your digital copy of Cheryl Strauss Einhorn's e-book "Problem Solved" (New Jersey: Career Press, 2017), included with this course. While it is not necessary to read the book to successfully complete this course, this book will provide you with detailed case studies and a wealth of resources to assist your problem-solving and decision skill-building. You will continue to have access to the book as a reference after you have completed this course. If you would like to purchase a hard copy of the book, it is available from The Cornell Store or anywhere you buy books.The following course is required to be completed before taking this course:JCB442: Framing and Breaking Down Complex Problems

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB444 - Putting AREA Into Action (0 Credits)**

As someone with experience using the AREA Method, you already know it as a powerful step-by-step system to make smarter, better decisions. In this advanced course, you will continue to develop your skills as you go beyond using AREA to solve thorny problems to using it as an operating system for your daily life. Now that you've mastered the steps of AREA, you'll take a more holistic approach and begin using AREA as an operating system. As with any skill, the more you use AREA, the stronger your ability to move through the world mindfully and with empathy and understanding will become.In this course, you'll explore the 11 common decision myths that hinder both decision-making outcomes and relationships then see how to apply AREA tools to counter these myths. You'll have the opportunity to apply AREA solutions to problems that may arise because of emotions and bias. Finally, you'll build financial literacy as you apply AREA skills to identify the numbers relevant to a significant financial decision in your personal or professional life.You will explore ways to implement AREA through all aspects of your life. You will practice using your AREA toolkit and become more comfortable knowing how to use the methodology. From buying a house to selecting a dating app, AREA offers a way to approach larger life goals with confidence and conviction.The following courses are required to be completed before taking this course:JCB442: Framing and Breaking Down Complex Problems JCB443: Researching and Analyzing Information to Make Your Decision

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB445 - Evaluating Stocks (0 Credits)**

Investing in stocks is a critical strategy in any financial portfolio, whether personal or professional. Yet how do you know whether a stock is a smart buy or not? You don't until you do the research.If you're able to understand a company, you are well on your way to understanding its stock. In this course, you will practice doing the financial analysis work needed to identify profitable stocks worth investing in. You will examine data in online public sources such as SEC 10K and 10Q reports, earnings releases, press releases, and investor conference materials to score fundamental information about the company and stock you have chosen to study. By evaluating a company's position in the marketplace, you can begin forecasting the performance of its stock. Exploring different valuation techniques, you will practice making a target price to compare whether the stock's current market value is high or low relative to the future predicted value of the stock. Along the way, you will incorporate storytelling into your research to summarize your findings and curate a compelling investment thesis. With this investment thesis to advance your claims, you will curate a stock pitch and communicate your preliminary recommendation of whether to buy, sell, or hold a chosen stock.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB446 - Portfolio Management Essentials (0 Credits)**

Portfolio Management Essentials provides the tools and instruction to manage money like a professional. Students will explore asset classes, sectors, and style and investigate how to balance risks and returns to match their individual circumstances. This course explores the underlying principles of portfolio management and immediately provides opportunities to apply these theories. Drawing on his years of experience as a portfolio manager, Professor Stewart offers a real-world perspective on diversifying a portfolio to meet financial goals. Carefully crafted Excel templates are provided for students to evaluate assets and experiment with various allocations. Completing a hands-on course project with the provided spreadsheets, students will build recognition of optimal methods to successfully manage their investment portfolios.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB501 - Accounting (0 Credits)**

When given financial information in the workplace, it can be difficult to understand what you are looking at if you aren't familiar with the terminology and purpose of the document. You want to be able to understand the information you have been given and be able to provide insight and input. Using examples from the technology arena, this course will provide you with the fundamental principles and concepts of accounting that will enable you to comprehend the data in front of you and understand its implications. In this course, you will explore the accounting concepts of cash and accrual and the different forms of profit. Additionally, you will analyze financial statements and projections and identify strategies to remain compliant and avoid accounting mistakes. These are common pieces of financial information that most people encounter during their career. At the end of this course, you will be armed with the knowledge to interpret financial information and make informed recommendations.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB502 - Finance (0 Credits)**

Working in the technology industry, there are times when you might be asked to review and provide input on certain financial aspects of your business. This may be especially critical when trying to raise capital for R&D or new initiatives. When that time comes, it is important that you are able to comprehend and evaluate the information given to you. By providing you with foundational knowledge about key financial concepts such as capital structure (equity and debt), net present value (NPV), and the different types of investments, this course will allow you to feel confident when reviewing your organization's financial reports. Not only will you feel comfortable, but you will have the basic understanding of these concepts in order to provide input into conversations about raising capital, structuring the ownership of a company, and investing the company's assets to create value.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB503 - Managing Human Capital (0 Credits)**

People are the backbone of every organization. In the tech arena, this is even more so, as research, design, and intellectual property are all people driven. Additionally, you may engage more contractors or temporary staff than other industries. In this course, you will explore practices for recruiting, hiring, and firing employees and subcontractors. You will also define and find ways to influence a culture that will enable you to meet your business objectives. Finally, because the tech space has varying temporary and contract-based employment needs, you will explore the legal issues that may impact your employees and subcontractors.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB504 - Sales (0 Credits)**

Working in the tech field, you will undoubtedly encounter sales and your internal sales team on some level. However, if you don't have much experience in the field of sales, it can feel overwhelming. In this course, you will develop a foundation in core sales concepts to enable you to manage an internal sales process. You will be introduced to the key roles within a sales team, the steps in the sales process, what makes a sales lead qualified or disqualified, and how to identify your target customer persona. From there, you will identify the different aspects involved in sales negotiations and best practices for them. How do you manage all of the information for your sales? You will explore Customer Relationship Systems (or CRMs), how they help with your sales process, and how best to select and manage one for your needs. Finally, you will delve into how to compensate your sales team, what the roles and responsibilities of the sales team are, and how to keep them motivated.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB505 - Marketing (0 Credits)**

In any organization, sales and marketing go hand in hand. Like sales, unless you are well versed in the marketing field, it can feel foreign to you. At some point in your career, you may be asked to provide input for your organization's marketing efforts. While just about anyone can give feedback, knowing the core concepts that go into marketing can help your input be more effective and comprehensive. In this course, you will explore the relationship between an organization's brand and the value of the products it offers. You will examine the product's lifecycle and the importance of market research. You will identify the roles within marketing teams and how these can vary based on the size and age of an organization (startup vs. established). From there, you will dive into identifying your customer base and crafting your marketing message. Once you are ready to go to market with your product, you need to develop your go-to-market strategy and determine how to reach your target customers. When going to market, it is important to consider your product's pricing by exploring the various revenue models and different pricing tactics to identify which models help you reach your product goals. How will you monitor the performance of your product once it is on the market? That is where Key Performance Indicators (or KPIs) come into play. You will explore their importance and how best to use the information gathered from them.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB506 - Strategy (0 Credits)**

When researching an organization as a whole, one of the aspects to look at is how well the organization is positioned in the competitive environment. How can you participate in the discussions about the company's future trajectory and the objectives of the company? This course will give you the foundational knowledge to be able to meaningfully participate in conversations about an organization's strategy. Using the Porter's Five Forces framework, you will evaluate what happens when a new product enters the market and determine its threat level. Next, you will focus on the specifics of the technology industry and how innovation plays an important part in the strategy a tech company designs. Building from here, you will discover the opportunities that exist for new innovative approaches in your industry and how to capture the value of innovation. Finally, you will discover the aspects of different business models and how many facets of the business play a role into developing the model for your business.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB507 - Legal (0 Credits)**

It is important to be aware of and understand the legal components that impact organizations and know when to leverage legal counsel. This is especially true for technology companies related to employees, contractors, corporate inventions, intellectual property, and the different corporate entities and their corresponding governance. In this course, you will evaluate the different methods to protect intellectual property, patents, copyrights, and trademarks. You will also look at the principles of contracts between corporations, employees, subcontractors, and the different legal considerations corporations take into account for their employees. While this deep dive into the legal aspects of employment will not replace your need for legal counsel, it will prepare you for those conversations and make you aware of legal considerations when negotiating with workers. Finally, you will identify the different corporate entities and the corresponding governance that goes with each.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB511 - Designing Digital and Data-Driven Business Operations (0 Credits)**

For a modern business to stay competitive, they must digitize business operations then harness the power of that gathered data. In this foundational course, you will explore the required elements of digital operations by analyzing examples from the manufacturing, service, and retail industries. The key question that you will explore is: How can you improve an organization's capability to be data driven in its operations? You will determine how digitization affects operations and apply a process-based approach for designing digital operations for a case study. By the end of the course, you will have discovered proven ways to gather, evaluate, and utilize data to improve a company's operations and overall performance.

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB512 - Exploring the Fundamentals of Forecasting Demand (0 Credits)**

Accurate forecasting or predictive analytics is an essential component of digital and data-driven businesses. The digital transformation of a company will require forecasting variables such as the time duration required to complete a customer order or verification and the total volume of demand expected in the future. Accurate forecasting requires imagination and creativity to complement models, data, and good processes. In this course, you will practice and develop skills in demand forecasting so that you can tackle forecasting tasks in complex time-series data sets that include seasonality and trends as well as causal or regression-based forecasting methods for other types of data sets. The following course is required to be completed before taking this course: Designing Digital and Data-Driven Business Operations

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB513 - Designing Experiments in Retail and Online Businesses (0 Credits)**

Market experiments are an important way companies can test new products, examine pricing options, and continue to be industry leaders through innovation. Today, experimentation has become even more important because the use of algorithms and AI in businesses implies that companies can make faster decisions at a fine granularity and vast scale; e.g., by customizing product offerings for each geography or changing prices many times a day. It is not possible for human beings to manage, validate, and improve decision making at such a scale without using experiments. Ultimately, experiments help companies make decisions about what is working, what isn't working, and what could work in the marketplace. In this course, you will explore the types and uses of experiments, design experiments, analyze experiment results, and apply techniques to ensure your firm's experiments produce reliable results. The following courses are required to be completed before taking this course: Designing Digital and Data-Driven Business Operations Exploring the Fundamentals of Forecasting Demand

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB514 - Optimizing Decisions Using Demand Forecasts (0 Credits)**

By utilizing data, machine learning, and various regression models, predictive analytics helps companies forecast demand, evaluate the effect of pricing strategies, anticipate customer purchasing decisions, and the like. In essence and as the name suggests predictive analytics helps organizations predict future outcomes. Prescriptive analytics then goes one step further by using these predictive models along with decision rules and desired objective functions to make the best possible dynamic, automated decisions. Some examples include personalized advertising, online recommendation systems, surge pricing, promotional decisions, and stocking and fulfillment choices. In this course, you will examine the foundational elements of prescriptive analytics, including how to use forecasts as input to build models for dynamic and automated decision making. You will then further analyze these concepts to ensure that these decisions align with and contribute positively to business goals and performance objectives. The following courses are required to be completed before taking this course: Designing Digital and Data-Driven Business Operations Exploring the Fundamentals of Forecasting Demand Designing Experiments in Retail and Online Businesses

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB515 - Marketplaces and Emerging Technologies (0 Credits)**

Harnessing technologies as they emerge can lead to improvements but only if implemented effectively. Accurate measurements and careful analysis are necessary components of strategic managerial decision making. In this course, you will explore the dimensions of marketplaces and the ways they differ from offering products. You will examine the importance of network externality and the methodology to measure it. With an accurate measurement, you can make decisions about augmenting positive externality and determining an effective pricing strategy. You will also analyze matching supply to demand and make strategic decisions for improvements. Furthermore, you will explore the front-end technologies companies utilize to monitor, gather, and examine customer data, enabling them to enhance business-customer engagement and boost customer fulfillment. The following courses are required to be completed before taking this course: Designing Digital and Data-Driven Business Operations Exploring the Fundamentals of Forecasting Demand Designing Experiments in Retail and Online Businesses Optimizing Decisions Using Demand Forecasts

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB516 - Linking Digital Operations With Financial Performance (0 Credits)**

The financial performance metrics of businesses vary based on their industry and strategy. To effectively manage a business, it's important for analytics professionals and leaders to recognize these differences and influence the company's performance accordingly. In this course, you will consider the effects of experimentation, forecasting, and optimization on financial performance. This entails understanding which financial performance metrics are affected by which aspect of operations, computing and interpreting those performance metrics, and building models to develop performance benchmarks. The following courses are required to be completed before taking this course: Designing Digital and Data-Driven Business Operations Exploring the Fundamentals of Forecasting Demand Designing Experiments in Retail and Online Businesses Optimizing Decisions Using Demand Forecasts Marketplaces and Emerging Technologies

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB521 - Family Business Leadership Fundamentals (0 Credits)**
Leading family businesses requires unique perspectives and strategies to help you thrive. By gaining insights into the particular challenges that family-owned businesses face, you can prepare yourself and your business for difficulties and reach your goals. In this course, you will analyze how family, business, and ownership overlap to identify where confusion or tension may arise among these groups. You will also create a family diagram and use it to understand more about how patterns emerge across generations. You will then prepare to have a conversation with a family member about the family history to which you are not privy. Finally, you will assess what governance looks like in a family business, drafting recommendations for improvements to governance systems. By the end of the course, you will have fundamental analysis tools specific to the family-business context to support you toward success.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB522 - Managing Family Relationships (0 Credits)**
Family businesses are complex systems of personal and professional relationships. In this course, you will assess the emotional and habitual patterns that underwrite your familial and business relationships. Through stories and examples, you will explore the value gained from bringing emotional maturity into interpersonal relationships, both at work and at home. You will explore the qualities and actions expressed by emotionally mature people. With this foundation, you will discuss important skills, such as recognizing the common ways that people avoid accountability, shifting your focus to become more self-responsible and having an honest conversation about a problem before jumping to judgment. You will also examine a relationship triangle from different perspectives and assess your impulse to solve problems when they are brought to you by another person. Finally, you will arrange to have a personal interview with someone in your family with whom you want to develop a deeper relationship then reflect on that experience. By the end of the course, you will better understand emotional maturity and be able to apply new strategies for success in your relationships with others.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB523 - Stewarding Family Wealth and Values (0 Credits)**
Encouraging a shared sense of belonging can help sustain both a family business and the family itself across generations. Families can bolster these efforts by identifying and strengthening areas of shared purpose and values in particular. The more a family can operate collectively and feel like they are contributing to a shared dream, the lighter the burden of stewardship and leadership becomes, thus improving the chance to thrive together. In this course, you will experiment with different ways of incorporating creativity, curiosity, and play into everything from everyday interactions to family council meetings and board meetings. You will consider how your personal values inspire your actions and decisions, exploring how these values can support or undermine family relationships and governance mechanics. You will experiment with different communication methods to find the right fit for you and your family. Using the tools you choose, you will create a personal values statement and a shared values statement with another person or group. Finally, you will develop an action plan to help your family overcome challenges and meet its goals. By the end of the course, you will have experience with strategies to support your business, helping you foster greater connectivity, belonging, and trust in your family system.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB524 - Implementing Family Governance Systems (0 Credits)**
The relationship between family governance and business governance can get complicated in family businesses. The family businesses that operate at an optimal level are typically the most cohesive, enjoy a high degree of trust between members, and are not afraid to tell the truth to one another. How can you build these systems into your business? In this course, you will be introduced to ways to optimize your family business governance. You will analyze your family's mechanisms for holding people accountable, addressing risk, and setting expectations. As you explore boundary setting, you will assess your business's process for addressing risk and boundary management. You will also design an action plan to address misalignment among family values, goals, levels of maturity, and business practices. Finally, you will identify where your board of directors, or another leadership group, could be more effective then create an action plan to move it closer to its ideal state of functioning. By the end of the course, you will have experience with a variety of strategies that will enable you to better support healthy interaction between the family and the business, ultimately setting the business up for success for generations to come.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB529 - Sustainable Tourism Destination Management (0 Credits)**
This course aims to train global hospitality and tourism professionals in using sustainable practices across all areas of the tourism industry. Throughout the course, you will be introduced to innovative, data-driven methods for destination management, delivered by over 20 world-renowned experts in the field. You will begin by identifying the different components that make up the global tourism industry and examine the effects each of these components has on a destination's social, cultural, and environmental well-being. You will then acquire the tools needed to manage your destination sustainably by designing a climate action plan, documenting and accommodating natural capital needs, improving land-use planning, engaging with local communities, and managing public-private partnerships. Ultimately, you will be able to contribute to the economic development of a destination while also protecting its health.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB531 - Process Performance (0 Credits)**
Most organizations, whether for profit or nonprofit, seek to optimize efficiencies and maximize the use of their resources. In operations management, one key responsibility is to regularly assess the processes within the work system to ensure resources are appropriately used and aligned to best achieve the goals of the organization. In this course, you will consider how to analyze an operational process with the purpose of determining its current capacity and potential improvement opportunities. You will start by defining a process graphically then assess the capacities of the resources within it along with the process as a whole. The course culminates with identifying and evaluating different options to improve performance. Along the way, you will create a decision support tool in Microsoft Excel, applying the course concepts to your tangible skills for your work and beyond.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB532 - Queueing Analysis (0 Credits)**
Minimizing wait time is often considered a critical element in maximizing customer satisfaction. Yet managing wait time can be especially difficult in some processes because there can be significant variability in arrival and processing times. A well-designed queueing system can help manage wait time and customer satisfaction, even in situations of high variability. In this course, you will discover how queueing can be managed effectively through the use of various tools. You will have opportunities to explore, develop, and utilize decision support tools as you consider the customer experience beyond wait times. By the end of this course, you will have broader perspectives on customer satisfaction and the tools needed to understand and affect it.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB533 - Inventory Management Analysis (0 Credits)**
Strong operational performance depends on shrewd inventory management decisions, and there are several individual considerations that go into selecting and implementing an overall plan that will work for an organization. In this course, you will explore two classic models for managing inventory and consider how choosing the appropriate model can vary depending on the goals and needs of the organization. You will apply your understanding of these concepts to build a decision-making tool and apply it to real-world business decisions.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB534 - Decision Support Models for Operations (0 Credits)**
Decision making is an indispensable professional skill for those working in an operations management setting. In this course, you will explore three different tools that aid in the development and implementation of this key skill. You will examine each method and see how each is meant to be used in resolving decision problems related to production, inventory, and risk. By the end of this course, you will have gained applicable skills that support your operations management work across any industry.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB541 - Leveraging Customers for Growth (0 Credits)**
The increasing availability and granularity of customer data in the modern age has forced a shift in focus toward customers as the most critical unit of analysis in business strategy. While this makes sense, as customers are the true source of revenue for any business, it requires that a number of additional factors are quantified, managed, and leveraged effectively for that strategic shift to be successful. In this course, you will explore customer lifetime value (CLV) as an objective metric with which customers can be managed more effectively, evaluating the ways in which it can be quantified and improved. You will go from learning what a customer is and performing the calculations necessary to quantify their value from an organization's perspective to determining how the various levers contributing to that value can be managed for a real-world business in the course project. Along the way, you will review some of the challenges and limitations of this approach, finding ways to facilitate the management and allocation of resources such that business success can be achieved.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB542 - A/B Testing and Analytics (0 Credits)**
Evolution of the consumer market is an ongoing and inevitable process, driven to new heights in recent decades by the strategic shift in focus toward customers as the most critical unit of analysis. To spur innovation and growth in this increasingly tumultuous environment, a test-and-learn culture must be fostered to understand customers and harness the power of new ideas. In this course, you will explore testing as a means of adapting to that evolution, analyzing and leveraging data to inform business and marketing decisions. You will go from learning what testing is and how it can be applied at a basic level to designing and conducting tests in RStudio to understand how to target customers. Along the way, you will evaluate the efficacy of a variety of approaches, finding ways to enhance your analytics and communicate results to better inform business decisions. The following courses are required to be completed before taking this course: Leveraging Customers for Growth
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB543 - Customer Behavior Segmentation Analysis (0 Credits)**
Improvements in marketing practices in recent decades have had a significant impact on productivity, driven by the increasing efficiency and relevance of customer data collection. Leveraging that data effectively, however, requires that marketing efforts are directed only toward those who are likely to respond, rather than casting as wide a net as possible. Yet to target the right customers, you have to know who they are, which requires that customer data is leveraged such that relevant behaviors can be identified, differentiated, and understood at a granular level. Only then can the value they provide be classified and segmented, allowing for productive management of customers based on those characteristics. In this course, you will explore RFM (recency, frequency, and monetary value) analysis as a means to classify customer purchase behavior characteristics indicative of a likely response to marketing efforts. You will go from identifying the implicit purpose and value of RFM metrics and workflow to developing and assessing the performance of response models with respect to profitability. Along the way, you will evaluate the pros and cons of RFM analysis in the real world. The following courses are required to be completed before taking this course: Leveraging Customers for Growth A/B Testing and Analytics
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB544 - Predicting Customer Response (0 Credits)**
The success of any targeting strategy is dependent on the validity of the models used to select customers, which requires that value distinctions are optimized within the constraints of a marketing budget. While there are a variety of methods available to identify and assess likely drivers of customer response, their ability to differentiate and approximate relative influence on purchase behavior can be limited in scope. In this course, you will explore logistic regression as a means to enhance the predictive specificity and granularity of response likelihood, estimating and iterating on logistic models to maximize expected profitability. You will go from identifying and leveraging categorical response data common to real-world business interactions to evaluating the probabilistic relevance of associated predictor variables to optimize customer selection for targeting. Along the way, you will compare the relative efficacy of a variety of approaches in their ability to improve return on investment, recognizing the potential implications of those differences with regard to marketing success. The following courses are required to be completed before taking this course: Leveraging Customers for Growth A/B Testing and Analytics Customer Behavior Segmentation Analysis
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB545 - Driving Growth Through Customer Centricity (0 Credits)**
While the centricity of business strategy may ebb and flow with time, the rapid escalation of data availability in recent decades has driven a shift in focus toward customers that is likely permanent. Success in the current environment is increasingly dependent on the strategic and contextual relevance of customer management strategies, both of which depend on a highly granular characterization and utilization of customer value. In this course, you will explore customer centricity from a holistic perspective, reviewing and aligning various strategies to consolidate your approach to customer management. You will go from identifying and contextualizing value derivation as it pertains to customer portfolios to developing and applying a comprehensive framework to efficiently diagnose, predict, and resolve potential obstacles to customer lifetime value for a real-world business in the course project. Along the way, you will review tactics for the acquisition, retention, and development of customers, aligning their deployment with value considerations and predictions to achieve overarching business goals and drive profitable growth. The following courses are required to be completed before taking this course: Leveraging Customers for Growth A/B Testing and Analytics Customer Behavior Segmentation Analysis Predicting Customer Response
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB551 - Forecasting Supply Chain Demand (0 Credits)**
Supply chain analytics are everywhere. Consider the similarities between a grocery list and a demand forecast: Before going to the store, you note which groceries you already have in your home. Next, you think about how much of each item you used in the past. Based on this information, you can predict how much of each item you need to purchase. In this micro example, you are acting as a supply chain analyst. As you look at the implications of a larger-scale supply chain analysis, you'll grasp the complexity that organizations face in making accurate demand forecasts. When grocery shopping, if you make mistakes, you can just go on another trip and correct the purchase. In business situations, however, a mistake could mean a significant loss. In this case, you want to make decisions in a scientific and proven way. In this course, you will measure performance based on an existing dataset. You will then determine the best forecasting method based on the given data. Finally, you will expand the application of this data by calculating a forecast for future demand and considering holistic approaches for mitigating risk, applying practical skills to incorporate into your future work with supply chain analytics.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB552 - Optimizing Inventory Management (0 Credits)**
Inventory is everywhere; you can find inventory in your refrigerator, pantry, and on the shelves of grocery stores. Yet there's also more "invisible" inventory in delivery trucks, shipping containers, and distribution centers. Managing inventory along the supply chain can be complicated. For businesses, keeping the right amount of inventory in supply chains is critical for maximizing profit. In this course, you will discover how to determine the optimal inventory level for a supply chain location. First, you will explore the trade-off between inventory and customer service. You will then examine how to assess the cost performance of a single supply chain location and the trade-off between inventory holding and shipping costs. You will also determine the cost performance of a network of supply chain locations. Finally, you will discuss improving the supply chain cost performance by inventory pooling. The following course is required to be completed before taking this course: Forecasting Supply Chain Demand
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB553 - Optimizing Production Capacity Allocation (0 Credits)**
For products with a short life cycle including items like fresh food, fashion, and even high-tech products supply chain managers often have to make a one-shot decision for production quantity to meet the demand over the entire selling season, which could vary from a day to a few months. In this course, you will examine how to determine the optimal production quantity for products with a short life cycle, assuming there is no resource capacity constraint. You will then explore how to optimally allocate the production capacity among multiple items when there is a limited resource capacity available. You will also discover how to determine the optimal production sequence if more accurate demand information can be obtained at a later time. Finally, you will discuss how to improve supply chain efficiency through various operations strategies, adding to your toolkit of practical knowledge for your organization and beyond. The following courses are required to be completed before taking this course: Forecasting Supply Chain Demand Optimizing Inventory Management
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB554 - Supply Chain Finance, Coordination, and Sustainability (0 Credits)**
Supply chain analytics goes beyond managing the flow of information and products along the supply chain; it's also about managing the cash flow, people, and ecosystem along the supply chain. This approach to management is known as the profit, people, and planet triple bottom line. Supply chain cash flow, or profit, concerns payments and trade financing between supply chain parties. The people element of supply chains concerns managing relationships with your customers and suppliers. Finally, the ecosystem, or planet, element of supply chains concerns the environment where the supply chain operates. You therefore need to be aware of your competition, government regulations, and your supply chain's social and environmental impact in order to properly balance all three and gain a competitive advantage. In this course, you will explore how to measure and improve supply chain cash flow efficiency. You'll also discover design strategies to achieve coordination with your partners and achieve sustainability in the supply chain. The following courses are required to be completed before taking this course: Forecasting Supply Chain Demand Optimizing Inventory Management Optimizing Production Capacity Allocation
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB561 - Exploring Data (0 Credits)**
Databases are a requirement for virtually all organizations as a way of storing information digitally, with SQL employed as the main programming language to communicate with and manipulate those databases. In this course, you will discover how datasets can be explored and manipulated using SQL. You will go from exploring what SQL is and writing your first query to understanding how to produce categorically targeted summary statistics from a large database. Along the way, you will explore a large dataset, filter and group data based on categorical and conditional preferences, and order that data, thereby yielding valuable insights and exemplifying best practices to bring back to your role.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB562 - Integrating Data From Multiple Tables (0 Credits)**
Many different business applications rely on SQL as a backend process to communicate with and manipulate databases, which provides the information and statistics required for related business operations. In this course, you will practice integrating and analyzing data from multiple tables. You will discover how to fully utilize the structure of relational databases and apply that knowledge to understand how highly complex business questions are answered. Along the way, you will identify how to systematically approach queries using an assortment of new clauses, thereby expanding your problem-solving capacity and ability to deliver varied outputs of your own choosing.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB563 - Extracting Insights From Data (0 Credits)**
The degree to which business decisions are informed is dependent on the accuracy of related analytics reports, which requires that you assess performance regularly using the latest data. Standardized SQL code is often implemented to ensure that summary reports are up to date for businesses, but this process can be a challenge for teams. Instead, in this course, you will assess how to extract insights from data more efficiently using a variety of new tools. You will work with time-stamped data and explore how large, intricate queries can be simplified and more easily debugged. Along the way, you will discover how to approach queries using conditional logic and temporary tables, empowering you to resolve complex problems efficiently.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB564 - Fundamentals of Database Design (0 Credits)**
In this digital landscape, SQL and relational databases form the backbone of virtually all critical infrastructure in the United States. The organization and security of those databases, however, is dependent on the manner of their construction, which determines how data is accessed and protected. Your team's ability to construct and manage a database effectively is therefore critical. In this course, you will approach database design from a perspective focused on data security and integrity. You will go from learning how to approach general security to understanding how to properly execute modifications so that data integrity is preserved. Along the way, you will discover how to systematically design, build, and manage databases while prioritizing data integrity and security, which will maximize their utility for your organization.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB565 - Introduction to Scalability and Automation (0 Credits)**
To make informed business decisions, modern organizations need data to be effectively integrated, manipulated, and analyzed on a colossal scale. While SQL is a relevant piece of this process, there are a variety of other tools that can be used to make that data actionable. Your ability to manage large datasets effectively may therefore require the incorporation of additional programming languages and platforms to provide specific analytics. In this course, you will examine how to approach large datasets accurately and efficiently with a focus on scalability and automation. You will go from identifying how to efficiently manipulate and analyze large datasets to understanding how SQL relates to the infrastructure underlying all modern web services. Along the way, you will work with more complex joins, discover how to systematically debug, and understand how SQL can be integrated with other programming languages, supporting your skills in this crucial area of digital business operations.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB571 - Data Analysis and Probability (0 Credits)**
Much of business involves translating data into insights that others can grasp and act on. To do this effectively, you need to excel in the art of presenting data-based insights in a clear, accessible way. In this course, you will build a solid foundation in basic statistical concepts. You will discover how to model unpredictable events and incorporate them into your decision-making processes. You will also interpret the importance of random events. Finally, you will develop effective graphs and learn to model a decision or process, helping you make sound decisions for your teams.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB572 - Decision Analysis (0 Credits)**
In a business environment, the main objective of gathering information is to harness it for decision making. By integrating data with statistical and probabilistic principles, you can make decisions that have a higher likelihood of yielding desired outcomes for your team and your organization as a whole. In this course, you will develop skills in decision analysis. You will construct a decision tree, a process that also aids in determining the extent of effort required to collect information. In processes like these, some calculations may be carried out manually, while others can be streamlined with the use of spreadsheet software. You will be guided through both types of solutions, enabling you to select the right tool for each task in your future projects. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB573 - Continuous Distributions (0 Credits)**
When aiming to construct a model, the goal is to strike a balance between accuracy, ease of use, and audience comprehension. Interestingly, numerous phenomena in both the natural and business worlds can be captured using the renowned bell curve. Harnessing the power of the bell curve will set you up for success in your business forecasting efforts. In this course, you'll employ the normal distribution as a new tool to generate more effective forecasts. You will identify cause-and-effect relationships that are relevant to your business decisions.You will also discover how to recognize when the accuracy of this tool falls short of expectations and employ corrective adjustments accordingly. By the end of this course, you will have the necessary skills to apply normal distributions when forecasting for your business. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability Decision Analysis
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB574 - Sampling (0 Credits)**
Businesses rely heavily on data to make informed decisions. Yet data collection comes with its own costs. To optimize this process, it is key to assess how much data you truly need to gather to make precise decisions. In this course, you will apply the science of sampling, using data from a sample of a population to draw conclusions about the entire population. You will identify the appropriate sampling method for a particular scenario and business goal. Once you have this data, you will utilize it to predict outcome probabilities with improved accuracy. Finally, you will also explore the reverse process: understanding how much data collection is required from a set accuracy goal. Both these methodologies hold substantial value in business planning and will set you up for a more optimized approach to data collection for your business. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability Decision Analysis Continuous Distributions
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB575 - Hypothesis Testing (0 Credits)**
Basic statistical tools provide a starting point, but when it comes to tackling complex business scenarios, you often need more. Making informed decisions frequently requires the ability to devise and test hypotheses. In this course, you will practice creating and testing hypotheses. You will examine how to construct a hypothesis that is rigorous and testable and test your hypotheses using different types of statistical data. Combining this skillset with your foundations in statistics and probability, you will enhance your understanding of potential outcomes. By the end of this course, you will be equipped with the skills necessary to back up business decisions with solid mathematical justification and foster improved communication about your decisions and with your stakeholders. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability Decision Analysis Continuous Distributions Sampling
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB576 - Simple Regression (0 Credits)**
By integrating several tools and concepts in applied statistics, you are now ready to make even more precise future predictions. The process of fitting these tools into a model that represents your data accurately is known as regression. Despite the term simple regression model, it can prove to be a formidable tool in business decision making. In this course, you will practice working with regression models. You will discover how to construct a linear model of the relationship between two variables. You will also use a simple regression model to calculate statistics of interest for your business question or hypothesis. Finally, you will make predictions about the future behavior of a system based on the regression model. Since a multitude of situations can be accurately explained and predicted using this type of model, this skillset will set you up for success in your future business analysis efforts. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability Decision Analysis Continuous Distributions Sampling Hypothesis Testing
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB577 - Multiple Regression (0 Credits)**
A simple regression predicts outcomes based on the correlation between two variables; in the real world, however, most decisions are far more complex, often influenced by numerous factors. Multiple regression allows you to consider these additional factors when making decisions. By building on the foundational techniques, you can create a model that more accurately reflects reality, thus enhancing the confidence in your managerial decisions. In this course, you'll discover how to improve a predictive model by incorporating more variables. You will also use a variety of statistical tools to verify the validity of your model. Additionally, since there might be situations where your system doesn't perfectly fit as you factor in more variables, you will examine how to identify such scenarios and compensate for them when constructing your predictive model. As you introduce multiple regression analysis into your skillset, you will gain a more comprehensive approach to the decision-making process, helping you overcome challenges in your business. You are required to have completed the following courses or have equivalent experience before taking this course: Data Analysis and Probability Decision Analysis Continuous Distributions Sampling Hypothesis Testing Simple Regression
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB591 - Key Performance Indicators for Marketing (0 Credits)**
In this course, you will explore what marketing entails, the mindset needed for success, and the importance of customer relationships. You will examine the concept of customer lifetime value (CLV) and gain practice calculating CLV and related metrics. You will also be introduced to a marketing framework that provides an approach to product design and marketing to apply in the workplace. Finally, you will apply your knowledge to develop a Go-To-Market Plan, building the skills needed to implement essential marketing concepts.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB592 - The Customer Journey and Segmentation (0 Credits)**
In this course, you will identify the stages of the customer journey and consider the importance of tailoring your promotional and customer support efforts to the needs of customers at each stage. You will also begin to narrow your marketing focus by identifying potential customer segments that represent the best fit for your product. Along the way, you'll calculate what it costs to acquire a customer. You will then apply these skills to further develop a Go-To-Market Plan that describes potential customer segments and their customer journeys. The following course is required to be completed before taking this course: Key Performance Indicators for Marketing
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB593 - Targeting and Positioning (0 Credits)**
In this course, you will select the most promising customer segments to target and position a product in a way that makes it attractive to potential customers. You'll also use the Importance-Performance Model along with other analytical tools to help you choose a target segment. You will discover how to craft a product positioning statement for a Go-To-Market Plan, applying your knowledge for success. The following courses are required to be completed before taking this course: Key Performance Indicators for Marketing The Customer Journey and Segmentation
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB594 - Product Design and Testing (0 Credits)**
Even the best segmentation, targeting, and positioning will be of no use if your team's product isn't well designed and properly tested. In this course, you will consider why products fail and what steps you can take to increase your chances of success. You will explore concept testing and conjoint analysis and apply their results to decisions about product features. You will also be introduced to volumetric forecasting and the process of deciding when a product is ready for launch. Finally, you will craft a concept description of your product, summarize any concept testing, and describe the specific features that you've decided to include in your product, further building on a practical Go-To-Market Plan. The following courses are required to be completed before taking this course: Key Performance Indicators for Marketing The Customer Journey and Segmentation Targeting and Positioning
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB595 - Setting Up Distribution Channels (0 Credits)**
Your product has been designed and you've decided it's ready for the marketplace. How will you get it into the hands of customers? This course addresses key issues associated with distribution channels, including the role of intermediaries and the type of arrangement you will have with them. You will also explore the pros and cons of online vs. offline distribution, the needs of customers as related to how you market and sell your product, and several ways in which profit margins are affected by channel decisions. To apply these skills, you will help to identify appropriate distribution channels and create a distribution plan for your product as you continue progressing your example Go-To-Market Plan. The following courses are required to be completed before taking this course: Key Performance Indicators for Marketing The Customer Journey and Segmentation Targeting and Positioning Product Design and Testing
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB596 - Establishing Effective Pricing (0 Credits)**
Your financial reward from hard work on designing a product and setting up distribution channels comes when customers make a purchase and hand over money. Setting prices that are right for your customers as well as your company is therefore a critical element of your strategy. In this course, you will explore several pricing models and discover what it takes to establish pricing levels that result in sales and enable your company to succeed. Working with your team, you will help to determine an appropriate pricing structure for your product and add a description of it to your group's Go-To-Market Plan. The following courses are required to be completed before taking this course: Key Performance Indicators for Marketing The Customer Journey and Segmentation Targeting and Positioning Product Design and Testing Setting Up Distribution Channels
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB597 - Promotion and Attribution Strategy (0 Credits)**
If you build it, they actually might not come you need to promote your product in effective ways. In this course, you will explore various promotional tools that can be used to guide customers along their multi-stage decision journeys. You will also consider methods you can use to measure and analyze the effectiveness of your promotional activities. To gain practical insights into this process, you will craft a promotion plan for your product and add it to your example Go-To-Market Plan, setting your product up for success in the market. The following courses are required to be completed before taking this course: Key Performance Indicators for Marketing The Customer Journey and Segmentation Targeting and Positioning Product Design and Testing Setting Up Distribution Channels Establishing Effective Pricing
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB621 - Customer Preference Analysis (0 Credits)**
Designing and introducing new products or services to the market is a risky business; it is important to understand that most new products will fail. At the same time, this process is the lifeblood of many businesses. So how can that risk be mitigated to gain competitive advantage? In this course, you will discover how to design a conjoint study and quantify the value that consumers place on product attributes and their levels. This customer preference data can give you an edge when it comes to designing, positioning, and pricing new products or services. You are required to have completed the following course or have equivalent experience before taking this course: Exploring Data Sets With R
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB622 - Marketing Mix Modeling (0 Credits)**
In this course, you will examine how to use statistics, economics, and econometrics to structure and build marketing mix models using aggregate marketing data. Taking into consideration both controllable and uncontrollable factors as predictor variables, you will explore how to explain marketing outputs such as sales volumes. Using this data, you will determine optimal (i.e., profit-maximizing) pricing and then take a step back to analyze the reasonableness of your prices. Finally, you will discover how to account for the persistent effects of marketing within your marketing mix models, which will provide you with a full, accurate picture of how effective your marketing activities truly are. You are required to have completed the following course or have equivalent experience before taking this course: Exploring Data Sets With R
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB623 - Digital Advertising Analytics (0 Credits)**
In this course, you will explore the growth and impact of increasing international and domestic (U.S.) investment in digital advertising. In detailing the two main approaches display and sponsored search advertising you'll understand how most "free" media markets are actually two-sided markets, requiring platforms to satisfy two user groups in order to make a profit. You will become familiar with the critical metrics used to evaluate ad performance as you go hands-on to compute the ROI of various activities based on data provided within a scenario. From here, you will examine the need for multi-touch attribution and become aware of the intricacies of rules-based and data-based attribution. Finally, you will learn about randomized field experiments as a method for evaluating ad performance, as well as the pros and cons inherent in this approach. You are required to have completed the following course or have equivalent experience before taking this course: Exploring Data Sets With R
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB641 - Introduction to AI (0 Credits)**
Artificial intelligence (AI) is a key area of innovation for business and everyday life, and understanding the possible applications of this technology as well as the downstream impacts of these solutions is key to creating a foundation for your work involving AI.In this course, you will be introduced to AI and examine some of the trends, applications, benefits, and risks associated with AI. You will also explore the origins, evolution, and limitations of AI. You will be challenged to provide examples of how AI is being used in your work environment, in your personal life, and in society at large, noting potential impacts and risks of AI across these areas. You will also unpack some of the social and ethical implications surrounding the use of AI to help solve everyday problems. Finally, you will discover how to examine potential AI applications and identify the critical drivers supporting an AI solution. By the end of this course, you will be set up with the foundational knowledge you need to better understand AI applications and their impact on the world today.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB642 - Knowledge-Based AI Technologies (0 Credits)**
Since the inception of the artificial intelligence (AI) field more than a half-century ago, researchers have devoted considerable time and energy to studying, collecting, and applying human knowledge. To understand your place in this work, it is crucial to explore these concepts yourself. In this course, you will carefully examine knowledge-based AI technologies and discover how to apply them to common tasks in your personal life as well as your own organization's systems and processes. You will compare and contrast human and artificial intelligence and consider shifts in the field of AI related to human intelligence and rationality. You will also determine how intelligence can be modeled by using intelligent search algorithms and investigate why search alone cannot work for AI agents. You will then explore the importance and application of knowledge-based systems in conversational applications such as Siri and Alexa, customer service and advisory tools in university settings, and chatbots in consumer purchasing. In addition, you will highlight the remarkable progress of conversational AI systems in recent years and how it helps improve the effectiveness of businesses and organizations across many sectors. By the end of this course, you will understand the vital importance of knowledge-based AI technologies to society and business in the modern era.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB643 - Machine Learning and Data-Based Approaches to AI (0 Credits)**
The field of artificial intelligence (AI) has undergone many transformations since its inception in the late 1950s and 1960s. In this century, AI researchers and experts have focused on machine learning approaches, a key application of technology for life today. In this course, you will review the key dimensions of machine learning and examine some of the major types of machine learning. You will investigate why machine learning is important and explore when machine learning works, when it does not, and what kinds of challenges you may face in implementing it. You will also identify ways in which machine learning is being used to address challenges and solve problems in both your personal and professional lives. By discovering the fundamentals of neural networks, including their strengths and limitations, you will examine how neural networks and supervised learning work. Finally, you will delve into advanced machine learning topics, including deep fakes, generative adversarial networks (GANs), reinforcement learning, and dealing with complex worlds, all providing you with valuable perspective on many key technologies impacting society today.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB644 - Strategic Implementation of AI Systems (0 Credits)**
It can be tempting for organizations to be impressed and awed by the sheer power and capability of advanced artificial intelligence (AI) systems. Indeed, AI has the potential to deliver a great many advantages, but organizations must evaluate and deploy these systems thoughtfully and strategically. That is the central focus of this course: Examine ways to implement AI systems that complement the organization's overall mission, vision, and strategy. In this course, you will gain new perspectives on AI systems and evaluate different ways that AI can be applied in organizations. You will begin to understand that the complexities of implementing AI systems are quite different from those of traditional software systems. You will explore an AI strategy model that organizations can use to identify, comprehend, and manage the different aspects of implementing AI systems. More specifically, you will identify how essential data governance is to the successful deployment of AI systems within organizations. You will also examine how to build people-centered AI systems to help foster creativity and growth. Finally, you will investigate how to build trust in AI systems and reduce biases that can infiltrate even the most sophisticated systems.
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB645 - Societal Impacts of AI (0 Credits)**

The broad adoption of artificial intelligence (AI) in business, government, and society has ushered in serious new questions that impact core human beliefs and values. Today, AI technologies possess the power to do a lot of good in society, but they can also generate deep fakes, misinformation, and disinformation. These malicious byproducts of AI have the potential to disrupt the fundamental tenets of democracy and call into question whether this form of government can function properly in society. How can we come to understand these AI technologies and their broad impacts? In this course, you will scrutinize the societal implications of AI in areas such as jobs, privacy, ethics, morality, and regulations. Through a series of videos, activities, and course project assignments, you will investigate examples of how AI impacts human rights, values, and beliefs. In addition, you will have an opportunity to analyze the effects of AI on human autonomy and safety and begin to evaluate how AI can influence democracy and freedom in countries around the world. By the end of this course, you will have carefully investigated the breadth and depth of these impacts on our society today.

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB646 - The Future of AI (0 Credits)**

The broad adoption of artificial intelligence (AI) in business, government, and society has ushered in serious new questions that impact core human beliefs and values. Today, AI technologies possess the power to do a lot of good in society, but they can also generate deep fakes, misinformation, and disinformation. These malicious byproducts of AI have the potential to disrupt the fundamental tenets of democracy and call into question whether this form of government can function properly in society. How can we come to understand these AI technologies and their broad impacts? In this course, you will scrutinize the societal implications of AI in areas such as jobs, privacy, ethics, morality, and regulations. Through a series of videos, activities, and course project assignments, you will investigate examples of how AI impacts human rights, values, and beliefs. In addition, you will have an opportunity to analyze the effects of AI on human autonomy and safety and begin to evaluate how AI can influence democracy and freedom in countries around the world. By the end of this course, you will have carefully investigated the breadth and depth of these impacts on our society today.

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB651 - Introduction to Behavioral Science (0 Credits)**

In the last few decades, scientists have unearthed new insights about how the human mind works. Nobel Prize winner Daniel Kahneman popularized the dual-process model of human decision-making, which suggests that our everyday decisions are guided by two systems: a fast and frugal System 1 and a slow and accurate System 2. Yet marketing managers and market researchers have not fully incorporated these powerful insights into their practice. Many of them still rely on traditional research methods, such as focus groups and surveys. In this course, you will explore how marketing managers and market researchers can benefit from adopting the dual-process model of human decision-making. You will examine when traditional research is appropriate and when other strategies, such as reviewing behavioral data and conducting experiments, are better suited to your needs. You will delve into the psychology of how and why consumers make decisions, particularly when it comes to purchasing behaviors.

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB652 - Drivers of Consumer Behavior: Attention, Emotion, Coherence (0 Credits)**

To be a customer-centric leader, you should be able to predict how your customers will respond to changes in product, price, or promotions. Yet even seasoned managers struggle with this because human behavior is truly complex. In this course, you will be introduced to a novel framework to predict customer behavior: the AEC framework. Customer behavior is largely driven by three factors: attention (what are your customers focusing on while making the decision?), emotion (what is the emotional response to the information?), and coherence (is the information coherent or incoherent?). You will also examine three counterproductive managerial styles which can derail attempts to make the best use of insights gained from consumer behavior. You are required to have completed the following course or have equivalent experience before taking this course: Introduction to Behavioral Science

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB653 - Using Behavioral Science to Influence Customer Behavior Online (0 Credits)**

An online store is a necessity for almost every business. You also want a physical store that attracts customers. Yet even if you offer the same thing online that you sell in a brick-and-mortar store, you need a different approach for your online store. In this course, you will explore two frameworks to help you make the most of your online store. The first framework offers recommendations for bringing more people to your website then turning those visitors into customers. The second framework explores how to use the three key drivers of human behavior attention, emotion, and coherence to improve your online store. By the end of this course, you will have an improved understanding of the behaviors driving the metrics that your teams track to better engage customers online. You are required to have completed the following courses or have equivalent experience before taking this course: Introduction to Behavioral Science Drivers of Consumer Behavior: Attention, Emotion, Coherence

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB654 - Behavioral Science for Innovation (0 Credits)**

As your products move through different product life cycles, you need to tailor your marketing messaging and your strategy. Why does it matter whether your product is the first of its kind in the category or if it's reached the stage of being a "cash cow? In this course, you will assess whether it is always better to be the first one to introduce a new product or idea to the market. Using examples of popular consumer products, you will examine how products diffuse into a market to help you plan your strategy for introducing new products. You will apply insights about consumer behavior tied to the three key drivers to support your predictions of how consumers might adopt your new product. You are required to have completed the following courses or have equivalent experience before taking this course: Introduction to Behavioral Science Drivers of Consumer Behavior: Attention, Emotion, Coherence.

**Instruction Mode:** Taught 100% online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB655 - Behavioral Science for Branding (0 Credits)**
ou've likely wondered whether your brand connects effectively with your customers. You may also be aware of the power that a brand has to shape what people think about a product or a company. In this course, you will explore strategies for how to use the three key drivers of human behavior attention, coherence, and emotion to shape your brand strategy. You'll then examine how several organizations used these key drivers to shape their brand messaging. You'll also discover how people evaluate brands the same way they evaluate people. Finally, you'll access a toolkit to help you develop a brand strategy. You are required to have completed the following courses or have equivalent experience before taking this course: Introduction to Behavioral Science Drivers of Consumer Behavior: Attention, Emotion, Coherence
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB656 - Behavioral Science for Pricing (0 Credits)**
How do you set a price that will earn you a handsome profit but won't turn customers away? In this course, you will examine how an understanding of consumer behavior can help you set the optimal price for a product. You'll explore four behavioral pricing strategies and have a chance to apply them to your products. You'll also consider several real-world examples of how organizations have successfully employed behavioral pricing strategies. You are required to have completed the following courses or have equivalent experience before taking this course: Introduction to Behavioral Science Drivers of Consumer Behavior: Attention, Emotion, Coherence
**Instruction Mode:** Taught 100% online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB661 - Preparing Data for Natural Language Processing (0 Credits)**
n today's fast-paced business world, staying ahead of the competition necessitates swiftly understanding and capitalizing on enormous volumes of data. AI's machine learning algorithms can certainly assist in deciphering that data, but when it comes to text, a different strategy is needed. Text, rich in context and information, needs to be compressed, evaluated, and contextualized differently than numerical data. This is where natural language processing, a fascinating branch of machine learning, comes into play. Businesses are increasingly leveraging NLP to mine insights from unstructured text data. This course invites you to delve into various techniques to obtain, prepare, and refine data for NLP applications. We'll be focusing our efforts on prepping text data for efficient processing by the Latent Dirichlet Allocation (LDA) algorithm. From identifying the types of business text data relevant for investment applications, you'll move on to training and evaluating the LDA model, ensuring the output aligns with the topics present in the data. Along this journey, you'll harness the power of word frequencies in your data to create and visualize topic groupings. By fine-tuning the composition of the input data, you'll be able to optimize the performance of the LDA algorithm. This course provides you with a thorough understanding of how to transform textual data into a format suitable for insightful analysis, ultimately boosting your business decision-making
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB662 - Cleaning Text Data to Optimize Model Performance (0 Credits)**
AI's NLP machine learning algorithms possess an incredible knack for unearthing nonlinear relationships within text data. Yet their success is intimately tied to the quality of the data they're provided. The finesse of text pre-processing lies in refining written text, ensuring all irrelevant or erroneous content is eliminated, leaving only the essence or target meaning of words in your dataset. With a clean, distraction-free dataset, the Latent Dirichlet Allocation (LDA) algorithm can effectively group companies by topics based on similarities in their operational activities. In this course, you'll discover how to meticulously identify and eliminate noisy or irrelevant words in business descriptions words that provide scant context for the LDA algorithm. You'll gauge your success through the enhancement of word frequencies as inputs and model performance as outputs. The journey will take you from addressing punctuation and identifying low/high-frequency words of little relevance to evaluating the cleanliness of the resulting topic groupings via word clouds. As you navigate this course, you'll employ a range of crucial text pre-processing techniques to iteratively refine descriptions, thereby optimizing the LDA model's performance in generating topic groupings that truly reflect the unique industry sectors represented across your business description datasets. This course aims to hone your text pre-processing skills, empowering you to maximize the potential of NLP algorithms in your business decision making. The following course is required to be completed before taking this course: Preparing Data for Natural Language Processing
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB663 - Tuning Your NLP Model for Market Relevance (0 Credits)**
With your text data effectively cleaned and primed for an algorithm, you're now poised to put it into practical use. While you've created Latent Dirichlet Allocation (LDA) models in prior courses, you've done so using default settings, which may not be ideal for the specific data at hand. To fully ready your models for active portfolio management, you need to train and evaluate them against an industry standard. Only with this assurance can you make associations that are relevant within an investment context, enabling you to construct portfolios of companies that align with a desired industry sector or theme. In this course, you'll train a variety of LDA topic models in an iterative process to enhance their performance. You'll evaluate their alignment with widely accepted industry classifications to compile lists of comparable companies relevant to a specific investment theme. The process will range from fine-tuning various hyperparameters to optimize the LDA algorithm's learning curve to calculating distance metrics for comparable companies to ascertain their topic similarity with respect to an investment benchmark. As you progress through the course, you'll conduct an array of comparative analyses to discern the strengths and weaknesses of the LDA approach. Recognizing these aspects is crucial when it comes to the construction and management of investment portfolios. By the end of the course, you'll be adept at training, refining, and applying LDA models, paving the way for smarter, data-driven investment decisions. The following course is required to be completed before taking this course: Preparing Data for Natural Language Processing Cleaning Text Data to Optimize Model Performance
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB664 - Alternative Approaches to Text Data Analysis for Investment (0 Credits)**

The Latent Dirichlet Allocation (LDA) algorithm is undoubtedly a powerful tool for text data analysis. Like any tool, however, it has certain limitations that need to be acknowledged before its application in real-world scenarios. It's therefore beneficial to examine other algorithms to compare their performance and application, helping you choose the most fitting method for your NLP projects. Enter the Doc2Vec algorithm, another frequently used tool for text data analysis. It takes a unique approach by creating numerical vectors that encapsulate the context and relation of words to documents, instead of generating topics based on word frequency. Despite its own limitations, Doc2Vec possesses certain strengths that are extremely relevant to the construction and management of investment portfolios. In this course, we'll explore the Doc2Vec algorithm as an alternative approach to text data analysis. You'll replicate many of the same general operations you performed in previous courses with the LDA algorithm. Your journey will involve training and evaluating an initial Doc2Vec model then crafting your own custom vectors to build lists of comparable companies relevant to specific investment themes. As we delve into the course, you'll introduce additional algorithms as part of your analysis. You'll explore different ways to customize and visualize results, comparing them against an industry standard and real-world investment portfolios. By the end of this course, you will have gained a deep understanding of multiple NLP algorithms, their strengths and weaknesses, and how to make an informed choice for your specific needs in the financial markets. The following course is required to be completed before taking this course: Preparing Data for Natural Language Processing Cleaning Text Data to Optimize Model Performance Tuning your NLP Model for Market Relevance

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB672 - Defining Emerging Markets (0 Credits)**

Emerging markets are changing the face of the global economy, often becoming dominant in technological innovation. In this course, you will explore emerging markets, examining both the high rates of economic growth as well as the risks involved for investors. You will discover how to identify the six key dimensions of risk when doing a business deal or investing in an emerging market. You will then apply this knowledge by weighing those risks differently and balancing them all against the potential benefits of a deal. You will apply concepts through case studies of past deals in emerging markets, preparing you to contribute intelligently to group discussions and successfully complete activities using an effective risk-scoring system. You will evaluate the investment risks in a prospectus for an emerging markets-focused mutual fund. By the end of this course, you will have gained in-depth knowledge of real-world scenarios, highlighting the benefits, challenges, and lessons learned from doing deals in emerging markets.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB673 - The Rise of Emerging Markets and Their Enterprises (0 Credits)**

Emerging markets have caused a major shift in the global economic and geopolitical landscape. The potential for high growth generates significant investment interest in emerging markets. The benefits apply to the foreign investors who provide a much-needed influx of capital as well as the emerging markets as they transition from an agriculture-based economy to a more developed economy based on the production of goods and services. In this course, you will explore the concept of the E20+1 (the top 20 emerging markets and China), discuss these entities, and examine the growth of emerging market multinationals. You will discover the competition they represent for well-established firms in other economies. You will also delve into the particular challenges that emerging markets face as they seek investment. What makes some regions stronger than others for the rise of developing economies? You will examine these factors and identify which countries are moving up the list of the top 20 across the globe. You will discover the drivers of emerging markets, the different ways they compete in a global marketplace, and the ways they use innovation to gain an edge. You are required to have completed the following course or have equivalent experience before taking this course: Defining Emerging Markets

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB674 - Disruptive Innovation From Emerging Markets (0 Credits)**

Developing economies in emerging markets often gain strength through new business enterprises that result from dramatic changes. These changes are examples of disruptive innovation that propel emerging market multinational firms to do business in new ways or create new products and services. In this course, you will examine how disruptive innovation can come in many forms, such as e-commerce. Developing economies often need to find ways not only to grow business enterprises but also to reach customers who need a system of currency that gives them access to purchasing power. You will explore the types of currency emerging markets use and how they aim to expand the reach to new customers. Improving the lives of a nation's people is often a major goal of countries with emerging markets. You will examine how they strive to reach this goal through business development that focuses on environmental, social, and governance priorities. You are required to have completed the following course or have equivalent experience before taking this course: Defining Emerging Markets

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB675 - Innovation and Entrepreneurship in Emerging Markets (0 Credits)**
Innovation is often the path to success for emerging markets. Developing economies can gain an edge over their established counterparts through new discoveries in products, services, and business processes. In this course, you will examine different levels and types of innovation. You will discover the skills teams need to innovate, both incrementally as the business currently operates and disruptively as the industry evolves. What attributes help individuals be more innovative? You will explore how top innovators excel in the discovery process. Protecting these discoveries via options like patents, copyrights, and non-disclosure agreements is critical, so you will examine the various strategies for safeguarding your organization's intellectual property. Lessons learned from this course will help you foster innovation originating in emerging markets, protect your discoveries, and build a more innovative team at your organization. You are required to have completed the following course or have equivalent experience before taking this course: Defining Emerging Markets
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB681 - Improving Governance (0 Credits)**
Organizations are fraught with struggle, often dealing with underperforming employees, disagreements between individuals and departments, unclear chains of responsibility, and general failures to live up to their goals. Fortunately, we all have ready access to a surprising ally to address these challenges: accounting systems. In this course, you will understand the power of accounting to solve a wide range of managerial problems. You will identify the languages of stewardship and governance, examine the principles of moral accounting, refresh your understanding of double-entry bookkeeping, and explore the realities of human nature. Provided deliberation guides will assist you in a step-by-step method to address conflict, redistribute responsibilities, identify problems in governance, and explore causes for unwanted behavior. Finally, you will practice making recommendations for systems to create organizations that are both productive and moral.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB682 - Improving Margins (0 Credits)**
All organizations understand the importance of maximizing revenue while minimizing costs. Yet this goal is only possible if you can accurately determine the margin you can expect on all the outputs you produce. If you're maintaining a factory or office that produces varied goods and services, how much of your overhead should be assigned to each output? What if a single process creates multiple products; how can you really determine the accurate cost of each individual output? In this course, you will be introduced to techniques that tease apart these complicated situations and determine how much value each output is truly delivering for your organization. You'll explore real-world case studies, investigate qualitative margin analysis, and perform simple job cost allocations. With the aid of the uniquely crafted spreadsheets and deliberation guides, you'll practice analyzing financial data and creating recommendations that can ultimately improve your organization's margins. The following course is required to be completed before taking this course: Improving Governance
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB683 - Improving Capacity Investment and Consumption (0 Credits)**
Capacity is the volume of product or service output that an organization can create. While investing in capacity is expensive, once purchased, using it is often much cheaper than it seems. To figure out when to invest in capacity, how to use it, and when to leave it idle, you need an understanding of cost accounting to look behind the numbers reported on financial statements. In this course, you will analyze investment in capacity both quantitatively and qualitatively. You will determine the profitability of investing in new capacity, using existing capacity to take on incremental work, or leaving it idle. Finally, you will apply a significant advance in cost accounting activity-based costing which will help you work with customers and suppliers to create more value with less capacity. Along the way, you will utilize unique deliberation guides and spreadsheets to determine the best ways to improve both capacity investment and use and bring valuable skills back to your organization. The following courses are required to be completed before taking this course: Improving Governance Improving Margins
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB684 - Improving Coordination and Efficiency (0 Credits)**
Every organization seeks to increase efficiency and coordinate activity between individuals and units, but how can you know how your organization is doing on these fronts? What should your efficiency goals be, and how can you tell whether you are meeting them? And what are effective ways to increase cooperation among those who have conflicting interests and priorities? In this course, you will be introduced to various methods that help you understand and improve the efficiency of repetitive processes using both qualitative and quantitative analysis. You'll then examine how to effectively develop a budget and discover how doing so can actually improve coordination within and between units in your organization. Specially designed spreadsheets and deliberation guides will give you hands-on practice with standard costing and budgeting to apply to your organization and beyond. The following courses are required to be completed before taking this course: Improving Governance Improving Margins Improving Capacity Investment and Consumption
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB685 - Improving Direction, Motivation, and Society (0 Credits)**
How can you point people in the direction you want them to go? How can you best motivate them to continue in that direction? How can you prevent employees from gaming or tilting the accountability system to their advantage? How can you make sure they do what's right for society, not just for the organization? In this course, you will distill progress toward organizational goals into a Balanced Scorecard and spell out strategies for keeping on track. First, you will explore one of the contentious topics in management: determining compensation. You will then ask the right questions to figure out if people are gaming or tilting the performance measurement system and identify strategies to limit the damage that can cause. Finally, you will evaluate accounting systems under a new assumption that your client isn't a person, organization, or group of investors, but a society and tackle the tricky moral issues raised by social accounting. Overall, by the end of this course, you will have honed valuable skills and perspectives to apply in your organization. The following courses are required to be completed before taking this course: Improving Governance Improving Margins Improving Capacity Investment and Consumption Improving Coordination and Efficiency
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB686 - Accountability in the Fourth Industrial Revolution (0 Credits)**

Because of incredible advancements in computing, artificial intelligence, robotics, and communication, we are in the midst of a Fourth Industrial Revolution. What new possibilities do these advancements open up? How can you use them to improve organizational design while ensuring all involved are still held accountable based on a good account of their performance? In this course, you will explore a number of these new advances. First, you will examine gamification, which is the application of game design elements and principles to the workplace with the aim of motivating performance. You will reflect on the possibilities and the perils of this approach to improving performance. Next, you will recognize the challenges of holding bots and artificial intelligence accountable for their actions, choices, and speech, and develop approaches to address these challenges. You will then explore outsourcing and remote and distributed workplaces, as well as the accounting possibilities and challenges they present. By the end of this course, you will have a new awareness of some of the key challenges facing the modern workplace. The following courses are required to be completed before taking this course: Improving Governance Improving Margins Improving Capacity Investment and Consumption Improving Coordination and Efficiency Improving Direction, Motivation, and Society

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB701 - Creating Business Value With AI (0 Credits)**

Artificial intelligence (AI) is no longer a futuristic concept; it s a reality that is transforming our world. This course delves into the true essence of AI, cutting through the hype to reveal its practical applications and real-world value. You'll examine AI's role in creating significant business opportunities and discover how to apply a value-driven framework to identify these opportunities. Through interactive exercises and hands-on data analytics, you'll gain the skills to characterize the business potential of AI products.You ll explore the spectrum of AI technologies, from traditional rule-based systems to cutting-edge neural networks and generative AI. You'll focus on practical applications, identifying not only how to leverage AI's power but also how to address its risks and ethical implications. By the end of this course, you'll be able to distinguish between hype and reality, formulate AI product ideas with actionable value, and effectively utilize AI algorithms in product development to drive impactful results.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB702 - Exploring Good Old-Fashioned AI (0 Credits)**

Artificial intelligence (AI) has advanced to simulate human intelligence, enabling computers to perform tasks such as understanding natural language, learning from experience, problem solving, and making decisions. This course introduces you to both traditional and modern AI approaches, starting with Good Old-Fashioned AI (GOFAI), which relies on symbolic logic. You'll discover how to teach computers to make predictions and decisions using machine learning techniques, focusing on practical applications that solve real-world problems and creating business value.Through hands-on exercises, you will design and refine machine learning models, including logistic regression and decision trees. You'll develop the skills to build AI systems that can predict outcomes and improve over time. By the end of this course, you will be able to create AI solutions that effectively leverage data to meet specific business objectives.You are required to have completed the following course or have equivalent experience before taking this course: Creating Business Value With AI

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB703 - Leveraging Data for AI Solutions (0 Credits)**

In the world of artificial intelligence (AI), data is the lifeblood of effective models. The adage "garbage in, garbage out" highlights the necessity of using high-quality data to train AI systems. This course is designed to equip you with the skills to define data requirements and acquire necessary data through web-scraping techniques. You will discover how to categorize and analyze data for relevance and insights, ensuring its quality through meticulous cleaning and preprocessing.You will examine various aspects of data preparation, including handling missing values, identifying and addressing outliers, and ensuring data consistency. The course also covers the critical issues of data bias, privacy, and ethical considerations, providing strategies to mitigate these challenges. You will explore how to build resilient AI models and understand the influence of data on different features of a business model. By the end of this course, you will be able to leverage data for strategic competitive advantage and create AI models that drive meaningful business outcomes.You are required to have completed the following courses or have equivalent experience before taking this course: Creating Business Value With AIExploring Good Old-Fashioned AI

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB704 - Expanding AI Power and Value Through Neural Networks (0 Credits)**

Good Old-Fashioned AI (GOFAI) is effective for many tasks but has limitations when dealing with complex data patterns. Neural networks (NN), inspired by the human brain, offer a powerful alternative by learning from data patterns and relationships. This course will introduce you to the foundations and architectures of neural networks, enabling you to train, evaluate, and optimize these models to improve performance. You will explore the impact of data volume and model complexity on predictions, ensuring you select the most suitable NN models for various business scenarios. The course also delves into ethical considerations, such as model bias and data privacy, to ensure responsible AI implementation.By examining real-world applications and engaging in hands-on exercises, you will develop practical skills in configuring neural networks and evaluating their performance. This course will equip you with the knowledge to apply these techniques effectively and create an action plan to address ethical concerns, ensuring your AI projects are both effective and responsible.You are required to have completed the following courses or have equivalent experience before taking this course: Creating Business Value With AIExploring Good Old-Fashioned AILeveraging Data for AI Solutions

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell JCB705 - Innovating With Generative AI (0 Credits)**
Generative AI is revolutionizing how we create and innovate, offering new possibilities for product development and user engagement. This course examines the current uses of generative AI and explores future innovations. You will discover how to leverage generative AI to test and refine your value-creation ideas, considering the sociocultural implications of your product concepts. You will step through the process of using generative AI techniques to bring a specific AI product idea to life, with a strong emphasis on ethical considerations such as model bias and data privacy.Through hands-on exercises and real-world examples, you will foster practical skills in crafting business ideas using generative AI. You will determine how to enhance AI-driven user interfaces and experiences, create effective prompting strategies for AI text generation, and develop strategic plans for ethical AI implementation. By the end of this course, you will be equipped to use generative AI to drive innovation and create value in a responsible and impactful way.You are required to have completed the following courses or have equivalent experience before taking this course: Creating Business Value With AIExploring Good Old-Fashioned AILeveraging Data for AI SolutionsExpanding AI Power and Value Through Neural Networks
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW501 - Embracing the Basics of Business Law (0 Credits)**
Presented by five legal experts with deep knowledge and experience in both academia and the corporate space, this course introduces you to a range of topics that serve as a foundation for dealing with legal matters in business. You begin with a look at the sources of law, the formation of legal arguments and the growing role of regulatory agencies. The course proceeds with a tour of online legal resources, then moves to various kinds of business structures, along with the circumstances under which you might use each. The course ends with a close look at the legal responsibilities that apply to people holding certain positions in business.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW502 - Structuring Business Agreements (0 Credits)**
Contracts are often written by legal professionals, but the best business deals are ones worked out collaboratively by people who know their business operations intimately. This course will help you gain a seat at the negotiating table, familiarizing you with legal terms and concepts involved in business deals. You'll learn how to collaborate with legal counsel and help negotiating parties address information gaps to reach agreement. With content provided by two Cornell Law School professors and two practicing corporate attorneys, this course is rich with practical video content and a course project that's designed to help you apply what you've learned to your own work situation. The course Embracing the Basics of Business Law is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW503 - Exploring Specialty Areas of Business Law (0 Credits)**
Running a business is, in many ways, a legal undertaking in itself. With so many moving parts and ongoing concerns, several areas of law are touched upon while doing business: employment laws and regulations, real property, litigation, business tax planning, and startup financial structuring. While it's important to draw on expert legal counsel when required, it's equally as important to be informed yourself. The more working knowledge you have of these specialty areas of law, the better you'll be able to identify and discuss them and be prepared to face your pressing issues head on. This course is co-authored by by six legal experts, including Cornell Law School professors and practicing attorneys. Through a rich set of animated videos and a course project that ensures application of the concepts to your own work situation, you'll be ready face legal issues that are of particular relevance to your business. The courses Embracing the Basics of Business Law and Structuring Business Agreements for Success are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW504 - Working with Legal Professionals (0 Credits)**
To handle legal matters appropriately, business people need to know how to get good legal advice. This may require finding and retaining a lawyer, or it may involve working with existing in-house counsel. Business people must understand how lawyers approach legal issues and what lawyers need from clients in order to represent them effectively. With content provided by four legal experts, including Cornell Law School professors and practicing attorneys, this course explains how lawyers work, how to establish an effective relationship with both in-house and external counsel, and how to work with legal professionals on business transactions and litigation. A course project guides you in applying these principles of attorney-client collaboration to your own work situation. These courses are required to be completed prior to starting this course: Embracing the Basics of Business Law Structuring Business Agreements for Success Exploring Specialty Areas of Business Law
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW511 - Thinking Like a Lawyer (0 Credits)**
In order to successfully navigate legal issues that arise in your business, you need to familiarize yourself with the way a lawyer would perceive the challenges you might face. This course will introduce you to basic legal language and concepts that will allow you to approach your business conflicts with a legal mind. You will analyze case studies and participate in discussions where you will practice using legal thinking. You will complete a course project where you will have an opportunity to navigate legal ambiguity, find the best way to communicate with legal counsel, and assess the costs and benefits of pursuing a legal option.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW512 - Sources of Law (0 Credits)**
Before you decide to pursue the legal option to resolve your business challenge, it is important to familiarize yourself with the sources and enforcement mechanisms of law that are most likely to affect your situation. In this course, you will explore the specific functions of different bodies of law and discover how to harness them by planning a legal compliance strategy. You will also examine the court structure to help you decide which legal authorities would serve you best in resolving your business conflicts. Finally, you will analyze the risks and strategies for foreign business by taking into consideration foreign legal systems and their unique mechanisms. It is recommended to only take this course if you have completed "Thinking Like a Lawyer" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW513 - Litigation (0 Credits)**
When turning to litigation as a means to resolve business conflicts, you should be aware of the advantages and risks that the litigation process entails. In this course, you will acquire tools that will help you decide whether you should follow the litigative route and examine how to gain the most out of the process. Based on your specific issue, you will discover how to identify the most appropriate court for your litigation process. You will practice how to evaluate the comprehensive cost of litigation and study tactics that help you decide whether to appeal a court decision. In addition, you will explore potential circumstances where litigation is not the most effective option and consider other alternatives. It is recommended to only take this course if you have completed "Thinking Like a Lawyer" and "Sources of Law" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW514 - Limits of Legal Obligations (0 Credits)**
Your business interests might be in conflict with judicial power and regulation. This course will focus on navigating circumstances where the law limits your interests. You will explore ways to apply legal tools to challenge judicial enforcement that limits your interests. You will also identify the best legal forum in which to follow your judicial challenge. You will practice applying constitutional protections against regulations. By the end of this course, you will be able to analyze a case that highlights the economic consequences of limiting freedom of speech. It is recommended to only take this course if you have completed "Thinking Like a Lawyer," "Sources of Law," and "Litigation," or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW515 - Roles and Structures in Corporate Governance (0 Credits)**
If you own a business, have ever thought about starting a business, or have the opportunity to buy into a business in the future, you'll want to understand the personal implications the business structure may have for you.In this course, you will look at how different types of business entities are structured in the U.S.? and examine the pros and cons of business structures for different individuals in different circumstances. You will also do a deep dive into corporations, which are the most common business entities, especially for large and complex businesses. You'll define the limits of the corporate structure by exploring the economic and social purposes of corporations along with what happens if individuals who own or control a corporation abuse their position of power.Whatever your circumstances are, through this study you will be given the tools to understand who the relevant actors are in any business structure, what their rights and responsibilities are, and how you fit in.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW516 - Fiduciary Duties of Directors and Officers (0 Credits)**
Whether you have the opportunity to serve on a corporate board, you're tasked with preparing a presentation to a board and its shareholders, or you own equity and want to understand your rights, it's important for you to recognize how to work within the constraints of corporate laws. In this course, you will look at the framework for decision making within a corporation specifically fiduciary duties, which are the duties that corporate directors and officers owe to the shareholders.You'll also become more familiar with current challenges to the traditional notion that the directors and officers are the agents of the shareholders and only the shareholders, a way of thinking that has resulted in the belief that directors and officers have no duty other than to maximize shareholder profits. In recent years, however, there has been backlash to this concept, leading to widespread recognition that individuals in charge of corporate decision making have some obligation to take into account ethics, the community, and the environmental impact of their actions. You'll examine the implications of this shift and determine how the rules affect you.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW517 - Trade Secrets and Patents (0 Credits)**
The global economy runs on innovation, and the key to that innovation is the ability for people to bring their ideas to life. Intellectual property law is crucial to this process, protecting ideas and encouraging innovation.This course will explore the benefits and risks of both trade secrets and patents. By assessing your business to see how trade secrets and patents affect your team, you will evaluate the qualifications for each type of protection along with ways to ensure you are properly protected. Using your organization as the focus, you will determine best practices as well as the misuses and misappropriation that can affect your work. As you identify ways to keep your patents and trade secrets secure and examine ways they can be compromised, you will gain insights into the legal elements of your organization. By the end of this course, best practices for patent and trade secret security will give you and your organization an advantage in the world of innovation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW518 - Trademarks and Copyrights (0 Credits)**
Having a distinctive symbol, word, or key phrase, like a trademark, helps consumers identify your product and support your growth. In this course, you will assess what makes strong trademarks and the various ways in which they can be violated. You will also explore copyrights, including how they protect creativity in the economy and how these protections have evolved over time. Putting these tools into action, you will review several court cases and participate in hands-on activities to help you assess how trademarks and copyrights work to protect intellectual property. By the end of this course, you will have gained the knowledge and strategies to support your organization's work by successfully and strategically employing trademarks and copyrights.You are required to have completed the following course or have equivalent experience before taking this course:Trade Secrets and Patents
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW521 - Criminal Liability in an Organizational Setting (0 Credits)**

Organizations always seek to avoid and reduce the risk of criminal liability for both individuals within the organization and for the organization as an entity. You will begin this course by identifying the sources of individual and corporate criminal liability in an organizational setting. This will include reviewing the federal criminal process and distinguishing between corporate and personal liability. You will then explore the importance of criminal intentionality, or mental state. You will examine mental state terminology and how it serves to define criminal behavior. Finally, you will discover the importance of having a solid ethics and compliance program by reviewing the elements of a successful compliance program and recognizing the effect it can have on reducing your organization's exposure to criminal liability and lowering fines.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW522 - Facilitating Internal and Grand Jury Investigations (0 Credits)**

In the event that you or others in your organization suspect a crime has been committed, there are a number of steps that can be taken to protect the company as well as procedures that can be adopted to avoid similar issues in the future. You will begin this course by recognizing the function, course, and consequences of an internal investigation. You will review the steps that take place in an internal investigation and prepare what you should do in case you're asked to be investigated. You will then explore what happens when the Department of Justice becomes involved in your investigation through a grand jury. You will choose the best course of action when you first encounter the Department of Justice and gain a clear sense of what a grand jury investigation entails. Finally, you will apply the lessons from this course to evaluate criminal liability in an insider trading case. You will explore the sources of insider trading law and analyze an insider trading case to decide whether criminal actions have taken place.You are required to have completed the following courses or have equivalent experience before taking this course:Criminal Liability in an Organizational Setting
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW523 - Assessing the Regulatory Environment (0 Credits)**

It is important to assess the regulatory environment in which your business operates, including the rules, orders, and guidances that regulatory bodies issue that may affect your industry. In this course, you will be provided with the tools needed to identify regulatory bodies and their activities in your business area. You will examine the processes that regulatory bodies utilize as well as the connections they have to legal systems that affect your business. By understanding the avenues in which regulatory bodies communicate with your industry, you will be poised to support your teams as you stay current with developments affecting your role and beyond.Note: The information provided in this course is for academic purposes and should not be used as a substitute for legal advice.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW524 - Influencing and Challenging Regulation (0 Credits)**

How can you influence regulatory policy in your industry? As you will discover, there are many ways you can support your legal team to impact regulatory policy before it is finalized, providing you and your teams with more flexibility to engage with your work in efficient, purposeful ways.In this course, you will explore strategies for influencing regulatory policy before agencies finalize the policy. Specific strategies will support your learnings, challenging you to apply these perspectives to your specific industry. Additionally, you will evaluate the legal limits of and opportunities in assessing and disputing finalized regulations. As you become familiar with these approaches, you will recognize the benefits of strategically communicating with regulatory officials as well as the possible limits of relying on their advice and guidance. Through this course, you will gain strategies to bring back to your teams, serving you as you engage with regulation at your organization and your industry as a whole.Note: The information provided in this course is for academic purposes and should not be used as a substitute for legal advice.You are required to have completed the following course or have equivalent experience before taking this course:Assessing the Regulatory Environment
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW525 - Rule Systems as Designed Systems (0 Credits)**

In this course, you will examine the function of rules in your daily business operations along with the elements that make an effective rule system. As you explore the ways in which rules can protect your business processes, you'll also discover that they can make your work more efficient. In order to prepare for possible risk, you will examine how rule systems can help you identify sources of risk within your organization and serve as a tool for risk mitigation. By the end of this course, you will recognize the different elements that need to be included in a rule system and feel prepared to create your own.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW526 - Rule Design (0 Credits)**

Effective rule design requires you to follow a number of principles. This course will focus on those principles and guide you through the process of creating rules for your business needs. You will start by exploring the importance of clarity and simplicity in rule design and apply these skills by finding ways to make your rules more accessible and engaging. You will then acquire tools that will help you identify your audience and allow you to design rules that are relevant and clear to them. Finally, as a means of enhancing comprehension and application, you will examine design approaches to make your rules easier to implement using psychology, advertising, and visual principles. The skills you take away from this course will help ensure that you and your team are set up for success.You are required to have completed the following course or have equivalent experience before taking this course:Rule Systems as Designed Systems
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW527 - Rule System Training (0 Credits)**

The value of rules depends on their implementation, and no other effort is as important to rule implementation as training. This course will explore the principles of rule training and provide you with pragmatic tools to introduce new rules into your organization. You will begin by identifying the most important elements for a successful training program, including the cost of training and potential training alternatives. You will then examine specific training modes that will help your audience internalize new rule systems and use them effectively. Finally, you will focus on presentation tactics for effective training. By the end of this course, you will have acquired useful tools and powerful techniques that will support your training efforts and help to successfully implement your rule system.You are required to have completed the following courses or have equivalent experience before taking this course:Rule Systems as Designed Systems Rule Design

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW528 - Policing of Rule Systems (0 Credits)**

The policing of rule systems is almost as important as the rules themselves. This course will focus on selecting and designing effective policing tools to enforce your rule system. You will explore the importance of policing as a means of maintaining your rule system and you will analyze ways to make policing both impactful and sustainable for your organization. Additionally, in preparation for any concerns, you will address the issue of intentional rule breakers whose actions cannot be prevented with standard policing methods. Overall, the information you gain in this course can help assure you and your stakeholders that your rule system is dependable and sustainable for your organization.You are required to have completed the following courses or have equivalent experience before taking this course:Rule Systems as Designed Systems Rule Design Rule System Training

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW529 - Investigation of Rule System Violations (0 Credits)**

Investigating rule violations in your organization is essential to the prevention of future violations. This course focuses on planning and conducting investigations in response to such violations.You will determine the circumstances that necessitate an investigation and the steps required to lead one, including the development of an investigation capacity in your organization. You will then acquire and apply practical tools for effective interviewing an extremely important source of information during an investigation. Finally, best practices for reporting your findings will support you in your compliance process. This includes preparing an effective report, determining its scope, and considering the advantages and disadvantages of publicizing it; all are tangible takeaways to support your organization in high-risk situations.The following course is required to be completed before taking this course:Rule Systems as Designed Systems Additionally, you are required to have completed the following courses or have equivalent experience before taking this course:Rule Design Rule System Training Policing of Rule Systems

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW531 - Foundations of Ethical Reasoning (0 Credits)**

Ethical reasoning can be a pinnacle of decision making in business. In this course, you will survey the role that ethics play in society and gain a foundation for making good ethical decisions. You'll begin by identifying the similarities and differences between ethics and the law and examine myths and misunderstandings about ethics. You'll then investigate the contributions and insights from a number of major Western ethical traditions and use that analysis to inform your own ethical decision-making process. By the end of this course, you will be able to categorize and evaluate various situations and identify the relevant ethical considerations.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW532 - Ethics in Business and Technology (0 Credits)**

With technology playing a significant role in business, it is crucial to understand the ethical implications of the tools we use every day. This course will prepare you to anticipate and identify ethical and legal issues and apply appropriate ethical reasoning. You will begin by examining the objectives of a business or organization to assess how ethics relate to that purpose. By using case studies and real-world examples, you will establish an ethical decision-making framework that can be adapted to your organizational context and applied in your day-to-day work. Considering issues such as privacy, trust, and surveillance in the context of modern technology, you will leave this course with the ability to identify ethical issues and decisions that were made in complex, multifaceted cases.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW533 - Psychology in Business Ethics (0 Credits)**

Business and professional leaders sometimes make bad ethical decisions because personal and psychological factors influence how they perceive and address situations. This course is designed to help you recognize such personal factors and take steps to avoid the dangers associated with them. You will begin by considering implicit bias and other limitations that potentially affect all of us. By examining the hallmarks of ethical decision making, you will craft ways to avoid the psychological tendency to begin condoning a lowering of ethical standards. Finally, you will examine several case studies and draw insights from them that may help avoid ethical mistakes in your own decision making.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW534 - Addressing Dysfunctional Ethical Cultures (0 Credits)**

Social and organizational pressures combined with inherent human tendencies may help create organizational cultures that do not adhere to the ethical standards of society. In this course, you will identify a number of social influences on decision making. You will consider ways that a dysfunctional organizational culture may lead to wrongdoing. By looking into case studies and investigating real-world situations of ethical scandals at major companies, you will develop awareness and acquire guidelines for best practices in complex situations. Finally, you will apply what you have learned by identifying steps you and your organization might take to improve its culture and ensure that organizational decision making is ethical.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW537 - Antitrust and Horizontal Restraints on Trade (0 Credits)**

To understand the import and impact of current regulatory policies, engagement with the founding ones is crucial. In this course, you will gain this strategic perspective, starting with the late 19th century when oil and railroad industries were booming and becoming more powerful as they grew, raising the concern of some lawmakers. As a result, the Sherman Act was drafted and passed to ensure that competition continued to thrive and that no one individual or firm controlled too much of an industry. Later, legislators also added the Clayton Act to guard against mergers that thwart competition. Through this course, you will discover how antitrust law was born with just three simple phrases and begin to understand how it has evolved from those beginnings, affecting the marketplace every day in the 21st century. One major way that firms compete is on price, and you will explore how courts have reacted as some firms got together and agreed on prices instead of competing. You will also examine court decisions on other agreements among competitors in business as well as professional organizations, sports leagues, and institutions of higher education. By the end of this course, you will have gained the necessary perspective on these major events to make informed, strategic decisions for your firm in today's marketplace.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW538 - Monopolies and Mergers (0 Credits)**

In this course, you will focus on Section 2 of the Sherman Act and the Clayton Act, which forbids monopolies and states that mergers are illegal if the effect may be to substantially lessen competition, respectively. These laws don't have strict definitions, so it has been left to courts to interpret. You will walk through a series of court cases to examine what behaviors have come to define monopolistic conduct and how courts, as well as regulators, have tried to determine whether a merger should be prohibited because it will stifle competition. Through this course, you will gain a better understanding of the impact these laws and their interpretations have on the overall marketplace and your organization as you do business in the 21st century. You are required to have completed the following courses or have equivalent experience before taking this course: Overview of Antitrust and Horizontal Restraints on Trade
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW541 - Creating Effective Contracts (0 Credits)**

In today's fast-paced business environment, it is important to know the general legal framework governing contract law and the essential elements necessary to create an enforceable contract. In this course, you will gain the tools you need to navigate legal contracts. You will spend time exploring various bodies of law, breaking down the elements necessary for an enforceable contract and recognizing opportunities to avoid the inadvertent creation of enforceable contractual obligations. Though this course does not teach you how to become a lawyer, it will enable you to become a better "client" to lawyers in your legal department or outside counsel. By the end of this course, you will become more skilled at recognizing possible legal issues at an early stage in order to avoid future contractual disputes.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW542 - Interpreting Contracts (0 Credits)**

How do you ensure a contract says what it means? This course provides tools to make certain that a contract reflects the goals of the parties and minimize the risk that a court will interpret a contract in a manner inconsistent with its intended business objectives. In this course, you will explore how contract disputes arise as well as how and by whom they are resolved an important starting point. You will become familiar with rules of construction that courts use when interpreting contracts and when courts infer terms or fill the gaps in contracts. You'll then redraft ambiguous language to promote clarity. This knowledge will put you in a better position to avoid unintended consequences of contractual provisions and ensure that your contracts reflect the business objectives they're designed to achieve. Creating Effective Contracts is required to be completed prior to starting this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW543 - Managing Risk in Contracts (0 Credits)**

Contracts should reflect business objectives in provisions that are clear, complete, and enforceable. In this course, you will study how various contract concepts relate to each other within a single document and how to approach an agreement with a holistic view. You will explore how contractual provisions can be modified to allocate various risks to one party or another. This is an important skill; after all, which party will bear which risks in a particular transaction are often the most hotly negotiated terms of a deal. You will examine how to use contract provisions to allocate risk and control among parties to a contract. As a result, you will be better equipped to discuss with your legal team how to anticipate risks through an informed use of those provisions in your contracts. Creating Effective Contracts and Interpreting Contracts are required to be completed prior to starting this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW544 - Enforcing Contract Terms (0 Credits)**

During the life of a contract, things don't always go as planned. What happens when one or both parties fail to perform a contractual duty? This course explores various consequences resulting from non-performance of contractual obligations and available legal remedies. You will also review strategies for reducing damages for breach of contract and allocating contractual liabilities. By the end of this course, you will have gained tools to work effectively with your legal team to use contract terms to limit, expand, or modify the remedies for breach of contract that the law would otherwise provide. Creating Effective Contracts, Interpreting Contracts, and Managing Risk in Contracts are required to be completed prior to starting this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW545 - Building Health Care Compliance Programs (0 Credits)**

Working in compliance surrounding health care law, especially in an organizational context, isn't always simple. It involves coordinating many people delegating roles, assigning tasks, and assembling and maintaining different types of expertise. It is necessary to understand multiple and occasionally overlapping systems like federal and state laws, statutes and regulations, and sometimes state or federal constitutional obligations. Most health care organizations have developed entire programs or departments that are focused on compliance, and that will be the focus in this course. Throughout this course, you will explore various laws and regulations that health care organizations are required to follow in order to meet compliance obligations. Since there are many ways you could unintentionally fall out of compliance, you will discover strategies for averting risk by anticipating key areas of concern. By examining the consequences of noncompliance, you will recognize how such violations can be costly. As you uncover seven myths about health care compliance, it will be clear that laws and regulations apply to all organizations. While you are not required to do so, we recommend consulting credible sources that are maintained by professional compliance groups such as the Health Care Compliance Association. Other compliance materials that may be useful are issued by the Department of Justice, the Office of Inspector General within Health and Human Services, and the Centers for Medicare & Medicaid Services. These will complement the materials on compliance and compliance programming covered in this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW546 - Obligations to Patients (0 Credits)**

Healthcare organizations and their compliance departments spend a significant amount of time focusing on interactions with individuals. These diverse groups include everyone from patients to human research participants, along with many others, and these interactions necessitate different types of consent to do things like successfully provide service, obtain and use information, and engage in research activities. Throughout this course, you will explore some of the obligations that apply to healthcare organizations regarding these interactions with individual people. To meet compliance standards, it is critical to keep a patient's health information private. Within the course, you will engage with tools designed to assure the capture of all the elements of a patient's informed consent, including consent to treatment, obtaining and disclosing information, and consent to participate in research. Various types of law apply in this context, including common law as well as federal and state statutes. As you progress, you will develop skills to distinguish among the various types and purposes of patient consent. You will also examine ways to protect this information once it is captured, not only by enforcing HIPAA regulations but by preventing potential exposure like a data breach or cyberattack. Many medical advances have been made through research with human subjects, sometimes at a cost to the patients. You will also examine examples of unethical research and how recent guidelines have been put in place to avoid the misuse of human subjects. You will also discover how such special protections of patients include children. Organizations need to stay abreast of requirements surrounding consent and personal information, particularly as technology and the medium of interaction evolve over time. This course will help you to do just that.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW547 - Federal Requirements for Emergency Room Screening and Stabilization (0 Credits)**

Hospitals in the United States especially private hospitals have an unpleasant history of refusing to treat patients who are perceived as being unable to pay their bills. To address these issues, Congress passed a statute called the Emergency Medical Treatment and Labor Act, or EMTALA. The purpose of the statute is to provide for universal rights regardless of ability to pay or citizenship and to ensure screening for an emergency or labor. As a statutory right, EMTALA acts to reinforce our healthcare system by ensuring critical access to all. In this course, you will explore the duty that healthcare organizations have to screen and treat patients in the emergency room setting. You will examine what constitutes an emergency and what the penalties are for failing to meet EMTALA obligations. There are some instances when it is appropriate to transfer a patient to another healthcare facility; you will explore those requirements as well. You will also discover the infrastructure required to comply with these healthcare obligations and examine the costs of uncompensated care to the healthcare organization as well as the community at large.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW548 - Medical Billing and Contracting Liabilities (0 Credits)**

While healthcare involves a noble mission, it is nonetheless a business, and just like any other business operation, there is a potential for fraud. In this course, you will focus on what are commonly called fraud and abuse laws. You will discover the legal protections for the doctor-patient relationships in state law, such as doctor-patient confidentiality, as well as the doctor's fiduciary duties to the patient. At the federal level, you will examine fraud and abuse statutes that carve out particular types of transactions with profit motives to penalize. These are transactions where providers submit false claims to the government for payment and where providers receive kickbacks in exchange for ordering care or making referrals. As you progress, you will examine the liability your organization can face under the False Claims Act, including medical billing and physician contracting. You will also examine the definition of a kickback and the penalty for receiving one. In addition, you will explore safe harbors that allow practices that could be construed as anti-kickback violations but are protected from penalty because they could benefit a patient's healthcare overall.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW549 - Protecting Patients in Marginalized Groups (0 Credits)**
Federal laws provide protections for patients based on particular characteristics such as disability, race, and sex, among others. These laws grew out of evidence of systemic discriminatory practices by healthcare institutions and, while they don't cover everything, they deter or penalize the most egregious of these discriminatory practices. In this course, you will explore specific federal protections and how they have been strengthened by additional legislation. As you explore discrimination on the basis of disability, you will examine two key federal laws: the Americans with Disabilities Act, which has a wide scope, and the Federal Rehabilitation Act of 1973, which is narrower. Progressing through the course, you will examine discrimination on the basis of race, color, or national origin. You will also discover how Title VI of The Civil Rights Act and Section 1557 of the Affordable Care Act are the principle statutes designed to protect individuals. You will examine the penalties for healthcare practices that discriminate on the basis of sex, including gender identity, as covered under two principal laws: Title IX of the Education Amendments Act and Section 1557 of the Affordable Care Act.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW551 - Privacy Structure and Risk Assessment (0 Credits)**
Business today is conducted in advanced, digitally powered economies touching all regions and people of the world. Markets and businesses are no longer solely defined by what they used to do; they are now defined in part by what they can do and may well be able to do in the future. Digital technology combined with the associated explosive growth in and use of data is the engine of the modern economy, and the fuel for this engine is data. Data may be the most powerful asset a business possesses; it is therefore vitally important to protect this asset. In this course, you will examine the crucial and evolving role of the data privacy professional. You will explore the common structures used to safeguard data and how to respond to privacy incidents. You'll see how the work you do can help your organization be prepared to safeguard data in a dynamic and ever-changing field.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW552 - Privacy Incidents (0 Credits)**
Safeguarding data is one of the most critical duties of any business striving to be successful in the global digital economy. Even with a privacy protection structure in place, there is no guarantee of immunity from a potential breach. In this course, you will explore strategies for effectively responding to data privacy incidents and identify ways to contain the potential damage they can cause. You'll discover how you can help your organization prepare for a risk that is both ever present and continuously evolving. By the end of this course, you will recognize how an investment in preparation can minimize vulnerabilities and even help you to emerge stronger following a privacy incident.You are required to have completed the following course or have equivalent experience before taking this course:Privacy Structure and Risk Assessment
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW553 - Examining Cybersecurity Governance (0 Credits)**
There are federal laws and regulations that govern cybersecurity to ensure the protection of data systems and operations. It can be challenging to determine the specific laws and regulations that apply to your organization.In this course, you will explore an overview of the regulatory framework that includes the laws and regulations designed to provide different industries with the most effective safeguards against cyber threats and attacks. You will discover the benefits as well as the risks of certain security practices. As you delve into the workings of the regulatory framework, you will have an opportunity to engage with your classmates and share your thoughts on whether there needs to be more or better regulatory oversight. You will also consider the insights of a cybersecurity expert on the evolution of increasingly secure methods of protection to minimize attacks or their impact.You are required to have completed the following courses or have equivalent experience before taking this course:Privacy Structure and Risk Assessment Privacy Incidents
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW554 - Business and Cybersecurity in Practice (0 Credits)**
The integrity of data systems and operations is at constant risk from potential vulnerabilities, threats, and attacks. In this course, you will examine how these risks can occur within your organization as well as originate from external sources. You will discover how to anticipate bad actors that threaten your cybersecurity and explore strategies for identifying, reviewing, and implementing best practices to safeguard the security of your operations. You will also hear the insights of a cybersecurity expert who helps organizations adapt their businesses to changing operational needs. This course equips you to anticipate the cybersecurity-related issues, potential business risks, and consequences facing your organization, then manage these issues under the applicable regulatory and policy regimes.You are required to have completed the following courses or have equivalent experience before taking this course:Privacy Structure and Risk Assessment Privacy Incidents Examining Cybersecurity Governance
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW561 - Employment Law in Practice (0 Credits)**
All of us in the workplace are governed by laws, but these laws are rarely taught as part of professional training or covered in any onboarding process. In many cases, we don't know about the laws governing the workplace until something goes wrong. This course provides a foundation for understanding the range, boundaries, and goals of employment law, and offers opportunities for you to apply these concepts to real workplace situations. This course begins with the concept of at-will employment and its exceptions. What are the different categories of workers and which laws apply to each of them? What do you need to know to help steer your organization clear of lawsuits related to employee status and wrongful termination? Because the situations we encounter in life are not always straightforward, this course focuses on cases of complicated but not uncommon employment situations. Through your coursework, you will examine the various and sometimes conflicting goals of employment laws at play in your industry and organization, ranging from protecting the weaker party from exploitation to creating win-win rules for the workplace. By the end of this course, you will have gained a more nuanced awareness of these issues that you can apply to the situations that may arise in your workplace.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW562 - Employee Privacy in the Workplace (0 Credits)**
As an employer, how much control or influence do you have on what your employees say or do at or outside of the workplace? What does it mean to defame someone in the context of the workplace and how can you avoid doing so? And where is the line between an individual employee's rights and the rights of workers to advocate as a group for better employment? Using case studies, this course explores the tension between an employee's rights to privacy and autonomy and the employer's business interests through examination of the legal concept of privacy in the workplace. You will have the opportunity to apply your understanding of this and related concepts to actual cases and compare your assessments with those of the judges. By the end of this course, you will be better able to make informed decisions as you develop and implement appropriate employee privacy policies that fall within the zones of legal discretion available to your organization. It is recommended to only take this course if you have completed Employment Law in Practice or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW563 - Anti-discrimination Principles (0 Credits)**
We like to think that behaving decently at work and respecting others will protect us from discrimination cases in the workplace. To a certain degree, that is true; however, good intentions are not always enough. It's important to be able to recognize the legal underpinnings of anti-discrimination principles, including where these principles come from and how they have been interpreted by the courts. In this course, you will delve into crucial background information regarding the origin of today's anti-discrimination laws as you're guided through tricky cases involving issues around race, gender, age, sexual orientation, and disability status as well as their implications for today. Sometimes it can be challenging to know how to approach these situations in the workplace. Through a combination of activities and readings, you will become better prepared to manage issues in the workplace in a way that does not leave your organization open to legal action. Note: The information provided in this course is for academic purposes and should not be used as a substitute for legal advice. I t is recommended to only take this course if you have completed Employment Law in Practice or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW564 - Wage and Benefit Regulations (0 Credits)**
Employee wages and benefits account for a significant percentage of the operating expense budget of most workplaces. Wages and benefits are highly regulated and there is considerable detail involved. This course will give you the background you need to anticipate and avoid potential pitfalls surrounding the wage and benefit laws that affect your organization. This course cuts through a mass of available information and provides what you need to know about these topics within the context of employment law. You will explore wages and employer-provided benefits, including health insurance, vacation, sick pay, and retirement. Through your coursework, you will have the opportunity to investigate how these concepts apply to the organizations with which you are familiar. At the end of this course, you will be better positioned to assess workplace situations so you can determine when and why you might need to consult with an HR professional or an attorney, and you will be better prepared to discuss issues with these professionals. Note: The information provided in this course is for educational purposes and should not be used as a substitute for legal advice. It is recommended to only take this course if you have completed Employment Law in Practice or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW565 - Employee Duties and Promises (0 Credits)**
How can you protect your company from having former employees divulge trade secrets or take customer relationships to competing firms? How does the law regard inventions and copyrights; who owns them? Answers to these questions will vary depending on the status of the employee. There are specific protections for rank-and-file employees, as well as certain expectations of executives when it comes to misappropriation of company assets and non-compete contracts. This course will help you understand the rationale behind these laws and how they play out in real-life situations. You begin with a focus on the employee's obligations to their employer. When is it acceptable to compete with a former employer, when is it not acceptable, and how can you tell the difference? The course proceeds with an exploration of the variety of contracts that employers can use to protect themselves from employees competing in various ways. You will have a chance to evaluate restrictive covenants and reflect on the question of what constitutes legitimate business interests. You will gain familiarity with aspects of the reasonably tailored tests. The course ends with a look at the legal responsibilities that apply to copyrights and inventions and introduces the role that a well-crafted holdover clause can play in protecting the interests of a business. It is recommended to only take this course if you have completed Employment Law in Practice or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW566 - Hiring Foreign Nationals (0 Credits)**
You might not be a lawyer, but this course will help you think like one. You will begin by exploring the many reasons why it's important to have a corporate business immigration policy. By understanding the impact that hiring foreign nationals can have on your company, you will be able to determine the type of policy your organization should have and then partner effectively with your legal counsel to design it. There are almost as many different work visa categories as there are letters in the alphabet. In this course, you will examine the benefits as well as the risks associated with the different visas. You will be able to determine the visas that are the most cost efficient, time saving, and risk averse for your company. As you progress through the course, you will discover the steps to take to ensure your foreign national employees are properly documented as legal workers in the United States.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW567 - Immigration Law in Practice (0 Credits)**
As your company grows or evolves, there can be serious implications for the foreign nationals in your workforce. In this course, you will explore the many considerations you need to keep in mind in the event your company undertakes a merger or acquisition. What if your company needs to downsize? Examine the ways a termination can change an employee's immigration status and what you can do to assist a worker who wants to remain in the U.S. You will learn how foreign national workers have the right to unionize and what to avoid when they engage in union activities. You will also discover why even undocumented workers are eligible for Workers' Compensation and why that could be a good thing for all employers. It is recommended to only take this course if you have completed "Hiring Foreign Nationals" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW573 - Managing Legal Risks in Foreign Direct Investment (0 Credits)**

Whether you currently manage or are planning to develop a foreign direct investment (FDI), understanding risks is critical when doing business in a foreign jurisdiction. Cross-border investments can be jeopardized by a change in the political culture or the legal landscape of the country in which your investment is located. What happens, for example, if the host country enacts new laws or regulations that raise your operating costs? Or what happens in the event of expropriation? With so many variables to account for, you'll need practical insights and comprehensive tools to help mitigate uncertainty. In this course, you will examine several contractual clauses and other resources that will help you anticipate and respond to problems that can negatively impact the return on your FDI. You will also explore a real-world example of a cross-border deal gone wrong, learning from challenges to develop effective strategies and protections. By practicing how to identify different risks, you will discover how to recommend contractual mechanisms to offset their effects.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW574 - Compliance With the Foreign Corrupt Practices Act (0 Credits)**

If your business has any international activities, it is important to equip yourself with the knowledge to navigate the global business landscape. Familiarizing yourself with the complexities of the federal Foreign Corrupt Practices Act (FCPA) can help you to avoid running afoul of its requirements and operate confidentially and ethically. Many businesses are subject to the FCPA, yet the statute can be difficult to understand due to its complexity and sheer breadth. In this course, you will examine the FCPA's origins, scope, and applicability under different circumstances. You will analyze various scenarios in which the FCPA's requirements are implicated, and you will define and evaluate best practices for ensuring compliance with the FCPA. Finally, you will have the opportunity to step back and consider the broader implications of the FCPA for U.S. businesses seeking to compete internationally.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW575 - Moving Goods Across Borders: How to Work With Tariffs (0 Credits)**

Whether your business exports globally or imports into the United States, understanding the economic impact of trade tariffs is crucial. Trade tariffs are a tax on products that enter a country's national borders, and they are imposed to varying degrees by most countries around the world. And just as with any other tax on business activities, a business can change the scope and magnitude of any tariffs it is required to pay by altering its sales or procurement practices. This course will provide the tools needed to assess the economic impact of U.S. tariff laws on any prospective import by a U.S. business. You will discover how to assess and compare tariffs, empowering you to minimize financial impact while achieving other business objectives. You will also examine the legal limits of tariff engineering a common method for tariff reduction and gain valuable insights into how U.S. tariff laws align with historical global practices.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW576 - Protecting Trade Secrets in International Transactions (0 Credits)**

Virtually every company, regardless of its size or industry, owns a form of intellectual property known as trade secrets. Although protected under U.S. federal and state laws, trade secrets do not benefit from similar protections in many foreign jurisdictions. Accordingly, a U.S. company that seeks to do business abroad or contract with foreign partners may be exposing its trade secrets to new vulnerabilities as a result. In this course, you will analyze how U.S. laws protect trade secrets then examine common ways in which foreign laws on trade secrets differ from the United States. You will also identify best practices and procedures for protecting trade secrets outside of the United States, including through contractual mechanisms. By the end of this course, you will gain insights into the cultural implications of various legal approaches and fortify your knowledge to protect intellectual assets.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW578 - Developing a Cybersecurity Culture (0 Credits)**

Cybersecurity requires more than just laws and regulations. To ensure the protection of data systems and operations, your organization must embrace a culture of compliance, employ best practices, and remain alert. Once you define the types of cyber risks your organization faces, the next step is to cultivate a culture aimed at safeguarding against them. In this course, you will gain an understanding of the importance of collaboration, both internally and externally. You will recognize how establishing a shared sense of responsibility can be the start of your best defense against cyber threats and attacks. Finally, you will examine cybersecurity best practices and explore how to adopt those that best fit your organization.You are required to have completed the following courses or have equivalent experience before taking this course:Privacy Structure and Risk Assessment Privacy Incidents Examining Cybersecurity Governance Business and Cybersecurity in Practice

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW581 - Financial Institutions and Regulations (0 Credits)**

This program will enable you to navigate the dense thicket of regulations governing U.S. financial institutions. You will be introduced to the objectives and strategies of financial regulation, the various types of financial institutions to which regulation applies, the key features of the regulatory frameworks governing these institutions, and the primary challenges facing financial regulators. Beginning with conventional deposit-taking banks, you will examine the risks embedded within the business of banking and how regulation seeks to manage these risks. You will then explore several other forms of "non-bank" financial intermediation, including investment banks, insurance companies, wholesale funding markets, structured finance markets, money market and other investment funds, and financial market infrastructure. Upon the completion of this program, you will have explored the broader role of financial institutions, as well as their regulations, in society.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW585 - Defining Security (0 Credits)**
Whether or not a security is being offered or sold is a foundational question in securities regulation. In general, if it's not a security, the transaction is not subject to the securities laws. There are various factors to consider when determining what constitutes a security, and the implications of these decisions are far-reaching.In this course, you will gain perspective on these complexities. You will discover how courts and regulators define a security, including emerging instruments and transactions such as digital tokens and other assets. You will consider cases and examples that highlight how nontraditional forms of investment can be considered securities then explore the effects of these decisions. Finally, you will join your peers in discussions on topics such as how securities laws may be outdated.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW586 - Securities Registration and Reporting (0 Credits)**
In securities regulation, it is important to understand what needs to be reported publicly in filings with the U.S. Securities and Exchange Commission (SEC) and when those requirements are triggered.To gain this skill set, this course will guide you through the SEC reporting requirements as you examine the types of information that must be publicly provided to regulators and investors. You will examine key definitions, including what constitutes an offer and a sale. You will also explore registration statements, inspecting their contents and comparing them to prospectuses. As you progress through the course, you will develop skills to help you understand the registration process and how to avoid common pitfalls. In addition, you will consider the reach of the U.S. registration requirements outside the country. Finally, you will explore the key components of a company's public disclosures and investigate how those disclosures are made as well as the ways in which disclosure requirements can be used to shape public company behavior.You are required to have completed the following course or have equivalent experience before taking this course:LAW585: Defining Security
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW587 - Registration Requirement Exemptions (0 Credits)**
In some cases, the offer and sale of securities are exempt from registration with the U.S. Securities and Exchange Commission (SEC), so understanding these exemptions can be critical for compliance and capital in your organization.In this course, you will examine various types of exemptions along with their requirements, identifying the differences between a security exemption and a transactional exemption. You will consider why some securities are restricted and focus on the differences between an offering that is qualified under Regulation A versus an offering that is registered. You will also explore how different exempt offerings can be integrated as a single offering. In addition, you will consider regulations that permit an issuer to experiment and assess potential demand for an upcoming offering. Finally, you will investigate key secondary market exemptions involving resales of securities.You are required to have completed the following courses or have equivalent experience before taking this course:LAW585: Defining Security LAW586: Securities Registration and Reporting
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW588 - Key Securities Law Liabilities and Principal Underwriting Documents (0 Credits)**
Much of securities regulation is focused on public disclosure; it is therefore important to ensure that the information is accurate so that there are no material misstatements or omissions.In this course, you will consider some of the principal securities law liabilities to which certain actors in an offering may be exposed when disclosure is problematic. You will also explore how securities laws can impose liability, including when a person breaches a duty by doing insider trading as well as when a company insider engages in "short-swing" trading of the company's shares. Finally, you will consider some of the principal agreements and other documents in a public offering of securities to better understand their full context for your work.You are required to have completed the following courses or have equivalent experience before taking this course:LAW585: Defining Security LAW586: Securities Registration and Reporting LAW587: Registration Requirement Exemptions
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW593 - Responding to Violations and Improving the Rule System (0 Credits)**
In this course, you will consider possible responses to instances of rule violations. Using a case study format, you will review different categories of rule violations and choose the most effective response based on a process of assessment and improvement. By investigating the sources of such violations and the actions required to limit them in the future, you will take away techniques to help avoid further damage to your organization. Finally, through iteration and assessment, you will determine how to analyze your rule system, ensuring sustainability and effectiveness that benefits your organization for years to come.The following course is required to be completed before taking this course:Rule Systems as Designed Systems Additionally, you are required to have completed the following courses or have equivalent experience before taking this course:Rule Design Rule System Training Policing of Rule Systems Investigation of Rule System Violations
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW595 - Maximizing Your Value in the Attorney-Client Relationship (0 Credits)**
The relationship you have with the attorney representing your organization is critical. Your communications and interactions with that attorney will be more productive for everyone if you understand exactly what the attorney wants and needs from you. In this course, you will discover ways to effectively communicate with attorneys, whether they are in house or hired from outside your company. You will consider how there are misconceptions about what attorneys need, such as the notion that everything should be in writing. You will also examine the duties associated with being a corporate representative and what your role entails when you are called to testify on behalf of your company. Additionally, you'll explore the professional rules attorneys must comply with to ensure proper communication with the client. You'll be able to distill best practices to follow at the beginning of the attorney-client relationship that will ensure better communication throughout the relationship. Finally, you'll have the opportunity to apply this knowledge in certain situations, such as when an employee is asked to represent the company at a deposition. Ultimately, you'll have a more sophisticated appreciation of and approach to communicating and working with attorneys.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW596 - Evaluating the Impact of Legal Documents (0 Credits)**

The lifespan of documents can be longer than expected when they were originally created and can cause unforeseen problems for companies involved in a lawsuit. In this course, you will examine the role documents play in litigation and how they can both help and hurt the effectiveness of the attorney working on behalf of your company. You will explore the various stages of a lawsuit and how documents are used in each stage. You will consider lessons learned as you evaluate the types of documents that have negatively impacted companies involved in a lawsuit and discover best practices to minimize the risk associated with creating documents. Should you hit send? Because email is an integral part of business today, you will identify considerations to keep in mind before drafting or sending an electronic communication. The skills you develop will help you decide if you should even create an email. Ultimately, you'll understand the legal impact of documents that company employees create, be able to identify problematic documents, and make wise decisions about any document that you create in the workplace.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW597 - Composing Documents That Help Lawyers (0 Credits)**

Attorneys rely on company documents to provide the information necessary to win a lawsuit. In this course, you will discover how to compose documents that help rather than hinder lawyers. You will begin by exploring ways to accurately capture information from witness interviews. This includes the report of an interview conducted in connection with an incident occurring in the workplace. As you begin to understand why these interview reports are so critical, you will examine how to assess and document your interviews in a way that does not put your company at risk. Do you have an unconscious bias that might impact the quality of the information you collect and the actual report itself? You will have an opportunity to take a self-test to find out. By the end of this course, you will develop or refine your skills in composing company documents to be able to confidently produce work product that the company's attorney will appreciate and value.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW598 - Writing and Persuading Like a Lawyer (0 Credits)**

In law, as in many aspects of life, the ability to persuade is a key skill to success. In this course, you will discover that this is a skill you can develop. You will explore the universal and foundational principles of persuasion, principles used in law, in business, and in other areas. You will examine how attorneys use persuasion in written documents to win a lawsuit involving a company they represent. You will also apply a formula designed to gauge the accuracy of the conclusion an attorney will ultimately attempt to prove is right. By the end of this course, you'll be able to identify the three modes of persuasion and recognize when they're being used in a legal argument, in business, and in other contexts.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW601 - Creating a Legal Research Strategy (0 Credits)**

What is legal research all about? There are more steps than you may think, and in this course you will discover all of them. You will explore how the skills of legal research and legal analysis fit into every lawyer's work. You'll then examine the particular features of legal information that make it unique and applicable in specific legal situations, including legal jurisdictions and the implications of where legal information originates. By exploring terminology specific to legal information, such as primary sources of legal information or legal authority and secondary legal information, you will identify how these kinds of legal information relate to each other. You'll also consider how a lawyer would choose to use different information sources and why. Through this knowledge, you'll be able to understand the valuable skill of strategizing legal research as well as the way lawyers develop efficient legal research strategies to achieve accurate results while staying within timelines and budgets

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW602 - Selecting Legal Research Sources (0 Credits)**

The world is filled with misinformation, making it difficult to determine what is useful and what isn't. In this course, you will develop skills to help you assess what is valuable legal information. You'll examine how to find credible, reliable legal resources, even on the open web, and you'll develop skills to recognize certain hallmarks of reliable, authoritative information. You'll also discover ways to distinguish these viable sources from lower-quality information and identify the unique advantages of specialized legal research databases. Throughout this course, you will gain a deeper understanding of the influence that artificial intelligence has on legal information by analyzing specific sources that are useful in explaining legal terminology and discussing legal subjects for court rulings and legislation. You'll also explore the ways that lawyers and researchers can safely use knowledge management systems while recognizing their limitations, and you'll consider the unique advantages of subscription legal resources that lawyers often use. You are required to have completed the following courses or have equivalent experience before taking this course: Creating a Legal Research Strategy

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LAW603 - Applying Strategic Legal Research (0 Credits)**

Legal research often begins by taking a step back. Lawyers know it's important to not rush in but to first identify the specific question they need to address before gathering the relevant information. In this course, you will explore the specific strategies and processes a lawyer uses to solve legal problems in practice. By studying the ways in which a lawyer leverages their legal expertise to identify the facts salient to a client's problem, you'll discover how the lawyer is able to identify specific legal issues that emerge, along with which steps to take. You will also examine the preliminary information a lawyer will establish before beginning their legal research, and you'll have the opportunity to see and use a legal research planning tool. You'll investigate how a lawyer can ensure that they're not missing important issues or sources of legal information while they navigate large, complex webs of legal information efficiently and without repetition. Finally, you'll delve into how a lawyer concludes the research process for a given problem. You are required to have completed the following courses or have equivalent experience before taking this course: Creating a Legal Research Strategy Selecting Legal Research Sources

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM311 - Value Creation and Profitability (0 Credits)**
Increasing and sustaining profitability requires that you deliver unique value to consumers while guarding against competitive threats. Developing a successful strategy requires recognizing and planning for the specific challenges in your market so as to avoid costly mistakes, seize new opportunities, and raise long-run profits. In this course, Professor Justin Johnson draws on his expertise and research to lead you through a variety of real-world examples and powerful frameworks to supercharge your strategy and profitability. You will assess both current and prospective market opportunities, and identify the specific needs of distinct customer segments within those markets. You will then strategize how best to create new value for your targeted customers, beyond what rivals offer. You will develop your organizational plan, identifying which resources and partners are essential for delivering value to your targeted consumers while also controlling costs. Finally, you will perform an in-depth competitive analysis of threats that might detract from your profits and develop tactics to mitigate these threats.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM312 - Change, Disruption, and Growth (0 Credits)**
Change can be a highly profitable opportunity for growth, or it can sink a once-successful business. How should you and your organization prepare to adapt and even thrive in the face of change and disruption? In this course, you will acquire the tools you need to evaluate change, disruption, and uncertainty in your industry. You will implement key frameworks designed to help you strategize in changing and uncertain environments. The skills you hone in this course will prepare you to succeed in dynamic market environments and think clearly about the future. Of course, strategies for change risk failing if the organization as a whole is not willing or prepared to implement them. To pave the way for truly successful implementation of the strategies you devise, you will identify and mitigate critical internal challenges and resistance to change, thereby enabling your organization to eliminate roadblocks to growth.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM313 - Synergies, Mergers, and Alliances (0 Credits)**
As a business, you understand the importance of creating value for consumers in order to be profitable. It is also important to increase the value of your organization. Synergies from working closely with other firms may allow you to reap tremendous gains by creating more value in both of these dimensions. Unfortunately, sometimes the synergies that leaders hope for do not materialize, or other challenges arise that make synergy-realizing ventures such as mergers, acquisitions and alliances an unprofitable and disappointing distraction. How does it all go so wrong, and, more importantly, how can you set yourself up to best profit from synergies while minimizing risks and challenges? In this course, you will gain critical insights that will allow you to better identify and realize strategic synergies that can ultimately boost your value creation efforts and your profits. You will implement essential tools to more effectively choose between mergers and acquisitions, strategic partnerships or alliances, and organic growth. You will then determine the most effective way to realize a potential synergy, evaluate fit and compatibility with the potential synergy partner, and strategize for a successful collaboration.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM314 - Getting the Most Out of Your Business Relationships (0 Credits)**
In essence, your organization is a nexus of relationships that coordinates key assets and capabilities to help you achieve your strategic ambitions and raise your profits. More than just the traditional view of a supply chain, this nexus can also encompass strategic partners, licensors of intellectual property, and firms that supply support services of any type, such as advertising, legal services, and more. These core relationships are vital to your ability to create and capture value, and so it is crucial to keep them as healthy as possible. How can you best nurture positive business relationships, especially over the long run? How can you recognize when a relationship is at risk of becoming adversarial, and what should you do about it? In this course, you will evaluate the state of your business relationships through a comprehensive assessment process. Your analysis will enable you to gain a clearer understanding of each relationship's importance to your value creation efforts and how your organization would be affected if the relationship goes wrong. You will then clarify the expectations from both sides of the relationship, potential opportunities that are not being capitalized on, the goals for mutual success, and what to keep an eye on in the future. Armed with this knowledge, you will be prepared to strategize to improve and maintain the wellbeing of key business relationships through an action plan specifically tailored to the needs of each relationship.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM315 - Game Theory and Business Strategy (0 Credits)**
Good strategy does not exist in isolation: the success and profitability of a business depends not only on the strategic moves that it makes but also on the strategic moves that other firms make. Understanding the strategic linkages between firms can therefore be immensely valuable. Game theory is a tool specifically designed to analyze and exploit these strategic linkages between the moves made by different firms. In this course, you will explore the marketplace and identify the key players within your field. Once you have identified the key players, you will analyze their capabilities and motivations. You will consider the physics of business as you map out actions and reactions to your strategic moves. In addition, you will examine how other players perceive you and devise ways to influence these perspectives to your advantage. Sometimes the best strategic move is to boldly seek to change the game! You will determine how best to do so and strategize accordingly.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM316 - Digital Platform Strategy (0 Credits)**
The digital landscape continues to be a vital part of an organization's success. For organizations centered around digital technology, it is important to create a digital strategy that addresses the specific opportunities and challenges that arise in digital ecosystems. This includes harnessing the potential to become a digital platform or utilizing preexisting digital platforms from complementor organizations. How can you leverage the power of digital platforms to grow your organization and maximize profitability? In this course, you will evaluate the state of digital platforms in the current market. You will use this evaluation to identify network effects that your organization can take advantage of and use to boost the value of your products and services in the market. Once you identify the state of platforms and network effects, you will develop a digital platform strategy to grow and maintain your digital strategy, particularly if your organization can create its own digital platform. Finally, you will explore best practices for interacting with digital platforms created by other organizations and develop a strategy for how to choose and interact with a platform created outside of your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM321 - Digital Transformation in Marketing (0 Credits)**
Organizations have been working for over ten years on digital transformation, but how exactly can this be successfully achieved? Implementing artificial intelligence, machine learning, and marketing automation requires heavy investment in data infrastructure as well as creation of the culture and know-how that empowers marketers to successfully implement data-driven decision making. In this course, you will navigate this complex journey. As you progress through the course, you will perform a digital transformation assessment of your organization's current marketing activities. You will explore some of the successes marketers have accomplished in leading organizations and use these insights to design specific strategies to take your organization's digital transformation to the next level, in terms of both the data and the people involved. You will gain a working knowledge of artificial intelligence and machine learning from a marketing perspective and use your new skills to determine optimal ways to supercharge your marketing activities. In addition, you will identify some of the threats to digitization and determine how your organization can plan to mitigate these threats as well as strategize to keep up with rapidly changing data and technologies.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM322 - Marketing Automation and AI (0 Credits)**
How do you create an ideal marketing machine that can drive acquisition and retention of your customers? Performance marketing can empower your organization to make savvy marketing decisions in an optimal way. Layering machine learning and artificial intelligence on top of that will supercharge this process and take your marketing strategy to the next level. In this course, you will explore key aspects of performance marketing to enable you to plan effective performance marketing campaigns that will lead your organization to success. You will use your new skills to design a performance marketing strategy. You will analyze your customer's journey and determine what parts of the marketing process can be supercharged by integrating machine learning and AI. In addition, you will seek ways to responsibly manage your customer's data and privacy in order to gain and maintain their trust in your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM323 - Growth Marketing with AI (0 Credits)**
The abundance of data available to marketing professionals has pushed the definition of what it means to have a successful marketing strategy. Success can now be measured by the degree to which customers are not only brought into the funnel, but also engaged and retained without active intervention. In other words, your marketing strategy can now be adjusted so that your product sells itself. This course focuses on how to automate the design and processes of your marketing machine so it can pull customers organically. You will start by identifying which products can and would benefit from a growth marketing strategy, then learn how you can calibrate product, price, promotion, and place to create a self-sustaining chain reaction that enables your product to sell itself. You will then explore the three stages of AI supervised learning, unsupervised learning, and reinforcement learning and how you can leverage them in your growth marketing strategy. Ultimately, you will walk away with a clear view of what successful growth marketing implementation can look like in your own organization.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM401 - Problem-Solving Using Evidence and Critical Thinking (0 Credits)**
Have you ever known a very intelligent person who made a very bad decision? If so, you know that having a high IQ does not guarantee that you automatically make critically thoughtful decisions. Critically thoughtful problem-solving is a discipline and a skill one that allows you to make decisions that are the product of careful thought, and the results of those decisions help your team and organization thrive. In this course you will practice a disciplined, systematic approach to problem solving that helps ensure that your analysis of a problem is comprehensive, is based on quality, credible evidence, and takes full and fair account of the most probable counterarguments and risks. The result of this technique is a thoroughly defensible assessment of what the problem is, what is causing it, and the most effective plan of action to address it. Finally, you will identify and frame a problem by assessing its context and develop a well-reasoned and implementable solution that addresses the underlying causes.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM402 - Making a Convincing Case for Your Solution (0 Credits)**
When trying to persuade someone, the tendency is to begin in advocacy mode for example: "Here's something I want you to agree to." Most people do not react positively to the feeling of being sold something. The usual reaction is to literally or figuratively start backing up. To make a convincing case, it is more effective to engage with the decision maker as a partner in problem-solving. This makes your counterpart feel less like someone is trying to get them to buy something and more like you are working together to bring about an outcome that is desirable to both parties. Begin by asking yourself: "What is the problem you and the decision maker are solving together?" By the end of this course, you will have learned how to deeply analyze a problem, possible solutions, and the associated risks as well as the most persuasive and efficient ways of presenting your proposal. The course Problem-Solving Using Evidence and Critical Thinking is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM515 - Understanding the Digital Marketing Landscape and the Customer Funnel (0 Credits)**
Given all the players, platforms and opportunities associated with digital marketing, it can seem overwhelming. Don't let that stop you. This course provides a clear overview of the digital marketing world. Discover how players such as ad networks, demand-side platforms and data management platforms interact with advertisers, agencies and publishers. Then learn how to use time-proven frameworks to assess your customers' needs and identify your primary marketing objectives. Once you've put that all together, you'll learn how to evaluate the performance of digital marketing campaigns.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM516 - Assessing Opportunities in Paid Digital Media (0 Credits)**
Using paid media, such as buying ad space on well-known websites, may be the fastest way to promote a product or service on digital platforms. In addition to display ads, paid media includes initiatives like search engine marketing, email marketing, video marketing, social media ads, and mobile ads. This course provides a tour of opportunities and strategies associated with these various paid media channels, and guides you in drafting a paid media marketing plan that addresses your own marketing objectives. It is recommended to only take this course if you have completed Understanding the Digital Marketing Landscape and the Customer Funnel or have equivalent experience. The course Understanding the Digital Marketing Landscape and the Customer Funnel is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM517 - Assessing Opportunities in Owned Digital Media (0 Credits)**
Marketing within your own digital properties such as your organization's website, blog or social media pages is an effective way to build deeper relationships with existing customers and attract the attention of new ones. This course covers the unique opportunities of "owned media" and how those differ from "paid media". You will learn more about content marketing, search engine optimization, social media "fan pages", mobile apps, and virtual reality apps and assess the relevancy of owned media initiatives for your own marketing objectives. By the end of this course, you will have a plan outlining a strategy for your own potential use of these channels. Note: This course assumes that you have completed LSM515, or alternatively, are familiar with "customer funnel" and "customer journey" marketing models. The course Understanding the Digital Marketing Landscape and the Customer Funnel is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM518 - Implementing an Integrated Digital Marketing Plan (0 Credits)**
Properly utilizing digital marketing allows you to promote your products and services while building customer relationships through "paid media" and "owned media" initiatives. So how do you put them together to create a comprehensive, effective marketing plan? This course will help you evaluate and combine your ideas to create a single, encompassing marketing plan. This plan will include the priorities, resourcing and performance metrics appropriate for your organization. Once complete, you will be able to immediately put this plan in place to drive results. Note: This course assumes that you have completed the previous courses in this series, or alternatively, are familiar with the primary paid and owned digital media channels and are acquainted with "customer funnel" and "customer journey" marketing models. These courses are required to be completed prior to starting this course: Understanding the Digital Marketing Landscape and the Customer Funnel Assessing Opportunities in Paid Digital Media Assessing Opportunities in Owned Digital Media These courses are required to be completed prior to starting this course: Understanding the Digital Marketing Landscape and the Customer Funnel Assessing Opportunities in Paid Digital Media Assessing Opportunities in Owned Digital Media
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM521 - Essentials of Marketing Strategy (0 Credits)**
In this course, you will learn about the role marketing plays within an organization, some ethical questions that surround marketing practices, the impact that a strategic approach can have on marketing within your organization, and the components of a well-defined marketing strategy and overall business strategy. In defining how the organization will successfully engage customers, prospects and competitors in the market arena, you will discover how to think strategically about the market you're in, why you're in that market, and what you're trying to accomplish in that market. You'll also gain a strategic view of your organization's brand.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM523 - Market Research and Analysis (0 Credits)**
Marketing professionals rely on clearly defined goals to determine the course of action when placing a product in the market. Leveraging research to learn more about your target audience is the focus of this course. In it, you will learn how to be an intelligent consumer of information when it comes to market research and analysis so you can become a more effective decision-maker. You will first look at market research, including the purpose and goals of research; how to balance the ideal with reality in doing research; and how to apply the six stages of research to a marketing situation. You will then examine different ways to analyze the data acquired through market research. Using formulas to determine how cannibalization affects the profitability of new products and the value of a long-term customer, you will perform a basic sensitivity analysis to assess the robustness of your results.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM524 - Creating and Communicating the Value of Your Brand (0 Credits)**
An organization's brand is one of its most valuable assets. Your organization's brand represents the themes and ideas that your customers associate with the organization. The value of your brand, otherwise known as brand equity, impacts everything from consumer awareness to the salience of your brand in the market. Creating and communicating the value of your brand across channels can improve the value of your organization and the return on your marketing. In this course, you will look at the value of a brand through brand equity from both the firm's and the customer's perspective. You will make the connection between customer loyalty and building brand equity. You will also discuss marketing communications: how they work, what forms exist, and how you use them to build brand equity.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM551 - Measuring Customer Preferences (0 Credits)**
To create a more customer-centric organization -- and improve sales, market share, and margins -- you need to know what your customers want. In this course, you'll use the statistical method of conjoint analysis to uncover the product attributes most influential to your customers. By simulating the market, you'll run relevant scenarios to answer questions such as: What would happen if we lowered our price, or offered quality improvements? Which customers should we go after? And, if we give our customers more of one attribute, can we give them less of another?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM552 - Analyzing Segmentation and Targeting (0 Credits)**
In this course, you'll use the statistical method of cluster analysis to meaningfully segment and target your market based on customer needs and preferences. Through interactive, applied activities, you'll analyze how customers naturally segment themselves within your market -- and how to predict and target the most profitable segments for your business. Customer data analyzed are similar to what is typically commissioned from market research firms.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM553 - Using Data for Positioning Brands (0 Credits)**
To improve sales and market share, knowing what consumers want isn't enough. You also need to know what they believe your product or service, and your competitors', provides. In this course, you'll create and use perceptual maps to identify which dimensions consumers use to differentiate among products, and how they perceive your products relative to competitors'. These maps are valuable for identifying opportunities to introduce and position new products, repositioning existing products, and identifying your true competitors.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM554 - Predicting and Managing Customers' Lifetime Value (0 Credits)**
Successful customer relationship management encompasses thousands of transactions and impressions, over many years. But which customers are most worth your time and resources? How do firms determine how long they need to keep customers before they become profitable? Analyzing data (such as Big Data) allows marketers to make smarter predictions using the Customer Lifetime Value (CLV) model, which scores current and potential customers based on characteristics such as churn rate, discount rate, retention cost and forecasts of remaining customer lifetime. In this course, you'll use the CLV model to segment and target customers based on their potential long-term value, and build corresponding retention and divestment strategies.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM555 - Market Response Modeling (0 Credits)**
Segmentation and targeting is the tip of the iceberg for implementing a successful marketing strategy. Markets can be sliced and diced in infinite ways; the goal is to focus your marketing activities on customers you identify as most likely to respond and buy. In this course, you'll use statistical market response modeling to develop the right marketing mix: Determine when -- and where -- to spend money on advertising and trade promotions, and how to better forecast demand for your product or service among different customers.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM556 - Optimizing Digital Advertising with Analytics (0 Credits)**
Digital advertising campaigns are an increasingly important element of most brands' marketing mix and are designed to achieve specific goals: increase brand awareness, drive traffic to the advertiser's website, and achieve consumer conversions. And although digital advertising generates a huge amount of data, not knowing how to interpret it could result in inefficient spending and missed opportunities. This course introduces the use of analytics and data to measure the extent to which the goals of digital campaigns are being achieved, and thereby provides a roadmap for you to make more informed spending decisions. Through the application of various analytical tools, such as effectiveness and efficiency metrics, attribution modeling, and the design of randomized controlled trials, you as a buyer or seller of digital advertising will be more successful at monetizing digital assets. You explore this content through a mix of input from industry experts, a hands-on course project, and the presentation of best practices by Cornell University Professor Sachin Gupta. Your fellow students and your instructor will also help broaden your understanding of digital advertising analytics and its impact on your advertising strategy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM561 - Discovering Sales Growth Opportunities (0 Credits)**
This course is part of eCornell's Sales Growth certificate program. You'll learn not only how to spot trends and uncover new pockets of growth, but also how to act on the insight.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM562 - Getting the Most From Your Sales Efforts (0 Credits)**
In this course, you'll learn how maximize your time and resources on sales efforts with priority clients. The course Discovering Sales Growth Opportunities is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM563 - Winning With Your Key Accounts (0 Credits)**
The course will focus on specific skills and actions to maximize value with your most important accounts. The courses Discovering Sales Growth Opportunities and Getting the Most From Your Sales Efforts are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM564 - Sales Negotiation to Maximize Value (0 Credits)**
This course is part of eCornell's Sales Growth certificate program. Whether you're conducting a sales call or negotiating a deal, solid preparation and execution will help you capture the most value from that interaction. These courses are required to be completed prior to starting this course: Discovering Sales Growth Opportunities Getting the Most From Your Sales Efforts Winning with your Key Accounts
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM565 - Managing Sales Performance for Growth (0 Credits)**
Learn how to drive performance improvement in your organization by tracking what matters and taking an active management approach. These courses are required to be completed prior to starting this course: Discovering Sales Growth Opportunities Getting the Most From Your Sales Efforts Winning with your Key Accounts Sales Negotiation to Maximize Value
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM571 - Introduction to Negotiation (0 Credits)**
This course will introduce you to basic negotiation terminology. You will learn about the difference between distributive and integrative negotiation, and how to use each of these approaches to negotiation to create maximum value. You will then learn how to balance these two approaches in order to further your chances of making a deal and create even greater further value. By the end of the course, you will have the tools to not only split the pie but also grow the pie in a way that would benefit you and your negotiating partner.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM572 - Integrative Negotiation (0 Credits)**
This course will allow you to further explore the integrative approach to negotiation and teach you how to collaborate with your partner to grow your pie and add further value. You will learn how to define yours and your partner's preferences in a way that would serve each party's interests. You will learn how to rate your priorities and trade issues based on how important they are to you and to your negotiating partner. You will learn how to cultivate trust with your negotiating partner so that you can share your preferences while mitigating risk.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM573 - Psychology of Negotiation (0 Credits)**
This course focuses on the psychological element of negotiation. You will learn how understanding your own and your partner's psychological state can have a significant effect on how your negotiation unfolds. You will be introduced to techniques that will allow you to develop your emotional intelligence for better communication with the other party. You will also learn about negotiations that failed as a result of certain feelings, and what to do in order to save them.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM574 - Preparing for a Negotiation (0 Credits)**
This course will focus on negotiation preparation. You will be introduced to tools that will help you clearly define your goals prior to starting your negotiation. You will learn how to conduct research and gather information that will allow you to understand the other party, their preferences, and resources. You will learn how to cultivate trust with your negotiating partner as a way of allowing smooth information flow. Most importantly, you will learn how to prevent unexpected traps and scenarios and instead focus on the person across the table.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM575 - Power Dynamics and Ethics in Negotiation (0 Credits)**
This course will teach you how to balance power and ethics as part of your negotiation. You will learn to recognize where your and your partner's power lies, and how to harness it to your benefit. At the same time, you will learn how not to abuse and misuse your power in order to avoid ethical issues that may put you in legal jeopardy and that might very well end your business relationship with your partner. You will learn how to develop and maintain your reputation and how to align your values with your desired negotiation outcomes.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM576 - Complex Negotiation (0 Credits)**
This course takes your knowledge of basic negotiation tactics and shows you how to use them creatively and in more complex situations. You will learn how to negotiate outside the face-to-face, two-party environment. You will find out how to negotiate with a distant party, master multi-party and team negotiation, and acquire the ability to deal with personality or cultural differences. These new skills will make you a confident and efficient negotiator even under unfavorable circumstances.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM582 - Strategic Decision Making (0 Credits)**
The ability to make effective and timely decisions is an essential skill for successful executives. Mastery of this skill influences all aspects of day-to-day operations as well as strategic planning. In this course, developed by Professor Robert Bloomfield, Ph.D. of Cornell University's Johnson Graduate School of Management, you will hone your decision-making skills by following a methodology based on tested actions and sound organizational approaches. You will leave this course better equipped to confidently tackle any decision large or small, and you'll do so in a way that creates the optimal conditions for success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM583 - Leading Strategic Change Initiatives (0 Credits)**
If you're in charge of developing and leading strategic organizational change, there are certain tools and concepts you must be familiar with. In this course, the emphasis is on cultivating your ability to assess the need for change. By determining why your organization or team needs change, you'll be able to better answer questions like: What should you change and how should the change be handled? You will explore the political and complex process of introducing change, which includes motivating others, dealing with resistance and the emotional elements of change, and finally, extending change over time and sustaining it. The course is designed to give you practice so you can initiate and carry out a change effort.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM584 - Coaching Skills for Leaders (0 Credits)**
Coaching is about building relationships and it's essential in order for your organization to move forward together to achieve better results. Being an effective coach requires skills that can be practiced and mastered, including listening, building credibility and trust, and showing empathy. In this course, Cornell University's Dr. Samuel Bacharach, will help you distinguish between coaching and traditional supervision. You will identify the five functions of coaching and the rules for having coaching conversations. Finally, you will examine some of the classic coaching mistakes that people often make and identify how you can avoid repeating those mistakes yourself.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM585 - Leading Collaborative Teams (0 Credits)**
In today's workforce, adaptation and responsiveness are key elements in the success for an organization. As turnaround times shorten and demands increase, organizations must leverage teams to reach strategic goals and fulfill initiatives. Based on the expertise and research of Kate Walsh, PhD, students in this course will diagnose team needs, set expectations for development, utilize conflict to augment change, and build team autonomy to support leaders in embracing a more strategic focus.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM586 - Leading With Credibility (0 Credits)**
Without the trust of those you lead and those who support you in an organization, it is next to impossible to be successful. Learn what you need to gain and keep the respect of your colleagues to keep your career moving forward.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM587 - Leading for Creativity and Innovation (0 Credits)**
One of the challenges organizations face today is how to innovate. Innovation has become the modus operandi of organizational life. Every organization needs to innovate quickly to stay competitive. But what does "innovation" really mean? In simple terms, innovation is the practical application of creative ideas to drive organizational results; innovation results in something useful that benefits the organization. In this course, Cornell University's Professor Samuel Bacharach, Ph.D., clears away common misconceptions about the mystery surrounding this popular buzzword and identifies how individuals can harness creative energy to drive innovative results. Students will identify strategies for encouraging divergent thinking and examine methods of fostering a culture of innovation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM588 - Planning and Delivering Effective Presentations (0 Credits)**
Being able to effectively formulate and share your ideas verbally is a key skill essential to any leader. Learn the ins and outs of creating dynamic, attention-grabbing presentations.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM589 - Negotiation Skills (0 Credits)**
Being able to negotiate is a practical, everyday skill that is critical for anyone working within an organization. The good news is it's a skill you can practice and master. Negotiation skills are ones you can use in any context and, once you master the behaviors of effective negotiation, you will use all the time. In this course, developed by Cornell University's Professor Samuel Bacharach, Ph.D., you will develop an awareness that every conversation is a negotiation, and you will identify the critical components of effective negotiation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM591 - Leading Organizational Change (0 Credits)**
All leadership is change leadership. Good leadership isn't about stagnation; it's about moving ahead. In this course, Cornell University's Professor Samuel Bacharach, Ph.D., explores the fundamental, practical skills that effective leaders have mastered. Effective change leaders do three things; they anticipate where things are moving, they facilitate the implementation of change, and they sustain momentum by taking charge and moving things ahead. Great change leaders know how to be both proactive and reactive, as Professor Bacharach explains. Students in this course will examine their own leadership styles and practice skills that will help them translate ideas into organizational results, find ways to overcome organizational inertia, and examine strategies for overcoming individual resistance to change.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM594 - Quality and Service Excellence (0 Credits)**
In an increasingly competitive global environment, quality is no longer considered a nice-to-have luxury. It's a requirement for successfully competing and surviving in the marketplace. While the concepts, tools, and procedures for quality and process improvement are now universally recognized and firmly placed in a large number of high-performing organizations around the world, it was not always so. The importance of quality in organizations has gone through a complete evolutionary cycle. In this course, you will develop measures and standards of service quality, devise practices that improve employee learning and outcomes, and evaluate different approaches to process improvement, all based on the research and expertise of Cornell University Professor Rohit Verma, PhD. Using the tools provided in this course, you will be able to relate strategic decisions to their impact on organizational performance. And with the completion of an action plan at the end of the course, you will be ready to apply what you learn to your own organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM595 - Leading Across Cultures (0 Credits)**
In today's marketplace, leading multicultural teams is becoming the norm. Learn the skills needed to assess your organization and your management style to ensure you're leading a diverse team in the best ways possible.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM596 - Motivating People for High Performance (0 Credits)**
This course answers fundamental questions related to motivating people: How can you tell whether a person is unmotivated or just a poor fit for the job? How can a leader motivate a large group of people at once? And how can middle managers motivate people when there are real obstacles standing in their way?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM597 - Navigating Power Relationships (0 Credits)**
Leaders at every level need to be able to execute on their ideas. In virtually every case, this means that leaders need to be able to persuade others to join in this execution. In order to do so, understanding how to create and utilize power in an organization is critical. In this course, developed by Professor Glen Dowell, Ph.D., of Cornell University's Johnson Graduate School of Management, students will focus on their personal relationship with power as well as how power works in their organization and social network. Project Management Institute (PMI ) Continuing Certification: Participants who successfully complete this course will receive 6 Professional Development Units (PDUs) from PMI . Please contact PMI for details about professional project management certification or recertification.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM598 - Becoming a Strategic Leader (0 Credits)**
Advancing to a more senior leadership role requires a specific set of skills. Senior leaders must shift away from tactical oversight into a more strategic and visionary role. This transition does not occur naturally and is often not a part of standard professional training, development, or onboarding. The ability to adapt to this mindset is crucial and can lead to the success or failure of an individual and/or their team. In this course, current and potential leaders will be guided through this transition by Kate Walsh, Professor and Dean of the School of Hotel Administration, as she shares her professional expertise and research. Learners will create a personal leadership strategy and build a professional network within their organization to prepare and further their roles in the organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM601 - The Psychology of Getting Things Done (0 Credits)**
Getting things done more efficiently and effectively and without derailment in the face of setbacks is a universal problem that few people solve on a consistent basis. In this course, learn how to apply an integrated, practical, and research-based framework for completing work that will help you improve the performance effectiveness of you and your team by 50-350%.Professor Filipowicz draws from over 1,000 studies in motivation and goal setting, as well as his global teaching and consulting experience in executive leadership, to provide a relevant and simple 5-step framework you can apply to any project and easily teach to your team. With this framework, you will have the skills needed to set challenging goals and meet them, regardless of setbacks faced in the process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM602 - Identifying and Managing Emotions (0 Credits)**
Emotions are what makes us human and they can never be fully erased from our interactions. However, as a leader, your emotions can't be your primary driver when making business decisions and managing your team. In this course, you will improve your emotional intelligence by better identifying and managing your emotions. Professor Filipowicz will share with you two empirically supported emotion-management tools that you can use on a daily basis, ensuring that your emotional responses are more accurate, adapted and effective.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM603 - Interpreting the Behavior of Others (0 Credits)**
Understanding why people do what they do is the foundation of all influence. When you are inaccurate in doing this, your attempt to influence others will have random and unpredictable effects. But people are complex, and as a leader, you don't have the time or resources to decipher everyone's psyche. The key is to know when and how to tailor your approach to understanding others in different kinds of interactions.In this course, you will learn how to become more accurate in attributing causes to behavior in limited interactions, as well as how to increase your ability to get at the heart of a problem when you have the time and resources to do so. Professor Filipowicz will also teach you how to use a set of tools that can help you understand other people with efficiency, accuracy, and impact.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM604 - Mastering the Essentials of Influence (0 Credits)**
As a leader, you are always influencing others. However, if you're not mindful of how you exert this influence, it could lead to unforeseen consequences for yourself and your team. Your ability to negatively impact someone's performance, or elevate it to new levels, is powerful and should be taken seriously. In this course, Professor Allan Filipowicz discusses how your beliefs drive your subordinates' performance. You'll learn how to identify negative and positive expectancy cycles and get the tools needed to reverse the former and accelerate the latter.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM605 - Applying Strategic Influence (0 Credits)**
Being able to influence others is the most fundamental characteristic of an effective leader, but many people in positions of power don't know specifically how they are influencing others' behavior in positive directions. They let it happen by chance or use their formal authority getting people to do things because "the boss said so." But as leaders gets promoted within their organization, using formal authority becomes less effective as they not only need to influence subordinates, but also peers, external stakeholders, and superiors. In this course, Professor Filipowicz explores the three complementary levels of influence. First, you will explore heuristics, or rules of thumb, that people use in order to make decisions. Next, you will learn how to influence through reciprocity by uncovering what the person you want to influence wants and needs. Lastly, you will learn how to alter the social and physical environment in order to get the change in behavior you want. By the end of this course, you'll have the skills to consistently draw out the desired behaviors from your team and from those around you.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM606 - Designing an Effective Team Structure (0 Credits)**
The traditional view of team management focuses on improving interactions within a set structure in order to improve the team's performance. In this course, Professor Filipowicz offers a different perspective, one founded on the premise that how you structure the team from the start is what simultaneously drives the team's interactions and also its performance. This course is about teams, and thus course completion will require participation in two team-based activities in order to solidify your understanding of how to best run a team. The first activity will require you to gather a team of friends or colleagues to participate in a 30-minute exercise. The second team-based activity will require you to collaborate virtually in a challenge with your fellow classmates. You will be pre-assigned to a team of approximately 5 people upon enrollment in the course, and successful course completion will depend on your active and timely participation in the challenge. Once you have a solid understanding of the fundamental challenges that every team faces, you'll learn a set of simple, comprehensive checklists that will allow you to both design and run any team for maximum performance.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM611 - Building High-Performing Virtual Teams (0 Credits)**
Virtual teams present a unique set of challenges, but also a unique set of opportunities. You may be a team leader or team member: in this course we will review some common challenges and opportunities that face virtual teams and some suggested strategies for addressing those challenges and capitalizing on the opportunities. You will leave this course with the skills and tools necessary to develop a plan for addressing challenges and opportunities on your own virtual and remote teams.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM612 - Launching Virtual Team Projects (0 Credits)**
In this course, you will consider how well your team members understand the team's mission and the members' roles. You will explore strategies for building trust, encouraging engagement, and establishing commitment on your teams so they can reach your goals and avoid later remedial action. The strategies developed in this course will allow individuals setting up teams as well as those who have well-established teams improve their functionality and success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM613 - Virtual Communication, Constructive Conflict, and Collaboration (0 Credits)**
Conflict on a team is unavoidable and necessary. In this course, you will explore strategies to encourage constructive conflict and to discourage destructive conflict. You will explore recommended negotiation techniques for managing conflict. You will then identify threats to communication, explore strategies to overcome those threats, and use those strategies productively on your virtual teams. One of the biggest challenges of a virtual team is figuring out who has what information and how to get it. You will identify strategies to manage information to help make decisions. By the end of this course you will have a toolbox of tips and strategies for maximizing the team's communication.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM614 - Decision-Making and Accountability on Virtual Teams (0 Credits)**
In this course, you will take steps to create a more focused and results-driven virtual team that reaches and executes smart decisions. You will examine common decision traps and biases that teams fall into to try to avoid them. Finally, you will explore strategies for building accountability into decisions so you can more effectively get teams to do what they say they will do.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM615 - Diversity and Cross-Cultural Teams (0 Credits)**
Virtual teams are often also multicultural teams, which brings opportunities but also challenges that can easily derail teams. You will identify those opportunities and challenges and explore structural strategies for managing cultural issues. You will also examine recommended best practices for improving a team's cultural intelligence. A heightened cultural understanding will give team members and leaders the opportunity to fully capitalize on your team's opportunities.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM621 - FinTech Disruptions (0 Credits)**
In this course, you will define what FinTech is (and what it's not). You will explore the key disruptions that have led to the current FinTech industry landscape. You will then apply the lessons of disruption to a challenge facing your organization. Additionally, you will examine some of the key players in the FinTech ecosystem and perform a Porter's Five Forces analysis on a related product or service: one of your own organization's offerings, or that of another firm. Then you will do a competitive market analysis on your own organization, or someone else's, to help you anticipate potential areas for risks and opportunities.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM622 - Trends in FinTech (0 Credits)**
Regardless of your field or industry, you have certainly been affected by the technological innovations in the financial services sector: the way we conduct financial transactions, accept payments, manage assets, and interact with financial institutions is rapidly evolving. How will the innovations in financial technology FinTech affect your business, and what opportunities are there for you to capitalize on change? In this course you will analyze five major financial vertical markets in the FinTech sector: robo advising, peer-to-peer lending, insurance tech, currency and payment tech, and digital banking. You will then examine how these markets came into existence, explore how they have evolved over time, and study their business models (i.e., how they generate income). Moreover, you will analyze key trends in each vertical and consider the impacts they have on banks, FinTech companies, and consumers. You will use these insights to identify potential opportunities and risks for disruption within your or another's organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM631 - Leading in a VUCA World (0 Credits)**
VUCA is an acronym that stands for "volatility, uncertainty, complexity, and ambiguity." Learn from General George W. Casey, Jr. how leaders understand and counteract the impacts of the VUCA world to lead more effectively today. In this course, you will gain insights into how you can identify and reduce the impact of volatility, uncertainty, complexity, and ambiguity in your workplace, elevating your opportunity to succeed. You will match your strengths and weaknesses with the leadership characteristics essential in today's VUCA world to formulate an action plan to guide you in improving your leadership skills. Finally, you will develop skills to improve your vision, courage, and character, ultimately preparing you to lead in a VUCA world.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM632 - Developing and Communicating Vision and Strategy (0 Credits)**
Organizations that instill a clear vision and an effective business strategy at all levels are far more likely to succeed in our increasingly volatile, uncertain, complex, and ambiguous (VUCA) world. But before you can effectively define and impart your vision and business strategy to your organization, you must analyze and have a comprehensive understanding of the various facets of your operating environment. In this course, you will explore effective ways to achieve these goals with General George W. Casey, Jr. You will objectively assess the three critical dimensions of your operating environment (internal, external, and competitive) using the VUCA index so you can identify potential vulnerabilities and opportunities for your organization. You will then identify the characteristics of an effective vision statement and outline a clear vision for your organization. Finally, you will outline a plan to instill your vision and business strategy in your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM633 - Building Great Teams (0 Credits)**
Given the ever-increasing demands of the VUCA world in which we live and work today, agile leaders need effective ways of gaining commitment to their organization's vision and strategy. Even if a leadership team has an established vision and strategy, you still need buy-in at all levels of the organization. Led by General George W. Casey, Jr., this rigorous, outcomes-driven course will help you build a high-performing team that can consistently carry out the organization's vision and strategy. In this course, you will evaluate and describe three ways to build commitment to your vision and strategy, and use those techniques to outline a plan that cultivates complete buy-in. You will create a plan that identifies specific ways to build your team's commitment to excellence. Finally, you will assess the inclusiveness of your organization's current environment and formulate a plan to both strengthen inclusion and drive excellence.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM634 - Setting Internal and External Conditions for Success (0 Credits)**
Success does not just happen. Successful leaders figure out what matters most to their success and go out and make it happen. This has never been an easy process, but in today's world it has become even more difficult: The volatile, uncertain, complex, and ambiguous (VUCA) environments that confront organizations today require a new breed of leaders. To lead and succeed in a VUCA world, leaders must now be adept at building consensus and influencing people who are outside their direct control but whose cooperation is essential to the success of their efforts. In this course, you will develop a checklist to help you determine the most important elements required to execute your vision and strategy. You will establish a sphere of influence that can provide external support and determine the most important elements required to accomplish your vision and strategy. Finally, you will prepare for unexpected challenges.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM635 - Preparing for the Future (0 Credits)**
In our VUCA world, it is easy to feel weighed down by daily issues. You can become so consumed by the difficulties of the present moment that you neglect to look ahead and analyze your larger mission. Yet as a leader, you have to be able to step back from the challenges that each day brings and assess the big picture. You have to help your people envision what the future looks like. Even the most skilled leaders agree that this is not easy. However, there are concrete measures you can take to prepare for future success. In this course, you will learn how to develop a plan to evaluate your organization's ability to accomplish its vision and strategy. You will apply Lewin's three-stage model of change to enable your organization's continuous adaptation and devise a plan that demonstrates how you will sustain progress. Finally, you will apply the read, exercise, sleep, and think (REST) model to take care of yourself and remain effective as a leader.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM641 - Building Leadership Character (0 Credits)**
Leaders make the headlines on a regular basis for their successes and their gaffes. After a particularly awful decision makes the news, do you ever wonder how that person could make such a dumb mistake? Mistakes and successes don't happen in a vacuum. They are generally a culmination of decisions and actions the leader makes. But where do those decisions come from? Almost always, the leader's character plays a role in decision-making and communications. In this course, you will take the first steps on a lifetime journey of developing the character that will enable you to be the leader you envision.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM642 - Authenticity, Integrity, and Accountability (0 Credits)**
Trust is an essential element in character and how you are perceived by others. The character dimensions authenticity, integrity, and accountability are intertwined with your ability to build trusting relationships. In this course, we will discuss how to develop these character dimensions which will, in turn, help you build trusting relationships and become an effective leader. Completion of the course Building Leadership Character is required prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM643 - Courage, Humility, and Compassion (0 Credits)**
Strong leaders are self-confident. They know and are comfortable with themselves and have an appropriate understanding of their knowledge and skills. Strong leaders' confidence and character inspire others to follow the leaders and to reach beyond themselves. In this course, you will work to develop the three character dimensions of courage, humility, and compassion. On the surface, these dimensions may seem contradictory (humility and courage?). However, through the following lessons, you will see how developing resilience for courage, willfulness for humility, and strength for compassion work together to create a leader of strong character. Completion of the course Building Leadership Character is required prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM671 - Pricing Strategy (0 Credits)**
The right pricing strategy can make or break a business yet pricing impacts can be difficult to fully measure and understand. In this course, you will analyze pricing data, evaluate key factors relevant to pricing effectiveness, and use your insights to optimize product prices. You will have the opportunity to apply a variety of popular pricing formulas and determine the business impact of the resulting price changes. Ultimately, the skills developed in this course will allow you to make pricing decisions that will maximize profits for each product or service in your organization. It is recommended that students be comfortable using Microsoft Excel before beginning this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM700 - Management 360 Capstone (0 Credits)**
This capstone course provides you with the opportunity to bring together the skills you have developed throughout your program to solve a complex problem that requires integrated solutions. In this capstone project, you will bring this vision and expertise in line with the concepts you have learned throughout this program. The final capstone project you submit and present will help you to translate your new skills directly into your workplace.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM701 - Building Compelling Slide Decks and Reports (0 Credits)**
When communicating your ideas or significant data through PowerPoint, it is essential that your presentation clearly articulates your points. PowerPoint templates can be visually distracting and obscure valuable insights when used incorrectly. Creating your own template allows you to customize a presentation that specifically targets your audience and embodies visual integrity. Reading reports are a summary of the most valuable points of your PowerPoint presentation that you can send out to key stakeholders after a presentation or in place of a presentation. Using PowerPoint slides to develop a report allows you to easily manipulate images or content to create a visually appealing summary of your presentation for key decision-makers. In this course, you will discover the visual design principles and content guidelines necessary to curate a professional PowerPoint presentation or reading report. This will first involve developing your own PowerPoint template using the visual standards that specifically target your audience. You will have the opportunity to develop two supporting PowerPoint slides with appropriate message titles and visual evidence such as charts, graphs, photographs, or artistic elements. You will explore the structural components used in PowerPoint presentations to create a sound structure that guides your audience through your points seamlessly. Finally, you will convert two existing PowerPoint slides into a compelling and professional one-page report. Students will require access to Microsoft PowerPoint in order to successfully complete this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM702 - Business Writing Fundamentals (0 Credits)**
Do you find that your business writing delivers the results you intend? When people read what you've written, do they take the appropriate actions, do they respond definitively with the information you requested, or are they persuaded to agree with your point of view? When your business writing is effective, you're not only relaying messages to others but you're securing the needed results. In this course, you will discover that successful writing requires making thoughtful choices. By applying recommended design principles to your messages, you will improve their readability and clarity. You will then practice organizing your points by using the optimal structure for your message. By the end of this course, you will have developed a toolkit of strategies for writing more effectively in the workplace.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM703 - Advanced Business Writing (0 Credits)**
You want to be able to adapt your written communications to achieve your goals in complex and challenging professional situations. Writing dilemmas become tougher when the stakes are high, when issues are sensitive, when you have to relay bad news, or when your audience may be resistant to the message you're delivering. By applying practical strategies for planning and executing your message, you can adapt to writing effectively in complex communication situations. In this course, you will refine your written communication skills through a variety of challenging scenarios. You will practice adjusting your message tone, components, and structure to fit the needs of your audience. By the end of this course, you will have practiced the skills needed to plan and shape your message so that even in the most challenging situations, you have strategies on hand to help you communicate effectively.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM704 - Persuasive Writing (0 Credits)**
Success in business often depends on the ability to influence others and gain their support for your objectives, but it takes more than charisma to win over your leaders or colleagues. Persuasive writing can help you present your case in a way that will secure critical stakeholder support. This course will help you gain and strengthen your persuasive writing skills. You will be guided through the process of narrowing your objective to a very specific "ask," analyzing your audience to know how to appeal to their sense of reason as well as their emotions, and then building the evidence that you will use to present your case. You will examine how to create a one-page proposal, step by step, and delve into basic design principles to maximize your writing's impact. Since electronic communication is so predominant in today's business world, you will also discover how to transform your proposal into an email. Through this course, you'll be on your way to becoming a stronger writer and business professional.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM705 - Impactful Unscripted Communication (0 Credits)**
From the moment you wake up to the time you go to sleep, you are engaging in impromptu communication that involves presenting ideas that need buy-in from your audience, whether it's seeking an extension on a work assignment or something as seemingly simple as deciding which parent should drive the kids to school. These are typical aspects of everyday life, but the reality is that the better prepared and adaptable you are for these situations, the more impactful you can be in your areas of communication, especially the workplace. You should obviously be rehearsed, but the more effortless and self-assured you come across while speaking, the more convincing you will be. This preparedness will give you the skills and confidence to succeed in various circumstances where effective communication is crucial. In this course, you will be provided with a foundation in how improving your everyday communication can make your speaking skills more impactful. You will examine how to set up your message while considering its purpose, its context, and its audience. Keep in mind that this is not about speech writing but about crafting an unscripted message. You will then practice these skills in front of real people to test your ability to deliver your message in applicable environments. You'll explore what it's like to adapt that message to different surroundings and challenges. You will also develop emotional intelligence skills as you navigate how to better gauge your audience's reaction. You'll understand how applying these concepts will make your messages resonate, from a routine low-stakes situation to a formal pitch that affects your career goals.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM706 - Cross-Cultural Communication (0 Credits)**
The workplace is filled with employees, clients, and leaders from different backgrounds and cultures. Your Social Style plays a role in how you communicate and behave in the workplace. This course will prepare you to communicate effectively, efficiently, and empathetically with different cultures no matter your Social Style . In this course, you will practice becoming more aware of how your Social Style is interpreted by others and how that impacts your interactions with others at work. You will also develop strategies for overcoming social blind spots in order to mitigate the risk of ineffective communication in cross-cultural settings. Finally, you will discover the ways you can adapt your Social Style without compromising your core values for effective communication. By the end of this course, you will have gathered the tools needed to communicate appropriately and effectively in a cross-cultural environment. Social Style, Social Style Navigator and TRACOM are registered trademarks of the TRACOM Corporation. Social Style Model is a trademark of the TRACOM Corporation. Related content is used with permission from The TRACOM Corporation.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM707 - Communicating with the Media (0 Credits)**
You don't need to be the world's most polished public speaker in order to be successful at conducting media interviews on behalf of an organization. All you need to do is approach the task by planning, preparing, and practicing. In this course, you will examine strategies for engaging the media with confidence, comfort, and control while promoting your story. You will investigate key strategies for crafting effective messages that preserve your purpose and prevent manipulation of intent. You will examine ways to optimize any media interview and use it as an opportunity to tell your story. By the end of this course, you will not only be able to hold your own in an interview, but also remain calm and collected when challenging situations arise.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM708 - Strategic PR Planning (0 Credits)**
All enterprises are governed by numbers; most managers and clients use data every day. Public relations propels those numbers, making PR a business necessity rather than a nice-to-have enhancement. Communications professionals must therefore frame discussions around PR using business metrics developed through evidence-based plans, measurable evaluations, and calculated ROI. Students in this course will examine how "strategic PR" is all about crafting a precise plan to use public relations to achieve organizational goals. In this course, you will learn that to be successful, you need to map out where your organization is headed in terms of business goals, how PR is going to help you get there, and who your audience is for your PR efforts. You will follow a recommended eight-step plan for building a communications strategy consisting of clearly articulated steps for creating an evidence-based approach to public relations that can help impact your organization's bottom line. By the end of this course, you will be able to devise, measure, and evaluate your PR strategy.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM709 - Hiring and Managing PR Agencies (0 Credits)**
You always need public relations for one critical reason: PR drives sales. But do you have to hire an external PR agency? Can you afford it? How do you choose one? How do you compare requests for proposals from different agencies? And once you've hired an agency, how can you get the greatest value for your spend? This course is designed to give people who are current or potential clients of external PR firms the skills they need to optimize their PR efforts. In this course, you will identify best practices for determining whether to use external resources, for vetting potential agencies, and for hiring and managing those agencies. As the client, you will always have a finite marketing budget, but you can use best practices to yield the greatest value from the portion of it that you're spending with an agency. You will discover a simple calculation to determine whether you can afford a PR firm now; and if you can't afford one now, you will identify concrete steps you can take towards that goal. Through this course, you will determine how to best leverage a PR agency.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM710 - Virtual Communication (0 Credits)**
For people all over the world, in-person interaction has been the medium through which personal and professional communication has traditionally taken place. The COVID-19 pandemic has altered this norm and made it clear that effective virtual communication is a skill that not only business professionals need to master, but also schoolteachers, medical professionals, students essentially, anyone hoping to make connections within the virtual space. In this course, you will learn to communicate effectively in a virtual environment and address the complexities inherent in online communication that are largely absent from face-to-face communication. You will learn how to create and adapt to virtual interactions, which includes activities such as setting up your physical space, adjusting your camera, and focusing on intonation and gestures. Finally, you will plan and prepare a high-stakes virtual presentation or communication by putting what you've learned into practice.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM711 - Sustainable Business Foundations (0 Credits)**
Sustainability has become a hot topic in business and, like it or not, sustainability is here to stay. Over the past 30 years, the issue has migrated from the fringe of companies to the C-suite. So what is "sustainability"? How and when is it relevant to an organization?In this course, you will acquire a new framework for evaluating sustainability efforts. Using this framework, you will examine how sustainability applies to business and the private sector's unique role to play. You will then identify the implications sustainability has for different roles within your organization and answer critical questions to ensure that sustainability is a strategic growth driver for your company. Along the way, you will explore examples of the complexities organizations struggle with as they pursue sustainability goals. The time for sustainable business development is now, and this course will allow you to set a solid foundation for your sustainability goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM712 - Analyzing Sustainability in Organizations (0 Credits)**
Whether you are a consumer trying to make better purchases or a manager trying to improve your company, it is imperative to investigate beyond the surface of sustainability.In this course, you will examine life cycle thinking and use it to make real improvements in products and services from the perspective of environmental and social sustainability. You will also explore valuable tools to help you refine your life cycle thinking and use it to identify where the biggest impacts lie in your journey to greater sustainability.Your analysis will lead you to identify what sustainability issues your organization is currently taking into account for a specific product or service, and what key issues might be going unnoticed. You will then perform a qualitative analysis of the social and environmental impact of a product or service throughout its life cycle, from the raw materials stage all the way to its disposal. You will also differentiate between the sustainability issues you have detected for your product or service to identify those that your organization will be most effectively able to act on and highlight opportunities to innovate and improve its sustainability.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM713 - Applying Sustainability Strategy (0 Credits)**
Complex problems often require complex solutions. In this course, you will explore six cutting-edge problem-solving methods and ways that you can apply them to sustainability issues in business. Systems analysis, design thinking, behavioral economics, positive psychology, crowd-sourcing, and big data can all help create solutions to some of the most critical sustainability problems organizations face today. You will explore each of these problem-solving approaches and practice applying them to a key sustainability problem. You will then strategize on how to combine approaches in order to create more nuanced strategies. With these powerful tactics, today's sustainability problems can become tomorrow's unique market opportunities for your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM714 - Implementing Sustainability (0 Credits)**
Once sustainability issues have been identified and potential solutions have been defined, it's time to work on implementation. Implementing business solutions can involve many different moving parts both within and outside the organization. A business sustainability canvas can help you most effectively frame and strategize for the implementation of your sustainability plans.In this course, you will hone in on the motivation and goals for your sustainability efforts and identify the metrics you will need in order to track these goals. You will also identify the tactics you and your organization will use to achieve these sustainability goals as well as the capabilities and relationships required to achieve them. Finally, you will analyze the trends needed to enable progress toward your business sustainability goals, including regulatory, stakeholder, and customer trends.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM715 - Strategic Stakeholder Management (0 Credits)**
For decades, stakeholder management considered the opportunity to maximize shareholder returns to be the main goal and guiding principle for businesses. In recent years, however, the growing demand to improve global sustainability along with the recent disruption by the COVID-19 pandemic has created a shift for businesses to do better in impacting sustainability efforts. To serve the interests of all stakeholders alongside profits is now more important than ever.Stakeholder management can be done as a logical, repeatable process. In this course, you will investigate the external variable and impacts on your sustainability strategy. By evaluating your organization's key stakeholders, you will determine your current standings. You will then determine how to adjust your stakeholder relations to better achieve your profitability and sustainability. Armed with a stakeholder strategy, you will develop a plan for managing communication with your various stakeholders.As you walk through the steps of analyzing and evaluating, you'll better understand the needs and contributions of stakeholders as well as how incorporating stakeholders into your daily business practices can result in correctly targeted business actions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM717 - Communicating Quantitative Data (0 Credits)**
In many cases, data is crucial to business strategy and decision making. For these situations, you will need to adapt your writing for longer, more complex messages that involve quantitative data. In this course, you will gain best practices to help you write effectively about numbers while getting your key message across. By thinking about your audience and your purpose, you will practice effectively planning and executing your communications that involve numbers and data. Beyond numbers, you will also need to think about how to use graphic elements in your writing. As you examine graphics such as tables, charts, and diagrams, you will identify the best times to strategically use each type of visual support. Finally, you will explore a type of report called a reading deck, determining when to use one, how to craft one, and how to use it effectively to communicate your message.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM721 - Hybrid Work Models (0 Credits)**
Uniting a workgroup to function optimally while some employees report in person and others are virtual or remote isn't exactly new, but this hybrid format the adoption of which was accelerated by the pandemic has become a mainstay in today's workplace. Managers and executives, therefore, need ??to redesign their team leadership models and work processes for a hybrid future. In this course, you will examine many different types of hybrid work arrangements. You will define what a hybrid team is and assess the current state of your organization: How well is it functioning? Where is there room for improvement in communication, process, and norms? After identifying a desired state for your organization, you will select the most beneficial hybrid model for your team, explore the implications of various hybrid arrangements, and prepare to share your recommendations for your workgroup. By the completion of the course, you'll come away with emerging best practices from Cornell research to make your hybrid workgroup as effective as it can possibly be.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM722 - Fostering Productivity and Culture in Hybrid Teams (0 Credits)**
Culture and productivity are deeply intertwined. Studies show that successful experiences in a workgroup scenario can have a positive impact on a person's satisfaction with life outside of work. This element of well-being is known to reduce turnover and increase productivity overall. The same is true for job satisfaction: Positive interactions result in job satisfaction, which leads to greater productivity for organizations. In this course, you will examine recommended practices for yielding the best results from the critical intersection of culture and productivity in a hybrid workgroup. By applying these concepts in your hybrid workgroups, you can optimize your organization and foster productivity and culture in your teams. You are required to have completed the following courses or have equivalent experience before taking this course: Hybrid Work Models
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM723 - Managing and Leading Hybrid Teams (0 Credits)**
Managing a team in a hybrid environment requires team leaders to acquire new skills and strategies. In this course, you will be equipped with tools that will allow both leaders and team members to assess the state of leadership within their team. You will then explore best practices for effectively launching a hybrid team and identify what is needed to foster high performance in hybrid teams. Finally, you will practice leadership techniques that will allow you to adapt to changing circumstances and sustain your hybrid team's high performance. You are required to have completed the following courses or have equivalent experience before taking this course: Hybrid Work Models
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM724 - Maximizing Communication and Collaboration in a Hybrid Environment (0 Credits)**
Achieving effective communication within teams can be challenging, which means communication within hybrid teams adds another layer of difficulty. In this course, you will discuss the main communication issues that hybrid teams are likely to encounter and identify specific solutions to those issues. You will then design a hybrid communication strategy to align with your team's needs and establish communication protocols and processes to support effective communication within a hybrid environment. You are required to have completed the following courses or have equivalent experience before taking this course: Hybrid Work Models
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell LSM731 - Generative AI for Written Communication (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE101 - Defining Robots Mathematically (0 Credits)**
In this course, you will explore the mathematical representation of robots and the robot and global reference frames through which their positions can be defined. You'll investigate how robots use sensors to define their environments and how to implement basic robot movements in MATLAB.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE102 - Localization Using Extended Kalman Filters (0 Credits)**
In this course, you will implement the Kalman Filter and Extended Kalman Filter in order to localize a robot. You'll compare the assumptions and performance of the two approaches and determine when to use each given the circumstances.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE103 - Localization Using Particle Filters (0 Credits)**
In this course, you will implement the Particle Filter in order to localize a robot. You'll explore the assumptions and performance of this approach and compare it to using the Kalman Filter.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE104 - Mapping and SLAM (0 Credits)**
In this course, you will explore the different ways to represent maps. You'll create maps and perform the action simultaneously as you localize a robot. You will define the challenges that come along with SLAM and will implement a technique called FAST SLAM.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE105 - Motion Planning: Potential Functions (0 Credits)**
In this course, you will control a robot using continuous motion planning.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE106 - Motion Planning: Roadmaps (0 Credits)**
In this course, you will control a robot using discrete motion planning
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE107 - Sampling-Based Motion Planning (0 Credits)**
In this course, you will control a robot using sampling-based motion planning.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE111 - Foundations of CFD (0 Credits)**
Computational fluid dynamics (CFD) aims to analyze and solve fluid mechanics problems within a variety of practical contexts. In particular, CFD approximately solves the mathematical models in fluid mechanics using numerical solution strategies with computer modeling software. Through the use of modeling software, you will leverage the computational power of the computer to complete calculations that would otherwise be impossible to do by hand. You will also generate clear visual representations of your solution that make interpretation by humans much easier and enable us to develop physical intuition. To ensure that your solutions accurately represent reality, however, you need to first understand how the "black box" of your modeling software functions and have methods to verify and validate your results.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE112 - 2D Laminar Flows (0 Credits)**
The framework used in this course for solving fluid dynamics problems can be applied to a wide array of situations and contexts. You will work on a 2D incompressible laminar flow problem in Ansys. Working with 2D flow simulations will help prepare you to create reliable fluid flow simulations for more complex 3D applications such as a car body, fan, and airplane.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE113 - 3D Turbulent Flows (0 Credits)**
While 2D simulations are a good place to begin, many of the real-world applications of simulation require simulating 3D conditions. In this course, you will work on a 3D turbulent flow problem in Ansys. You will apply the ideas covered in the previous course on 2D laminar flow, now extending to 3D turbulent flow, which is relevant for many industrial applications of simulation.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE114 - Rotating Machinery Flows (0 Credits)**
Rotating machinery is very important to consider in practice because it exists all around us in many forms, such as wind turbines, compressors, and fans. In this course, you will work on rotating machinery flow problems. This problem extends the same underlying physics and governing equations applied to 3D flows, with the added complexity of a moving physical body.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE115 - Compressible Flows (0 Credits)**
In high-speed flow, density changes are important to account for in order to accurately simulate the flow. In this course, you will work on compressible flow problems in Ansys. A classic example of such a flow problem is airflow over an airplane body. You will solve the governing equations for this type of problem and simulate the high-speed flow over an airplane body.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE120 - Spaceflight Mechanics (0 Credits)**

This certificate program offers you the opportunity to explore the foundational knowledge you will need to pursue new and exciting opportunities within the fields of aerospace engineering and commercial spaceflight. With the launch of the first privately owned, crewed spacecraft in 2020, the industry is poised for substantial expansion. Researchers predict that the space industry will grow significantly in the coming decade to include not only support for telecommunications, research, and security satellites, but also a new space economy in support of individuals visiting outer space as tourists and passengers.In this program, you will begin by practicing different ways of measuring space and time when analyzing space systems and planning for orbital maneuvers, thus building your analytical and geometric intuition for how two-body systems work. You will then progress to orbital maneuvers and trajectories, where you will practice applying various mathematical models to understand how to use the propulsive capabilities of your spacecraft to modify or transfer its orbit. Next you will explore the basics of propulsion for space missions, including chemical and electrical propulsion methods as well as future propulsion options such as solar sails and electromagnetic systems.Understanding and controlling the orientation of a spacecraft is just as crucial as controlling its orbit and position. To comprehend spacecraft orientation also known as attitude dynamics you will establish the mathematical formalism of attitude dynamics then turn your attention to the actual control of the spacecraft's orientation. You will conclude this program by identifying the different approaches to determining the spacecraft's orientation and position in inertial space, giving you a strong foundation of modern spacecraft attitude control system design and an ability to recognize current problems and trends in spacecraft operation and development. Throughout the program, you will complete a series of written and MATLAB assignments to help you increase your comfort level with the calculations involved in most astrodynamics problems. The assignments in this program will require you to solve equations of motion (second-order ordinary differential equations) numerically and graphically using MATLAB, as well as analytically via written problem sets.Spaceflight mechanics is complex. While you do not need to have spaceflight mechanics experience in order to take the program, prerequisites include calculus, differential equations, linear algebra, and experience with MATLAB. Check your readiness with this free pretest now.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE131 - Building and Analyzing a Basic Circuit (0 Credits)**

In this course, you will receive a blend of introductory information and practical hands-on experience to orient you to the world of mechatronics. You will design, assemble, and analyze your own simple circuits. You will also learn to set up a microcontroller, which will provide you with tools to use for the rest of the courses. This introduction to circuits and their basic functionality will provide a solid base for you to grow, both throughout this certificate program and beyond. In order to complete the activities in this course, you must be able to download and install the Arduino IDE on your computer. The kit purchased as part of this certificate program will provide you with the physical materials you will need to complete your assignments. You will need to provide your own computer. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE132 - Building and Measuring a Time-Varying Circuit (0 Credits)**

In this course, you will explore circuits whose behavior varies with time. These circuits have a variety of useful applications, and you will learn about both their theoretical design using mathematical circuit analysis and practical circuit assembly. You will also be introduced to a new and incredibly useful tool for analyzing circuits, the oscilloscope. By the end of the course, you will build a practical circuit to complete a specific task without requiring use of a microcontroller. This course will give you a wealth of experience that will be useful as you move toward doing your own open-ended projects. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE133 - Programming a Microcontroller (0 Credits)**

Learning to program a microcontroller is a crucial skill in the world of mechatronics. Microcontrollers allow you to make circuits that interact with the physical world around them via sensors (which gather data from the surrounding environment) and actuators like motors (which can affect the environment). In this course, you will learn the basic microcontroller functionality required to control inputs and outputs using simple hardware like buttons and LEDs, including an "under the hood" look at how the microcontroller works. The programming concepts you learn in this course will set the stage for controlling more advanced hardware like sensors and motors in future courses and projects. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE134 - Using and Controlling Motors (0 Credits)**

Motors are a key part of most mechatronic systems. They surround us in the devices we use every day, ranging from the tiny vibration motors in cell phones to the large motors in household appliances. Learning about different types of motors, and how to interface them with a microcontroller to control them, is an important skill that will allow you to build a variety of devices. In this course you will learn how to use and control three different types of motors commonly used in electronic devices. This will prepare you for using these motors in your own projects and other applications outside the classroom. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE135 - Collecting Data with Sensors (0 Credits)**

In this course, you will learn to use a variety of sensors that can measure quantities or variables from the surrounding physical environment such as the movement of a person or animal, the distance to a nearby object, or the amount of ambient light. Accomplishing this requires learning how to get relevant information from a sensor's datasheet and write appropriate microcontroller programs to get data from the sensor in a usable form. Learning to use sensors will allow you to build devices that are interactive and react to the physical world a valuable skill when designing mechatronic systems. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE136 - Designing and Building Your Own Mechatronic Device (0 Credits)**

In this course, you will synthesize everything you have learned so far to design and build a mechatronic system of your choice. You will need to apply what you have learned about circuits, microcontrollers, sensors, and actuators to build a device that reacts to the user or its physical environment somehow. You will need to apply your design, problem solving, and debugging skills to iterate and improve upon your project. Finally, you will document your project you will provide technical documentation including commented code, circuit diagrams, and assembly instructions, and a video that shows off your final design. You are welcome and encouraged to add these materials to your professional portfolio or show them off outside of this course. This program requires the purchase of a kit of electronic components and microcontrollers at a cost of around $550.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE141 - Conceptual Foundations of Finite Element Analysis (0 Credits)**

Finite element analysis (FEA) is a computational technique used to predict how a part or assembly behaves under given conditions, thus reducing the need for physical prototypes in product design while enabling the exploration of a large number of potential designs. It can be used, for example, to simulate the buckling of a wind turbine blade, the deformation of a pressure vessel, or the vibrational response of an electronics enclosure; these are all problems that can be solved computationally that would otherwise be impossible to do by hand. FEA also helps you generate clear visual representations of your solution that make interpretation by humans much easier and enable us to develop physical intuition. To ensure that your solutions accurately represent reality, however, you first need to understand how the "black box" of your modeling software functions and have methods to verify and validate your results. In this course, you will investigate the major elements of what is inside the black box to gain a deep conceptual understanding of how FEA software produces solutions. This will help you build an intuitive understanding of the fundamental mathematical models and physics underlying simulations of static and dynamic behavior of engineering structures. You will also familiarize yourself with the numerical solution strategy employed to solve the mathematical models using the finite element method as well as how to minimize errors. Ultimately, this course will prepare you to build reliable and valid FEA simulations for practical problems using industry-standard simulation software such as Ansys.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE142 - Ansys Mechanical Concepts and Implementation (0 Credits)**

Professor Bhaskaran's framework for solving finite element problems can be applied to an array of situations and contexts. Here, you will have the opportunity to practice applying this framework and begin creating simulations using Ansys. This course has been designed with a focus on problem-based learning: First, you will work on a "bar in extension" problem in Ansys, with Professor Bhaskaran's video demonstrations to help guide you. You will then practice solving a challenge problem on your own. To get the most out of the experience, you should work through each phase of the problem and reach out to your peers or course facilitator when you are stuck. Once you have completed the "bar in extension" problem, you'll be ready to take on a new but similar challenge: bar under gravity force. This challenge problem will require you to apply the same concepts and techniques that you practiced in the example problem but without videos to guide you. You'll be required to answer graded questions at each stage of the process. Your final simulation will be a product of your own efforts and will give you the confidence to begin working on more complex problems in finite element analysis.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE143 - Elasticity Applications (0 Credits)**

Professor Bhaskaran's framework for solving finite element problems can be applied to an array of situations and contexts. To practice applying this framework and create simulations using Ansys, your effort in this course will be focused on problem-based learning. You will explore the big ideas in 3D elasticity then apply them to solve an example static structural problem in Ansys. The example problem will involve analyzing a pressure vessel with a realistic geometry and loads. The geometry will be provided to you as a CAD file. As we set up and solve the simulation in Ansys, we'll keep returning to the big ideas to make sense of the Ansys inputs and outputs. You will follow along in Ansys as Professor Bhaskaran demonstrates best practices for simulating static structural applications. Your final simulation will be a product of your own efforts and will give you the confidence to create reliable static structural simulations.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE144 - Beam and Shell Applications (0 Credits)**

Professor Bhaskaran's framework for solving finite element problems can be applied to an array of situations and contexts. In order to practice applying this framework and create simulations using Ansys, your effort in this course will be focused on problem-based learning. You will examine the big ideas in beam and shell theories which are the basis for many practical static and dynamic simulations. Shell theory details are complex, but we can understand the underlying concepts as an extension of beam theory. You will apply the big ideas in shell theory to solve a practical problem in Ansys, namely a wind turbine blade with realistic geometry and loads. Professor Bhaskaran will walk you through solving the wind turbine blade example problem in Ansys. The geometry will be provided to you as a CAD file. As you set up and solve the simulation in Ansys, you'll continue to refer back to the big ideas to make sense of the Ansys inputs and outputs. You will follow along in Ansys as Professor Bhaskaran demonstrates best practices for simulating practical shell problems. Your final simulation will be a product of your own efforts and will give you the confidence to create reliable beam and shell simulations.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell MAE145 - Vibration Applications (0 Credits)**

Vibration is an important consideration in many engineering applications, including compressors, turbines, gears, and bearings. Modal analysis is used to predict the natural frequencies of the structure. Knowing these frequencies, the engineer can design the structure to avoid resonance leading to catastrophic failure. You will explore the big ideas in modal analysis by extending 3D elasticity concepts then apply those big ideas to solve a practical problem in Ansys: predicting the natural frequencies and mode shapes for a turbine disk with blades. Professor Bhaskaran will walk you through solving the "turbine disk with blades" example problem in Ansys. The geometry will be provided to you as a CAD file. As you set up and solve this vibration simulation in Ansys, you'll continue to refer back to the big ideas in modal analysis to make sense of the Ansys inputs and outputs. You will follow along in Ansys as Professor Bhaskaran demonstrates best practices for simulating vibration problems. Your final simulation will be a product of your own efforts and will give you the confidence to create reliable vibration simulations.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell OMNI001 - Omnichannel Leadership Program (0 Credits)**

Offering a compelling omnichannel experience is essential in today's hypercompetitive, rapidly evolving retail and consumer goods market. The key to unlocking the future of retail requires offline-online innovation that enables consumers to buy anywhere they choose to shop. Cornell University has joined forces with industry executives and visionaries from across the globe to create a new Omnichannel Leadership Program designed to help you build a high-performing customer journey and level-up your organization. In this immersive five-day program at Cornell Tech, industry thought leaders and renowned faculty will come together to share best practices for optimizing the customer experience, addressing topics such as prioritizing the customer, operations and execution, technology, data analytics, ESG, stakeholder management, and change management. Coming out of the Omnichannel Leadership Program, you will have a fresh perspective on customer needs as well as how you can accelerate the transformation of your organization for the future of omnichannel.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ORIE571 - Making Data Usable (0 Credits)**

Anyone who has ever had to deal with a messy dataset is familiar with the concept of "GIGO": Garbage-In, Garbage-Out. Even under the best of circumstances, you almost never get exactly what you want right from the start. The good news is that as long as a dataset has an underlying structure or pattern, we can usually turn the "mess" into something that is complete, clean, and ready to use in analysis. In this course, we will teach you how to make data usable by following a disciplined process of transforming, cleaning, and synthesizing data. You will practice getting your data ready by using filters and logical functions to identify errors and create a "clean" data set.By the time you complete this course you will have a clean dataset that is organized and ready for use in analysis.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ORIE572 - Creating Effective Data-Driven Dashboards (0 Credits)**

This course will enable you to turn data into information. Beyond keeping a record of what happened, the main reason that businesses and individuals collect data is to get value from it. That value can only be realized when you harness the tools and capabilities to make sense of the data and draw insights about what to do moving forward. The purpose of this course is to build your proficiency with those tools and capabilities by using Excel's powerful built-in Pivot tools to partition, summarize, and visualize data quickly. You will also create your own customized dashboards using robust and user-friendly design practices.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ORIE573 - Developing Robust Models to Evaluate Decisions (0 Credits)**

In Excel modeling, the flaw of averages creeps in when a single fixed number is used in all scenarios to represent an uncertain value to be revealed in the future. The actual outcome of that value could substantially impact the model metrics and resulting decisions. The purpose of this course is to give you hands-on practice in distinguishing situations where using fixed inputs can lead to poor estimates and decisions. You will also be equipped with a range of tools to incorporate uncertainty and simulation into Excel-based models. This will allow you to more accurately assess risk, understand system dynamics, and make better decisions.Statistician George Box is credited with the saying, "All models are wrong. Some are useful." This course is designed to help put you on the path to creating models that are useful by ensuring they convey the risks associated with different courses of action.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell ORIE574 - Optimizing Decisions and Assessing Tradeoffs (0 Credits)**

In this course, we move from building spreadsheet-based models that evaluate solutions to decision problems to the task of using those evaluation models to find the "best" solution(s) that we can. We will explore a number of different methods and built-in tools for finding "optimal" solutions. Surprisingly, different kinds of approaches lend themselves better to different kinds of decision problems. Important factors driving the choice of approach include the scale, scope, and mathematical complexity of the model. Excel is not the appropriate choice for every application. VBA (Visual Basic for Applications) is frequently used in implementing Directed Search Methods.For this course, since the focus is on finding optimal solutions to decision problems, we are going to be working with evaluation models that are already in place. However, because modeling choices related to how you organize the information on your worksheet can also play a role in how easy it is to solve a problem, those choices will be pointed out as we move through the different examples.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PH021 - Public Health Foundations (0 Credits)**
Public health professionals work to prevent or reduce disability and disease in communities. Throughout history, public health interventions have allowed societies to improve the length and quality of life. This course offers an overview of what public health is and fosters your understanding of the various factors that impact health as well as the role you can play in improving health outcomes. You will gain the opportunity to build your knowledge, skills, and confidence as you take a more active role in community health efforts as a member of the public health workforce.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PH022 - Assessing and Implementing Public Health (0 Credits)**
The field of public health has been evolving for centuries, and thanks to research and documentation, you will learn from and build upon the lessons and successes of the past. In this course, you will explore how public health is funded and administered in the U.S., what some of the key tools and functions of public health are, and who implements this powerful work in our communities. You are required to have completed the following course or have equivalent experience before taking this course: Public Health Foundations
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PH023 - Using Public Health Data for Action (0 Credits)**
Public health actions should be informed by data, and opportunities to use data that can inform public health interventions are everywhere. In this course, you will build your data- and evidence-based public health skills and confidence. You will explore trusted and reliable sources of public health data and look for themes and disparities that can answer your questions about a community's health and wellbeing. You will identify factors in your own community that contribute to positive or negative public health outcomes and practice supporting your perspective with data. Finally, you will connect those factors to the organizations and services that can help address them, offering recommendations you can use to serve and improve the health of the community in which you live or work. You are required to have completed the following courses or have equivalent experience before taking this course: Public Health Foundations Assessing and Implementing Public Health
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PH024 - Supporting Public Health Behaviors (0 Credits)**
Practicing public health involves working directly with people to advocate for and support the behaviors that will prevent disease, promote health, and prolong life among individuals and the population as a whole. Through this course, you have the opportunity to enhance your ability to facilitate behavior change by studying behavior principles. You begin by examining two important behavior models and considering several different factors that influence behaviors. You will then review key components of effective public health communication, including audience analysis and accessible messaging. Finally, you will explore and practice critical strategies for developing trust and meaningful connections with people of other cultures and social identities. You are required to have completed the following courses or have equivalent experience before taking this course: Public Health Foundations Assessing and Implementing Public Health Using Public Health Data for Action
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PH025 - Public Health Preparedness (0 Credits)**
Human health depends upon the health of the environment in which we live. We create systems to bring us clean water and to take away our waste, or we try to plant trees to keep land from washing away and to filter the air. Unfortunately, we also make changes to our environment that have the unintended effect of hurting our health. Sometimes people think issues like air pollution or natural disasters are too big, yet there are things we can each do that will help protect ourselves. When combined, these individual actions can make a real difference. You will start by understanding the risks then, using a case-study approach, examine some of the main environmental issues that affect our health. Looking back at history as well as into the future, you will share ideas for your role in addressing these problems. You are required to have completed the following courses or have equivalent experience before taking this course: Public Health Foundations Assessing and Implementing Public Health Using Public Health Data for Action Supporting Public Health Behaviors
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PMP100 - PMP Study Group (0 Credits)**
Join an instructor-led study group where you will work together to study the 10 knowledge areas of the PMBOK, discuss practice problems, and learn tips to help you prepare for the PMP exam. Required accompanying study books: A Guide to the Project Management Body of Knowledge, 6th Edition. Project Management Institute. Agile Practice Guide, 1st Edition. Project Management Institute. Rita Mulcahy's PMP Exam Prep, 9th Edition. Rita Mulcahy, PMP.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PO0001 - (0 Credits)**
In the Mindful Inclusion certificate, you ll develop a deeper sense of self-awareness and shift your perspective to become a more inclusive leader.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PO0010 - (0 Credits)**
In the Narrative and Creative Writing for Nonfiction certificate program, you will discover how to draft and edit compelling true stories of your personal experiences and prepare your work for publication.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PO0019 - (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT001 - Honey Bee Evolution, Biology, and Behavior (0 Credits)**
Effective hive management requires an understanding of the behavior, physiology, and evolution of these amazing and complex creatures. Explore this critical knowledge with world-renowned honey bee experts as well as Cornell University researchers and extension associates. This course serves as a foundation to help you understand the characteristics of a colony and how these traits and behaviors support colony survival and success. This information can be applied as you develop your hands-on beekeeping skills and will translate directly into your hive management practices. In addition, it will enable you to better understand the current scientific research and communicate with credibility within the beekeeping community. This is the first in a series of courses that equip beekeepers at the hobby, sideliner, and commercial levels with the concepts, knowledge, and best management practices needed to pass the written, oral, and field components of Cornell University's Master Beekeeping Certificate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT002 - The Science and Art of Beekeeping (0 Credits)**
Supporting your colonies' ability to thrive and achieving your desired outcomes requires a systematic approach and the application of practical techniques and knowledge. In this course, you will discover how to predict what to expect in your colony season by season. You'll gain confidence in your ability to analyze different situations and make informed management decisions based on the scientific principles you study here. Apply the hands-on techniques used by experienced expert beekeepers, honey bee biologists, and the Cornell University Honey Bee Extension team to keep your colonies healthy and to produce your desired outcomes year after year.This is the second in a series of courses that equip beekeepers at the hobby, sideliner, and commercial levels with the concepts, knowledge, and best management practices needed to pass the written, oral, and field components of Cornell University's Master Beekeeping Certificate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT003 - Managing Pests and Diseases (0 Credits)**
Managing pests and diseases is the number one reason beekeepers reach out to the Cornell University Honeybee Research and Extension Program for support. In this course, you will gain knowledge about honey bee immunity as well as how to apply Integrated Pest Management (IPM) principles to prevent and control all known pests, parasites, and pathogens that interfere with honeybee health and productivity. As a result, you'll feel confident in your ability to monitor, diagnose, and control specific problems in your colonies as you identify how to be proactive and take charge of the health of your bee operation.This is the third in a series of courses that equip beekeepers at the hobby, sideliner, and commercial levels with the concepts, knowledge, and best management practices needed to pass the written, oral, and field components of Cornell University's Master Beekeeping Certificate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT004 - The Rewards and Contributions of Beekeeping (0 Credits)**
Beekeepers are in a unique position to both reap financial benefit from their hives and contribute to the health of pollinator populations and the greater beekeeping community. In this course, you will examine major hive products and services, how to grow your operation, and what options to consider for beekeeping as a business. Even if you are not interested in making a profit from your bees, you will gain a valuable appreciation for the beekeeping industry, and understand how hard bees and beekeepers work.You will also determine how to evaluate the quality of information sources about bees and beekeeping, allowing you to contribute to education, research, and outreach, as well as participate in research activities, mentor less-experienced beekeepers, and raise awareness on pollinator issues. This course will prepare you to be a leader in your beekeeping community.This is the fourth in a series of courses that equip beekeepers at the hobby, sideliner, and commercial levels with the concepts, knowledge, and best management practices needed to pass the written, oral, and field components of Cornell University's Master Beekeeping Certificate.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT005B - Master Beekeeping Written Exam (0 Credits)**
This course enables you to schedule the evaluation components required in order to earn the Cornell University Master Beekeeping Certificate. Although evaluations can be scheduled in advance (and are held in the summer months), students must complete all required coursework prior to completing their evaluations. Components that will be evaluated include: A written examination demonstrating comprehension and application of knowledge learned in coursework. The written examination will take place at Dyce Lab, Cornell University, in Ithaca, New York. The written exam consists of multiple-choice, short-answer, and long-answer questions. Students must score 70% or higher on their written examination in order to pass this component of the final examination. All three courses in the Cornell Master Beekeeping Exam Series must be completed.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT005C - Master Beekeeping Oral Exam (0 Credits)**
This course enables you to schedule the evaluation components required in order to earn the Cornell University Master Beekeeping Certificate. Although evaluations can be scheduled in advance (and are held in the summer months), students must complete all required coursework prior to completing their evaluations. Components that will be evaluated include: Delivery of a 15-minute oral presentation demonstrating applied knowledge of beekeeping and research beyond the information provided in the coursework. (Can be completed remotely using video conference technology or in person at Dyce Lab). Research topic must be approved by course instructor and the oral presentation must be accompanied by visual slides. Students will be evaluated on the following criteria: a) Their ability to locate, critically evaluate, and interpret the scientific literature and other information sources b) The presentation's informational content c) The presentation's organization d) Their communication skills e) The presentation's level of appropriateness for the audience f) Their ability to answer follow-up questions from the instructor . Students must score 70% or higher on their oral examination in order to pass this component of the final examination. All three courses in the Cornell Master Beekeeping Exam Series must be completed.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRENT005D - Master Beekeeping Field Exam (0 Credits)**
This course enables you to schedule the evaluation components required in order to earn the Cornell University Master Beekeeping Certificate. Although evaluations can be scheduled in advance (and are held in the summer months), students must complete all required coursework prior to completing their evaluations. Components that will be evaluated include: An evaluation of fieldwork demonstrating application of effective management techniques learned in the coursework (completed at Dyce Lab in the summer months). Students will demonstrate these skills one-on-one with the instructor on Dyce Lab honey bee hives. Students are expected to bring their own protective gear. Thin medical gloves are permitted, but leather gloves are not. Examples of techniques to be demonstrated include (but are not limited to) the following: Performing a split, Performing a merge, Making a nuc, Performing proper inspections, Identifying pests and diseases, Monitoring for pests and diseases, Handling queens, Assessing the nutrition of the colony, Troubleshooting issues. Students must score 70% or higher on their field examination in order to pass this component of the final examination. All three courses in the Cornell Master Beekeeping Exam Series must be completed.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRYTI001 - Workplace Disability Inclusion (0 Credits)**
In this course, you will learn how to make disability inclusion an explicit part of your overarching business strategy. Starting with a a broad overview of the role HR professionals play in addressing this issue, you will maximize workplace disability inclusion and minimize disability discrimination across the employment process. You will discuss the importance of inclusion for people with disabilities, employers, and the business case for aligning disability inclusion with a company's strategic human-capital, diversity, and customer-service imperatives. You will also dive into the implications of effective HR policies and practices in the recruitment and hiring process, career development and retention initiatives, and compensation and benefits programs. Finally you will utilize metrics and analytics to measure the employee benefit of inclusion in your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell PTRYTI002 - Autism at Work (0 Credits)**
In this course, you will explore the emerging initiatives in technology to actively recruit and hire individuals on the Autism Spectrum. The course will encourage you to assess implications for human resource policies and practices in this area. You will then look into the opportunities and challenges encountered across the employment process in designing and implementing these kinds of initiatives, and evaluate the importance of creating a workplace culture that embraces a diverse workforce, including individuals with disabilities, and those who are neuro-atypical. This course focuses on effective recruitment, screening, selection, orientation, on-the-job training, and preparatory supervisor and workforce training for neurodiverse employees. You will build a workplace culture inclusive of individuals who are neurodiverse with considerations for career advancement, retention, and performance management. You will also build internal and external support systems to support success for those employees. Finally, you will use metrics and analytics to determine the program's effectiveness at the individual and organizational levels.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA099 - Introduction to Hotel Operations (0 Credits)**
Running a successful hotel today is a highly collaborative process involving many roles. This course is structured around the four key stages in the guest experience -- pre-arrival, arrival, occupancy, and departure -- and will explain hotel operations, the systems that hotels rely on, and the managers and staff who run them. During the guests' experience, managers and staff will learn how to engage with guests to win and maintain their loyalty. Professor Reneta McCarthy brings first-hand knowledge of hotel operations to this course, providing insights and guidelines that will give participants a good understanding of the inner workings of today's hotels.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA521 - Services Marketing Planning and Management (0 Credits)**
Services marketing is often viewed in terms of outcomes, but services marketing is also an ongoing analytic process. In this course, you will learn how to properly analyze frameworks, tools, channels, data sets, customer behavioral data, decision-making factors, and strategies that support broader marketing decisions. Authored by Robert Kwortnik from Cornell University's School of Hotel Administration, this course will teach you how to review the way marketing works in your organization and how to create and apply a services marketing process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA522 - Evaluating Business and Customer Factors Affecting Marketing Decisions for Services (0 Credits)**
To make services marketing work, you need to have a clear picture of the business environment and understand how your target customers behave. Knowing your market and assessing consumer demand can help inform and guide your marketing strategies. In this course, you will explore the role that micro and macro forces play when conducting a situation analysis. You'll also take a deep dive into what drives consumer behavior.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA523 - Building a Resilient Services Marketing Information System (0 Credits)**
Your services marketing efforts depend on information. Without relevant and accurate information, every decision you make will suffer from bad input. A well-run marketing information system captures, organizes, analyzes, and interprets data from a wide variety of sources to create a robust portrait of the ideal customers and their specific wants or needs. With the ideal buyer in mind, you can better target them with high-impact messaging that communicates a compelling brand promise and a clear reason to buy. In this course, you will learn when to use internal or external market data and when to conduct your own primary research. You'll also discover how segmentation, targeting, and positioning (the STP process) translates your analysis and research findings into a positioning strategy that appeals to the right target market at the right time and at the right price.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA524 - Developing a Service Strategy and Managing the Brand (0 Credits)**
You have marketing goals and you're feeling ready to execute. Maybe you want to increase market share, retain more customers or generally broaden consumer awareness. But how do you turn your goals into action? And how will you measure success? In this course, you will explore how to turn marketing goals into action by developing a marketing strategy and creating an enduring brand promise.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA525 - Managing Service Demand through Pricing and Distribution Strategies (0 Credits)**
You want your marketing efforts to generate demand. While increased demand naturally drives business and success, it does come with specific sets of challenges. Mitigating these challenges requires a keen understanding of demand management. In essence, demand management requires us to ask "How should we set our prices?" "How will we guarantee that our distribution partners ensure timely delivery?" In this course, you'll answer those questions and explore how pricing and distribution strategies can directly affect demand for your service.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA526 - Developing an Integrated Marketing Communications Strategy for Services (0 Credits)**
It's hard to overstate: A marketing strategy lives or dies in communication with the customer. And there's a methodology to it it is the culmination of all of the marketing research and analysis you've done. What you say, how you say it, how often you say it, the media channels you use to distribute your message, how you respond to complaints all of this affects customers' experiences with your brand. In this course, you'll take a deep dive into integrated marketing communications, or IMC. You'll explore a process-based approach to designing creative communications using a variety of methods and media. Finally, you'll examine ways to assess the performance of an IMC campaign.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA531 - Introduction to Hotel Revenue Management (0 Credits)**
Revenue management is key to any business that has relatively fixed capacity, perishable inventory, and time-variable demand. This course introduces you to the basics of revenue management in the hotel industry: how to apply pricing and length-of-stay tools and how to measure your revenue management performance. It is designed to inspire you to shift your thinking about revenue management from a focus on occupancy and average room rate to a focus on revenue per available room (RevPAR). This course teaches you how to accurately forecast guest arrivals at your hotel, examine pricing models in accordance with revenue management principles, and to manage overbooking. All of the techniques and practices discussed in this course are applicable to a variety of service management roles. By completing this course you will have compiled detailed notes and recommendations for implementing revenue management at the organization where you work.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA532 - Forecasting and Availability Controls in Hotel Revenue Management (0 Credits)**
Successful revenue management strategies hinge on the ability to forecast demand and to control room availability and length of stay. This course explores the role of the forecast in a revenue management strategy and the positive impact that forecasting can also have on staff scheduling and purchasing. Authored by Professor Sheryl E. Kimes from Cornell University's School of Hotel Administration, during this course you'll get a step-by-step approach to creating an accurate forecast as you learn how to build booking curves, account for "pick-up", segment demand by market, group, and channel, and calculate error and account for its impact. This course includes: Five self-check quizzes Two discussions Two Ask the Expert interactives One activity One downloadable tool to use on the job One action plan to apply what you learn One video transcript file The course Introduction to Hotel Revenue Management is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA533 - Pricing Strategy and Distribution Channels in Hotel Revenue Management (0 Credits)**
A smart pricing strategy is the best way to increase revenue. This course teaches you how to set prices, develop rate fences (differentiate prices by customer type), and use multiple distribution channels to manage price more effectively. You'll also learn about the impact of variable pricing and discounting on revenue management in the context of price elasticity, optimal price mix, perceived fairness, and congruence with positioning and sales strategies. Discover the ins and outs of channel management, an essential tool for controlling differentiated pricing, maintaining rate fences, and increasing revenue. Explore various approaches to managing distribution channels including direct sales, agencies, the Internet, and opaque pricing channels. Sheryl E. Kimes, professor at Cornell University's School of Hotel Administration, will provide you with the knowledge you need to help run a successful organization. It is recommended to take Introduction to Hotel Revenue Management prior to this course or have equivalent experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA534 - Overbooking Practices in Hotel Revenue Management (0 Credits)**
Businesses that accept reservations must cope with the problem of no-shows: customers who make a reservation but fail to honor it. Hotels can protect themselves against revenue loss from no-shows by overbooking. This course teaches you how to strategically overbook and how to evaluate groups in order to determine which rates to charge. You will examine the components of a successful overbooking strategy: no-show forecasting, no-show rates, arrival uncertainty, pricing policies, and cancellation forecasts. You will consider the risks of overbooking and review strategies to minimize costs and mitigate customer impact. This course, authored by Cornell University Professor Sheryl E. Kimes, will help you create a group forecast and explore yieldable and non-yieldable business and incremental group costs and revenue opportunities. Finally, you will employ models to calculate displacement costs and contribution margins to determine which customer groups will return the most profit. This course includes: Four self-check quizzes Two discussions Two tools to download and use on the job Three Ask the Expert interactives One activity Two action plans to apply what you learn One video transcript file The courses Introduction to Hotel Revenue Management and Pricing Strategy and Distribution Channels in Hotel Revenue Management are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA535 - Non-Traditional Applications of Hotel Revenue Management (0 Credits)**

Any business that has relatively fixed capacity, perishable inventory, and time-variable demand can increase revenue using revenue management not just hotels. This course, authored by Cornell University's Professor Sheryl E. Kimes, reviews the basics of revenue management and outlines the application of revenue management principles to other businesses, both inside the hotel and beyond, such as spas, restaurants, and golf courses. Through your work on the course project, you will reinforce what you have learned about the refinement and extension of revenue management practices and will develop notes and recommendations for implementing and extending revenue management at the organization where you work. This course includes: One self-check quiz Two discussions One tool to download and use on the job Three Ask the Expert interactives One scored project in multiple parts One video transcript file These courses are required to be completed prior to starting this course: Introduction to Hotel Revenue Management Pricing Strategy and Distribution Channels in Hotel Revenue Management Overbooking Practices in Hotel Revenue Management"

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA546 - Marketing the Hospitality Brand Through Digital Media (0 Credits)**

Successful marketing and revenue generation in hospitality requires the management of an array of new media including, social, mobile, and search. While these new media enable marketers to reach customers in ways that were previously not possible, successful use must be anchored by core marketing and demand management principles. This course provides you with a grounding in brand management and focuses on the importance of identifying and establishing your "brand promise": the experience your guests take away from engaging with your brand as the basis of new media management. You'll experience the challenges involved in maintaining your brand's promise across a growing array of new media channels. You'll be exposed to sound marketing concepts, advice from industry experts, and actual experience with new media in exercises and simulations. You'll then take what you have learned and apply it to your existing marketing efforts based on industry best practices and time-tested frameworks for profitable marketing. You'll learn directly from some of the heaviest hitters in new media for hospitality - CEOs, search, social and mobile media consultants, property-level managers, and more through interactive projects and compelling video exercises. See first-hand how the successful implementation of new media can help you deliver on your firm's "brand promise", enabling you to deal with market uncertainties and guide your organization toward sustained profitability.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA547 - Implementing Brand Strategy Through Digital Media (0 Credits)**

Hospitality marketing is fast shifting from traditional media to digital forms (e.g., social media, video, website and search, plus mobile applications). New-media technologies have changed the ways consumers experience and value a product or service. So how can you draw on these technologies to enhance your operations and provide distinct customer value? And how can you be sure your efforts in new media are producing tangible returns? In this course, you'll examine innovations and trends in new media, and ways to leverage them to your brand's advantage. You will consider how new media can improve your marketing efforts by managing customer expectations and enhancing the consumer experience, and you'll discuss how to measure the success of those efforts. You'll also determine what organizational considerations will allow you to better leverage the evolving impact of new media and plan the future structure and role of your organization in this important area. Explore this content through a mix of input from hospitality industry experts, hands-on practical activities, and the presentation of sound principles by Cornell faculty. Experience the content through the use of a fictional hotel case study with valuable feedback provided by your online instructor and peers. The course Marketing the Hospitality Brand through Digital Media is required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA549 - Success Metrics for Hospitality Digital Marketing (0 Credits)**

Digital marketing is fast becoming the primary means for hospitality and related service firms to reach, engage, and transact with consumers across their multiple devices. Consumer planning, shopping, experience, and sharing through digital media is quickly changing how marketing is done, as well as how marketing effectiveness is measured. Owners and managers must be able to make effective, data-driven, analytical, and integrated decisions related to digital marketing using the right metrics and reports. These decision support tools may be generated internally and/or by vendors, like digital or social media marketing agencies. Managers must be able to understand, evaluate, and communicate recommendations in line with the firm's overall business and marketing strategies. This course provides managers with the insight and tools to do the job. In this course, you will make marketing and service enhancement decisions based on the interpretation and the integration of digital media performance metrics. Through this analysis, you will evaluate the effectiveness of digital marketing activities using standard and new performance metrics. You will use digital media reports and available analytic tools to assess the competitive position of a business and articulate recommendations to improve performance. It is recommended to only take this course if you have completed Marketing the Hospitality Brand Through Digital Media and Implementing Brand Strategy Through Digital Media or have equivalent experience.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA551 - Fundamentals of Hospitality Strategy (0 Credits)**
Why are some companies successful, while so many other businesses fail? Some organizations may just be lucky, but success based solely on luck probably will not last. For an organization to have sustained success, it must stay competitive in the market; it simply cannot survive without effectively differentiating itself from its competitors. What sets your organization apart from your adversaries? A winning strategy will enable you to take on the market, maximize performance, and boost profitability. In this course, you will work through key activities in the strategy formulation process. First, you will investigate what a good strategy is, how to think like a strategist, and how to identify the foundations of your firm's strategies. You will then analyze the broad and operating environments. A broad environmental analysis forms the context in which the firm and its operating environment exist, as stakeholders also have the potential to exert influence over strategy formulation. Crafting a successful strategy includes the consideration of your organization's internal environment to determine what resources, capabilities, and strengths can be leveraged or developed to form future strategies. Organizations work to create advantage through the development of resources and capabilities. Toward the end of your learning experience, you'll have an opportunity to identify patterns that exist between your internal and external factors, and you will devise possible strategies. Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA552 - Formulating Hospitality Strategy (0 Credits)**
Formulating an effective strategy requires that an organization ask the right questions and then answer them thoughtfully and thoroughly. This course raises and helps you answer some of the most critical interrelated questions, such as: How does my company choose the right strategies to define where and how we will compete? What is my firm's vision and mission? How does my firm create value? You will begin by exploring the importance of direction setting in the strategy formulation process. You will then examine general business-level strategies focused on creating value, such as cost advantage and differentiation, by answering how your firm competes at the level of the hotel or business unit. In addition, you will examine corporate strategies like diversification, concentration, and vertical integration, which help organizations answer the question of where to compete in related and unrelated industries. Given that no two strategies are alike, you will classify both business and corporate strategies into common strategic characteristics to help you better identify your own organization's competitive positioning, as well as those of the competitors. What's more, you will explore the structure of an industry as the definition of industries and the competitive playing field continue to evolve and change. It is recommended to only take this course if you have completed "Fundamentals of Hospitality Strategy" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA553 - Implementing Hospitality Strategy (0 Credits)**
You've worked tirelessly to create an effective strategy that takes into account your organization's mission and vision and any related risk factors, as well as the competitive landscape in which you operate. Now what? Implementation is the crucial next step in this process, but there can be many pitfalls along the way. This course will provide you with the tools to recognize why strategic implementation can fail; how you can create an organizational structure and culture that will support and fit with your overarching strategic goals; and how to establish systems, measures, and incentives to effectively implement your strategy. You will complete this course with an action plan in hand that will enable you to confidently lead the implementation of your strategy in your organization. It is recommended to only take this course if you have completed "Fundamentals of Hospitality Strategy" and "Formulating Hospitality Strategy," or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA571 - Understanding and Visualizing Data (0 Credits)**
Important business decisions require justification, and while we often have data that can help us make those decisions, the skill with which we analyze the data can make the difference between a good and bad outcome. This course, developed by Professor Chris Anderson, is designed to move learners beyond making decisions focused solely on averages. In this course, you will develop a working familiarity with the grounding principles of data analysis. You will learn to derive the greatest benefit possible from the data available to you while ensuring that the conclusions you draw remain valid. You will apply a decision-making framework within which you'll interact with the data to achieve the best outcome. This course includes valuable tools and help sheets for data handlers along with the insight and perspective you need as a data consumer. While this course is not a replacement for a full-length statistics course, you will have a basic grounding in many statistics concepts by the time the course is over. You should be able to complete this course without any prior knowledge of statistics. Project Management Institute (PMI ) Continuing Certification : Participants who successfully complete this course will receive 6 Professional Development Units (PDUs) from PMI . Please contact PMI for details about professional project management certification or recertification. PMI is a registered mark of the Project Management Institute, Inc.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA572 - Implementing Scientific Decision Making (0 Credits)**
Summary statistics are one way to forecast uncertain outcomes, and the statistical results can be used to make decisions or guide strategy. Since summary statistics are based on a data sample, they typically inform intuitive decision-making. That is, the model requires interpretation which relies on the business intuition of the person using it.You'll learn how to examine sample data scientifically to limit any generalizations to only the patterns that have the strongest statistical support. As always, intuition and business knowledge play an important role in the process, but this course will prepare you to apply a level of scientific rigor that will lead to better results. The course Understanding and Visualizing Data is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA573 - Using Predictive Data Analysis (0 Credits)**
The sheer variety of sources and types of data that can aid in decision making are almost overwhelming. The key to making good use of the data lies in knowing what specifically to pay attention to, understanding the relationships and variables among the data, and making the right connections. Experience is essential to knowing and making educated guesses about what to pay attention to. Familiarity with statistical methods will provide you with a significant advantage over relying on gut instinct alone. In this course you will learn to identify uncertainty in a business decision, and to choose variables that help reduce uncertainty. By the end of this course, you will have a robust decision model that you can use to make predictions related to your decision. Along the way, you will clarify and enhance your understanding of the factors that influence possible outcomes from the decision. The course Understanding and Visualizing Data is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA574 - Modeling Uncertainty and Risk (0 Credits)**
Decision making is never as simple as we would like it to be, since rarely does a single factor alone predict an outcome. In a competitive business environment, not taking this uncertainty into account has serious costs. In this course, you'll use foundations in probability to describe risk mathematically and incorporate those calculations into your decisions so you can take them to the next level. Working through increasingly complex modeling situations, you will learn to use estimates of probable future outcomes for Go/No-Go decisions and to run a Monte Carlo simulation allowing you to examine outcomes that vary based on multiple, interdependent decisions. The courses Understanding and Visualizing Data, Implementing Scientific Decision Making, and Using Predictive Data Analysis are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA575 - Optimization and Modeling Simultaneous Decisions (0 Credits)**
In business, we don't often have the luxury of making one decision at a time; instead, we usually face multiple decisions at once, in highly complex situations where each decision has potentially far-reaching impacts. In this environment, professionals need a robust, quantifiable understanding of these ripple effects in order to meet business objectives and raise the odds of decision-making success. In this course, you will create and use data models for optimizing decision making in situations where resources are constrained and two or more decisions whose consequences interact must be made simultaneously. These courses are required to be completed prior to starting this course: Understanding and Visualizing Data Implementing Scientific Decision Making Using Predictive Data Analysis Modeling Uncertainty and Risk
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA576 - Predictive Analytics in R (0 Credits)**
Data modeling has become a pervasive need in today's business environment. Often the volume of data you need to process goes beyond the capabilities of spreadsheet modeling. When this is the case, the statistical programming language R offers a powerful alternative. With R, you can avoid the cost of standalone statistical packages. Likewise, you don't need a huge investment in learning the structures required to use a more fully featured programming language. In this course, you will work through the basic methods of predictive analytics, including generating descriptives, visualization, single and multiple regression, and logistic regression. The benefits of using R for logistic regression are significant, and these are explored in detail. When you have completed this course, you will have gained experience developing R code to solve novel problems in which basic predictive methods are required.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA577 - Clustering, Classification, and Machine Learning in R (0 Credits)**
When faced with a large volume of unstructured data, the question quickly arises: what does this all mean? Techniques in machine learning offer the promise of a meaningful answer to that question. Unsupervised machine learning is a powerful tool that is being put to use in many disciplines. In this course, you'll experience machine learning through scripting in the statistical programming language R. The course focuses on using unsupervised machine learning to bring coherence to unstructured data. Specifically, you'll use different methods to generate clusters within your data set when no dependent variable is specified. Using supervised machine learning approaches, you'll build and evaluate models that allow you to classify your data and understand the marginal impacts of each attribute. And you'll gain experience with powerful tools in R that allow you to efficiently evaluate competing models to find the one that gives you the most accurate results.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA578 - Prescriptive Analytics in R (0 Credits)**
Sometimes the problem you need to solve involves amounts of data or numbers of decisions that go well beyond the capabilities of spreadsheets. You can work around these limitations by replicating spreadsheet methods of simulation and optimization in the script-based programming environment in R. The use of R carries the benefits of flexibility, automation, and expanded set of tools and algorithms. In this course, you will work through the development and implementation of Monte Carlo simulations. You'll become familiar with the R functions most commonly used for this purpose. You'll also translate optimization problems that have been defined outside R to a form that supports computational solutions in R. You'll work with both linear and nonlinear solution methods. It is recommended that students have a background in data analytics especially with optimization, modeling, and monte carlo simulations, in addition to a familiarity with programming syntax.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA581 - Introduction to Commercial Real Estate Development (0 Credits)**

Successful commercial real estate developers are master coordinators, working with multiple counterparts every step of the way to create and maximize value through real estate projects. To do this, they use a thoughtful, organized process regardless of project size. This course offers a deep dive into the crucial early stages of that process. Using analytical tools and case studies, you will learn how to align your development vision and subsequent decisions with industry cycles, municipal objectives and regulations, market and site characteristics, and projected financial feasibility.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA582 - Managing Real Estate Development Projects (0 Credits)**

Real estate development projects have many moving pieces; the project manager guides and aligns resources to bring those pieces together into a coherent, financially successful whole. To develop critical project management skills, you will work through a case study and learn how to think like a project manager with guidance from Brad Wellstead, experienced former real estate development project manager and Cornell University faculty member. The practical tools and techniques you learn will allow you to confidently create a project schedule, set a realistic budget, and effectively manage resources, risks, and people.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA583 - Real Estate Investment Decisions (0 Credits)**

Real estate investment has a long history, going back well before the advent of the stock market. But unlike investing in stocks, real estate usually requires the use of leverage: a property is acquired with a percentage of equity, the rest financed with debt. To make that risk pay off, investors must have a clear strategy, know whether investments will be profitable, and understand how best to raise capital. In this course, Jan A. deRoos, professor at the Cornell SC Johnson College of Business, uses real-world examples and practical tools to teach these critical components of profitable real estate investment.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA584 - Financing Real Estate Investments (0 Credits)**

Real estate investment is a popular way to accumulate wealth, but you don't have to be rich to get started. That's because there are many ways to finance real estate investments to raise the equity you need and structure debt beneficially. In this course, you will explore both sides of the financing equation to understand what equity and debt partners want, how to structure financing for a high likelihood of approval and rate of return, and how to perform analyses that are critical to success. Not only will these analyses upgrade your skills, the sophisticated spreadsheet tools you use can be applied immediately to real-life opportunities. The course Real Estate Investment Decisions is required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA585 - Leading Successful Property Management Operations (0 Credits)**

Investing in proper management of a real estate asset is investing in future profitability. Excellent maintenance and tenant management can increase property values by lowering operational costs, increasing cash flow, and generating higher rents and occupancies. In this course, you will learn leadership traits and strategies for effective facilities management, best practices in critical areas like waste removal and reducing environmental impact, and how to manage overlapping maintenance activities and make outsourcing decisions. If leasing building space is critical to your operation, this course also will prepare you to analyze your property and the market to make sound leasing decisions.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA586 - Optimizing Asset Management Strategies (0 Credits)**

As real estate asset manager, you are steward of an owner's property, responsible for managing it to help achieve the owner's goals and increase its value. To guide you in this challenging role, you need a comprehensive road map for decision making: the Asset Management Strategic Plan. This course focuses on teaching you how to build this strategic plan and on developing your understanding of the asset manager role, its activities, and different management approaches. Beyond best practices and expert insights, this course also provides you with ample opportunities to practice new skills and an applied toolkit for real-world real estate asset management.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA591 - Fostering a Culture of Service Excellence (0 Credits)**

In this course, you will distinguish between the various components of a service culture and assess your current service environment. Using a case-based approach, this course will illustrate the importance of developing a strong service culture. You will reaffirm the importance of communicating a clear vision to both internal and external customers and share vision statements for your ideal service culture that reflect your organization's key values. Finally, you will identify workplace challenges and formulate an action plan to close gaps between specific components of your current and ideal service cultures.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA592 - Developing Service Excellence Competencies (0 Credits)**
In this course, you will identify the responsibilities of a service champion and the personal characteristics that contribute to effectiveness. The key skills required to assess, guide, and motivate service employees' performance are presented. You will practice the competencies required for engaging your colleagues in creating a strong service culture. Self-assessments and tools provide you with direction in developing several of these skills to evaluate your leadership traits, such as your credibility and expression of empathy. A review of communication channels and characteristics enables you to select the most appropriate method of communicating service standards. A final project provides an opportunity for you to apply course concepts to your own organization to facilitate a strong service culture. What's a "service champion"? What do we mean by a "strong service culture"? In this course, you will identify what great customer service teams do so that you can practice and model the same skills, helping your team move from good to great. Throughout this course you will practice modeling empathy, communication, curious discovery, and empowering others. This practice will give you the ability to empower others and empower your team to deliver excellent service that can be sustained over time.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA594 - Delivering an Excellent Customer Experience for Your Organization (0 Credits)**
In this course, you will focus on the key organizational processes that support the development of a strong service culture and exceptional customer service. You will be provided with a number of tools that enable you to select employees who have a strong service orientation and who will be a good fit with organizational values. The processes of orientation and socialization are examined as two powerful means of communicating service standards. You will then examine the benefits of a team-centered, collaborative culture and discuss strategies to facilitate and reward team performance. You will discuss organizational citizenship behavior using specific practices that support continuous on-the-job "training that sticks." You will wrap up the course by designing an orientation program for new service employees that takes into consideration service-focused principles and practices.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA595 - Developing a Culture of Empowerment (0 Credits)**
In this course, you will begin by focusing on service intangibles and consider the power of both customer perceptions and experience management in delivering exceptional service. The impact of sharing service stories and the benefits of fostering creative approaches to addressing service challenges are emphasized as participants consider how to facilitate a strong culture of service excellence. Providing phenomenal service requires empowered employees, and along with your fellow students, you will discuss methods of preparing employees to solve problems, make decisions, and address issues of service recovery. Then, you will consider how to best facilitate performance management practices including coaching and mentoring. A compassionate workplace fosters increased satisfaction and productivity, and the course concludes with suggestions for focusing on service employees' health and care.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA601 - Utilizing Income Statements and Operational Data (0 Credits)**
Amid the swirl of activity in food and beverage service, financial management is a function that loses priority sometimes, despite its crucial function. Understanding and managing your food and beverage operation's income statement (profit and loss statement) can lead to better decision making and can position you to succeed. Learn how to get a hold on your organization's finances and make informed decisions based on profit and performance.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA602 - Optimizing Your Food and Beverage Menu (0 Credits)**
Your menu does much more than inform guests about what you offer. It helps to create and communicate your food and beverage operation's identity, and influences your guests' choices. This course will enable you to evaluate menus and identify changes that will optimize the value and profitability of your food and beverage operation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA603 - Managing Your Food and Beverage Supply Chain (0 Credits)**
Your operation's brand is like a contract with the customer, and the expectation is that value will be delivered in relative accordance with price and quality of service. But keeping food costs down is no easy task. In fact, it's one of the most detail-oriented, scientific processes that go into running a restaurant and there are many challenges with keeping food costs controlled. In this course, you'll learn to optimize your operation's profits by effectively managing your selection, procurement, receiving, storage, and inventory management processes.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA604 - Building Guest Loyalty (0 Credits)**
Loyal repeat customers are key to the success of any food and beverage operation. They represent recurring revenue and are a great source for feedback and gauging customer sentiment. They can also be your greatest evangelists, recommending you to friends and colleagues, even giving favorable online reviews. Through careful design, meticulous attention to service processes, and a way to gauge customer sentiment, you can play to your team's strengths and identify opportunities for improving the guest experience to grow your business.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA605 - Leading Your Team to Optimize Results (0 Credits)**
Your employees are the heart of every food and beverage operation and your most valuable resource, yet so many operators fail to focus attention on employee satisfaction and engagement. Understanding your role in managing and leading employees can help you to reduce costly turnover, safety incidents, theft, and absenteeism, and can improve your operation's quality, productivity, guest satisfaction, and profitability.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA606 - Operating a Profitable and Responsible Beverage Program (0 Credits)**
Whether you are a restaurant, coffee house, even a cocktail bar, your beverage program can have a big impact on your profitability, but it comes with a good deal of risk. Understanding everything that is involved in offering wine, beer, spirits, and nonalcoholic beverages and applying discipline to your product selection, pricing, list design, and rigorous controls can minimize certain risks and position you for financial success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA607 - Opening a Restaurant (0 Credits)**
In this course, you will explore the challenges and opportunities that come with opening a food and beverage establishment. You will review a case study describing an existing food and beverage operation and explore the steps involved in creating a business plan and then work towards creating a business plan for your own food and beverage operation. You will also examine strategies for determining if your business idea will be successful in the market.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA608 - Adding Value with Special Events (0 Credits)**
In this course, you will explore how catering and special events are different from other food and beverage businesses and examine recommended strategies for effectively communicating with your clients. Next, you will explore the economics of catering and special events and develop strategies for pricing these events. You will continue with an overview of the complex array of partners you will need to work with and explore how those partners will help you create a successful event. Finally, you will develop best practices for creating a plan (menu, etc.) for your event.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA611 - Financial Analysis of Hotel Investments (0 Credits)**
Investing in hotel real estate is a complicated and rewarding endeavor. To be successful, hotel investors must be able to determine the financial interests of those involved in any project. In this course, Professor deRoos demonstrates several analytical tools used by real estate professionals to evaluate hotel investments. You will explore how owners, operators, and lenders evaluate potential hotel projects. Using an Excel-based tool, you will estimate the return on investment and return on equity for a hotel investment. Debt and equity financing are critical to every project and in this course, you will learn how to estimate the size of a mortgage loan given the lender's requirements. With real-world examples, practical tools, and opportunities to practice, you will develop the skills necessary to structure your own hotel real estate investments.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA612 - Control of Hotel Real Estate (0 Credits)**
The control and management of hotel real estate is a complex process with a wide variety of options for both hotel owners and companies. Determining who manages the hotel on a day-to-day basis and whether or not the hotel should affiliate with a brand can make or break your property. Based on his many years of academic and real-world experience, Professor deRoos provides you with the tools and knowledge you need to navigate the options and make sound decisions for your hotel investment. In this course, you will examine the most prevalent ownership structures in the industry and determine how these structures impact costs, benefits, and risk for both the owner and the hotel company. To evaluate decisions about affiliating with a brand, you will use an Excel-based tool to calculate the costs and benefits of converting an independent hotel to a franchise. Finally, you will examine the most commonly used control mechanism in the industry, the Hotel Management Agreement. The course Financial Analysis of Hotel Investments is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA613 - Developing an Asset Management Strategy (0 Credits)**
The hotel asset manager is responsible for managing lodging investments to meet specific objectives. Their role in building value is analyzed at both the portfolio and the property level. In this course, Professor deRoos focuses on the importance of developing a strategic vision for asset management and explores the latest asset management techniques in pursuit of that strategic vision.During this course, you will examine the role of the asset manager in real estate portfolio management and learn how to develop a strategic vision. You will also learn how to create an asset management plan designed to meet long-term financial goals, create forecasts, and build models that analyze sell versus hold alternatives and make optimal recommendations consistent with the asset management strategy and plan. The courses Financial Analysis of Hotel Investments and Control of Hotel Real Estate are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA614 - Achieving Hotel Asset Management Objectives (0 Credits)**
Ultimately, the goal of an asset manager is to strategically oversee hotel operations to meet the hotel owner's investment objectives. To help you meet that goal, Cornell University professor Jan deRoos introduces the latest asset management techniques and provides a set of five practical tools that both owners and asset managers can use to achieve their strategic objectives.In this course, you examine the various negotiation tactics and conflict resolution approaches that you can use to help when issues arise between owners and the hotel manager. You will examine capital expenditure planning and benchmarking, which can enable you to strategically increase hotel performance and its overall long-term value. Finally, you'll learn how to manage and analyze risk appropriately, in order to make refinancing decisions that use debt creatively.Once you've completed this course, with its in-depth case studies and step-by-step guidance, you will be equipped with the asset manager's toolkit, ready to tackle the challenges of this dynamic role. The courses Financial Analysis of Hotel Investments, Control of Hotel Real Estate, and Developing an Asset Management Strategy are required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA615 - Valuing Hotel Investments Through Effective Forecasting (0 Credits)**

For a hotel investment to be successful, you must first have accurate and reliable data about the critical aspects of the hotel operation, such as occupancy, revenue, expenses, and cash flows. But how do you generate these detailed forecasts? In this course, Cornell University professor Jan deRoos leads you through this analysis using the Hotel Valuation Software he developed with HVS International. Starting with the market study, you will forecast hotel occupancies for new properties and for existing properties and calculate average daily rates using a variety of cutting-edge techniques. Using the occupancy data, you will then forecast hotel cash flows, respecting the fixed and variable revenue and cost structure of a hotel. At the end of this course, you'll estimate of the market value of the hotel, a critical component of any sound investment decision. Given that forecasts are only as accurate as the starting assumptions, you'll learn how to develop data to support your forecasts. With step-by-step guidance and sophisticated software tools, you will walk away from this course with the skills necessary to conduct detailed forecasts and valuations for any hotel property. These courses are required to be completed prior to starting this course: Financial Analysis of Hotel Investments Control of Hotel Real Estate Developing an Asset Management Strategy Achieving Hotel Asset Management Objectives

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA616 - Valuing Hotel Intellectual Property and Structuring the Capital Stack (0 Credits)**

Accurately assessing the value of hotel intellectual property is critical when structuring the most advantageous deal. This course is designed to help you develop a high level of financial sophistication so you can properly assess hotel management agreements and franchise agreements, as well as assign value to the real assets.Professor Jan deRoos will guide you through the valuation of management agreements as well as franchise agreements using Excel-based spreadsheet tools. You will examine how debt and equity capital markets are used to financially engineer enhancements in the value of the real estate. To make sound financing decisions, you will calculate the costs of many of the commonly used mortgage loan features. Finally, you will explore how private equity sponsors design cash flow distribution mechanisms to align incentives and to achieve high returns. This course emphasizes the role of debt capital in creating value for equity and the role of public and private equity in modern real estate capital markets. Throughout the course, you will use sophisticated spreadsheet tools to support and quantify the analyses, all of which can be used to analyze real-life opportunities. These courses are required to be completed prior to starting this course: Financial Analysis of Hotel Investments Control of Hotel Real Estate Developing an Asset Management Strategy Achieving Hotel Asset Management Objectives Valuing Hotel Investments Through Effective Forecasting

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA621 - Foundations of Hotel Planning (0 Credits)**

Before developers and designers can successfully design a full-service hotel, they must have a strong grounding in foundational concepts relevant to the hospitality industry. These include market segmentation, hotel types and classifications, hotel branding, and the players involved in a typical hotel project. This course prepares participants for further studies in the specifics of hotel planning by considering how market needs drive the design process, how the "chain scale" system works, how branding decisions affect the planning process, and how successful hotel projects are coordinated. With extensive experience as a lecturer, researcher, and consultant, Professor Stephani Robson brings hotel planning to life with a wealth of content backed by activities designed to help you embrace and apply these concepts to your next project.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA622 - Hotel Planning Decisions (0 Credits)**

An important aspect of hotel design is the early planning decisions that owners, developers, and designers must make. These include addressing the needs and opportunities of the target market prior to the detailed design of specific parts of a hotel. This course will prepare participants to contribute effectively to initial decisions relating to full-service hotel planning, helping to ensure that later design decisions will take into account the target customer, the lodging product to be provided, and the associated allocation of space. Professor Stephani Robson, an expert in hotel planning and design, brings this phase of hotel planning to life with a wealth of content backed by activities designed to help you apply these concepts in practical ways. The courses Foundations of Hotel Planning and Hotel Planning Decisions are required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA623 - Hotel Guestroom Design (0 Credits)**

Hotel guests base much of their view of a hotel on the design and layout of their guestrooms. To ensure success in a full-service hotel project, developers, designers, and other stakeholders must ensure that floor plans and guestroom designs will meet or exceed the expectations of their target guests. This course walks participants through the process of developing an appropriate room mix, floor plans, and guestroom designs that will please guests while also returning value for owners or investors. The focus is on design considerations relevant to guestrooms and related areas, not the actual drafting of architectural plans. Cornell Professor Stephani Robson has many years of experience as a designer, lecturer, and author, and shares her expertise through videos, activities, and tools that will help you apply these concepts to your own situation. The courses Foundations of Hotel Planning and Hotel Planning Decisions are required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA624 - Hotel Public Space Design (0 Credits)**

The meeting rooms, food and beverage areas, and other public spaces in full-service hotels can be important revenue generators while also attracting new guests and maintaining their loyalty. Hotel planners and designers must carefully consider the needs of their target market and develop public spaces that address those needs. This course prepares architects, designers, and other project stakeholders to develop planning criteria and come up with appropriate designs for public spaces, from lobbies to meeting rooms, restaurants, and recreational facilities. Cornell Professor Stephani Robson shares her expertise and enthusiasm for these topics through videos, activities, and tools that will help you apply these concepts to your next project. The courses Foundations of Hotel Planning, Hotel Planning Decisions, Hotel Guestroom Design, and Hotel Public Space Design are required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA625 - Hotel Back-of-House Design (0 Credits)**

Guests may not see much of the "back-of-house" areas of a hotel, but the functions these areas serve are critical in full-service hotels. The rooms division must clean and support guestrooms; the kitchen and wait staff must prepare and serve fine food and beverages; the front office and administration staff must extend hospitality to guests and keep reservation and operational processes running smoothly. This course takes participants behind the scenes to consider the unique needs of back-of-house areas, discussing a range of principles that will help ensure effective planning for these important functions. From her wealth of experience as a hotel designer, lecturer, and author, Professor Stephani Robson guides you through a range of videos, activities, and tools that will help you apply best practices to back-of-house design. The courses Foundations of Hotel Planning, Hotel Planning Decisions, Hotel Guestroom Design, and Hotel Public Space Design are required to be completed prior to starting this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA631 - Discrimination Law in the Hospitality Industry (0 Credits)**

Discrimination is a topic often discussed yet, unfortunately, often misunderstood. It is common to hear that employment practices are unfair. While this may be the case, fairness and the law are not one and the same. Discrimination law defines specific protected classes and the obligations that employers face in accommodating these protected classes. In this course, you will begin to analyze and determine discriminatory acts through the lens of burden of proof, according to the law. You will explore the seven protected classes and how certain policies and practices your organization implements can lead to liability and damages. Understanding the legal concepts in accordance with your roles and responsibilities will enhance your decision-making and response with regard to discrimination. Ultimately, a careful examination of federal, state, and local discrimination laws, as well as your HR policies and actions, may help you better manage and prevent discriminatory behavior in your organization. This course does not assume any legal knowledge or accreditation on your part. Rather, it serves as an educational framework for managing. None of this content should be taken as legal advice. For legal guidance, please consult your own attorney or legal department.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA632 - Specific Discrimination Laws in Hospitality (0 Credits)**

Federal anti-discrimination legislation covers seven protected classes: race, color, national origin, religion, sex, age, and disability. While some of the protected classes seem fairly clear-cut, others are not quite as straightforward. For example, there are nuances related to sexual harassment, retaliation, the Americans with Disabilities Act (ADA), and religion. You will examine these four areas in detail, including accommodations, different standards for what constitutes discrimination, and adverse employment actions. More specifically, you will explore sexual harassment and when your organization may be liable under the law. You will study retaliation and investigate how you can minimize conduct that can trigger discrimination claims. In addition, you will scrutinize the definition of disability under the law and determine your organization's obligations to accommodate for disability based on the ADA. You will also analyze your obligations to accommodate employees' religious beliefs. This course does not assume any legal knowledge or accreditation on your part. Rather, it serves as an educational framework for managing. None of this content should be taken as legal advice. For legal guidance, please consult your own attorney or legal department.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA633 - Wage and Hour Law in Hospitality (0 Credits)**

The burden is on employers to make sure that they are in compliance with federal and state wage and hour laws, and employers want to be diligent about compliance. The trouble is that the law is not always simple to follow, particularly in hospitality. The law is not written for the hospitality industry; it is written for the manufacturing industry, where the breakdown of work tasks is very clear. Once you move outside of manufacturing, compliance with wage and hour law becomes much more complex and much more confusing. Employers and HR managers in hospitality may not have confidence in their ability to maintain compliance. A key characteristic of the hospitality industry is that the distinction between supervisor and worker is easily blurred. For example, we've all seen the restaurant manager who pitches in during busy shifts to help serve food. The organization may assume that this worker, as a salaried employee and a manager, is exempt from overtime pay, but is that correct? (Answer: Not necessarily.) In this course, you will examine relevant laws and potential violations that commonly affect the hospitality industry. You will practice correctly classifying workers and explore the questions of wage and hour law that are most relevant to hospitality. (Note: This course will be most relevant to HR managers and employers within the hospitality industry.) This course does not assume any legal knowledge or accreditation on your part. Rather, it serves as an educational framework for managing. None of this content should be taken as legal advice. For legal guidance, please consult your own attorney or legal department.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA634 - Labor Law in Hospitality (0 Credits)**
Unions have played a major role in shaping working condition standards in the U.S., and the hospitality industry is no exception. The National Labor Relations Board (NLRB) upholds the regulations that are specified within the National Labor Relations Act (NLRA). Within the NLRA you will find guidelines for conducting elections for union representation and codified guidelines of how to address unfair labor practices, as well as regulations regarding the employer-employee relationship. In this course, you will explore the nuances and parameters of the NLRA as it pertains to working in the hospitality industry. You will discover how and why employees are motivated to form unions. With those motivations in mind, you will delve into strategies for responding to union organizing efforts. Finally, you will be given tactics for successfully managing in a union environment. This course takes a deep dive into labor union relations in the hospitality industry. During this course you will navigate through the distinct parameters of the NLRA and consider insights into managing in union environments. You will review several curated applicable scenarios and analyze them to determine whether specific behaviors are lawful in the eyes of the NLRB. These scenarios will allow you to practice your ability to decipher the root causes of issues as you prepare to use the skills acquired in this course within your own workplace. This course does not assume any legal knowledge or accreditation on your part. Rather, it serves as an educational framework for managing. None of this content should be taken as legal advice. For legal guidance, please consult your own attorney or legal department.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA641 - Real Estate Interests and Entities (0 Credits)**
In real estate, a few simple words in a contract or on a deed can have a huge downstream effect. Before you decide to purchase real estate, it is therefore important to consider key issues around ownership, incorporation, and co-ownership agreements. In this course, you will explore and apply key concepts that will help you successfully navigate the real estate landscape from both personal and professional perspectives. You will begin by examining how to identify and assess real estate ownership relationships, rights, and issues. You will then consider how incorporation and other important legal protections can safeguard your financial and ownership interests as well as those of your partners and heirs. Having a working knowledge of the key issues involved with owning and investing in real estate will help you assess the pros and cons of real estate ownership and help prepare you for your real estate journey. Note: The information in this course focuses on U.S. real estate law; it is intended for educational purposes and to assist you to interact effectively with your own legal counsel. The information presented may not work for your specific situation. It is not legal advice, and taking this course does not place you in an attorney-client relationship. Always consult your attorney for guidance on legal issues.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA642 - Contract Formation Principles (0 Credits)**
Real estate transactions and the contracts that summarize them can be complex. There are many players and stakeholders who must perform as well as any number of terms and contingencies that must be satisfied in order for an agreement to be finalized and a property to change hands. In this course, you will examine the elements of real estate contracts in order to gain a deeper understanding of the contract life cycle, the parties involved, and the common terms and conditions associated with both residential and commercial transactions. Throughout, you will evaluate sample real estate transactions and situations in order to determine what might happen if one or more of the contractual contingencies is not fulfilled by one of the parties. You will also explore the relationship between a real estate purchaser and future owner and their attorney so that you can be better prepared to hire and interact with legal counsel when you are ready to purchase a property for personal or commercial use. By examining the key players, terms, and conditions, you will be better equipped to discuss and negotiate residential and commercial real estate transactions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA643 - Deeds and Title Issues (0 Credits)**
Title and deed are two common and interrelated real estate terms that are important to discern. Title transfers are commonly recorded with a deed, which is a legal document that chronicles the change in ownership from one party to another. Yet titles and the deeds that record them are not all the same. As a party in a real estate transaction, it is important to recognize how the marketability of title can affect ownership and to be able to interpret the implications of deed types as well as what protections, promises, and potential risks they include. In this course, you will delve into the concept of marketable title, identify and evaluate common title issues, and suggest title curatives. You will also examine the different types of deeds and identify their implications and risks to determine when certain types of deeds are appropriate to use and when they should not be. You will then explore recording laws and apply common law principles to determine who would be awarded title based on jurisdiction. After successful completion of this course, you will have gained a working knowledge of deed types, common real estate title issues, and their curatives.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA644 - Loans, Liens, and Foreclosures (0 Credits)**
Real estate is expensive. Financing transactions usually involves borrowing from lenders and other investors, and obtaining financing is rarely simple. Once financing has been secured, it means that multiple parties have a financial interest in the property. And if agreements aren't adhered to, these interests can become claims against the property. There are also legal ways parties can declare interest in a property. When properly filed, courts, mechanics, and lenders can claim a lien against a property to record an unsatisfied debt. When an owner sells the property or if they fail to meet their financial obligations, the property can be foreclosed to satisfy the debt. The ensuing process can be complicated and emotionally taxing. In this course, you will analyze the residential and commercial mortgage lending processes. Along the way, you will examine loan terms, such as underwriting, commitment, and promissory note, and assess the role they play in the process. You will also consider the essential responsibilities of the borrower and the lender. You will then explore different types of liens and the critical concept of lien priority in real estate, along with the resulting effects on owners, lenders, and investors. Based on these concepts, you will evaluate the foreclosure process and assess how debts are settled when foreclosure occurs. Through successful completion of this course, you will gain the ability to navigate and communicate about the mortgage process, lien priority, and the foreclosure process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA645 - Loans, Liens, and Foreclosures (0 Credits)**
Whether you are a tenant or a landlord, understanding and navigating commercial lease agreements is critically important. Language matters: Ambiguous terms, complicated conditions, and standard boilerplate can be the difference between successful lease agreements and long, costly disputes. In this course, you will examine and identify the elements of commercial leases. You will then analyze common lease language and explore the tension points, critical terms, and features of a commercial lease. Throughout, you will evaluate lease provisions and make suggestions to clarify and improve lease language. After taking this course, you will be better prepared to assess and negotiate favorable lease terms.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA646 - Navigating the Entitlements Process (0 Credits)**
In real estate development, entitlement is the legal process where an owner or developer obtains governmental approval for their project. As seasoned developers and investors know, successfully navigating the entitlements process is a critical milestone for every development project. Even if a development project plan appears to meet all criteria, it does not guarantee approval and without approval, there is no project. Getting through the entitlements process can be complicated as approval can depend on any number of factors. Therefore, it is critical to identify potential challenges and risks then take the necessary steps to mitigate them. In this course, you will analyze the entitlements process, consider factors such as variances and permits, and make suggestions to mitigate risks and resolve common entitlement challenges. You will also design a subdivision strategy with the goal of anticipating entitlement risks and challenges. Finally, you will attempt to tackle common disputes and legal challenges that can arise during the entitlements process. After successful completion of this course, you will have practiced critical skills that will help you navigate the entitlements process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA661 - Beer Ingredients and Production (0 Credits)**
The design of an effective beer program requires a foundational understanding of beer and how it is made. This course will immerse you in the making of beer, from the mixing of raw ingredients to packaging and storage. Along the way you will virtually visit breweries both large and small to experience the brewing process, as well as compare beer consumption from cans versus bottles. These activities will culminate with a multi-sensory product evaluation.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA662 - Beer Styles (0 Credits)**
Today there are well over a hundred recognized styles of beer. While it may not be feasible to study each individual style, after completing this course, you will know the main groupings of beer and what differentiates them. An examination of beer styles includes an understanding of judging guidelines and knowledge of all beer making methods, including those outside of a traditional brewery. Most importantly, you will gain the ability to perform a proper sensory evaluation of beer, including documenting your findings.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA663 - Establishing a Beer Program (0 Credits)**
A successful beer program includes elements that can be easily overlooked but might also be the difference between a successful and unsuccessful program. Properly planning a draft beer system is essential, but equally important is understanding your market and clientele. Then, selecting the right beer styles calls for the ability to build strong relationships with breweries and distributors. You will leave this course with the skills and tools necessary to create a successful beer program that fits your concept and is well-received by customers.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA664 - Beer Sales and Training (0 Credits)**
In any industry, even the most innovative product cannot sell itself. Training and education is essential to positively impact sales. This course will give you the tools needed to train your staff on your beer program, so they can educate your customers. This includes educating non-beer drinkers that there is a beer for everyone and pairing beer with food for even greater guest experience.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA681 - Wine Essentials (0 Credits)**
Interested in expanding your knowledge of wines? Whether you're an industry professional or simply a wine enthusiast, this hands-on course takes you on a journey through the winemaking process, from grape to glass. Learning from world-renowned industry experts from Cornell, you will learn to successfully identify the components of wine and how they affect perceptions before exploring your personal palate and conducting sensory evaluation, using sight, smell, taste, and touch. You will explore various wine growing techniques and analyze how geography and climate impact the grape. Finally, you will identify the correct service and storage approaches to use based on the type and style of wine. This program is intended for use by persons of legal drinking ages under the relevant applicable laws where they reside. Students will need to purchase wine, sugar, and other items commonly found in grocery stores to participate in tasting exercises.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA682 - Foundations of California, the Pacific Northwest, and New York Wines (0 Credits)**
This course will break down the four biggest growing and producing regions in the United States: California, Washington, Oregon, and New York. Each state has its own unique history, landscape and laws. You will explore the history of each region, as well as analyze the unique geographic features of each state and how they impact the wine. You will also read and interpret wine labels to better select wines from each region.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA683 - Experiencing Wines of California, the Pacific Northwest, and New York (0 Credits)**
In this course, your United States wine journey will culminate with a wine tasting experience. You will select and compare wines from different areas of the United States, while exploring how the wine market is set up and how to choose the right foods for your wines. Then you will prepare for a casual, at-home wine tasting, analyzing how different people interpret different wines, how wines differ from each other, and comparing your expectations vs perceptions.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA684 - Foundations of French Wines (0 Credits)**
This course will guide you in exploring eight important wine regions of France: Alsace, Bordeaux, Burgundy, Champagne, Loire Valley, Rhône Valley, Languedoc-Roussillon, and Provence. You will start with an overview of the French wine laws and classification system, then you will begin your study of each region. Within each region, you will consider its unique history with winemaking, how the climate affects grape growing and winemaking, the grape varietals and wine styles most associated with that region, and its unique classification system and labeling requirements, You will finish your course by selecting a winery from four of the regions and researching them, along with a specific wine from each, to summarize how these varied aspects of wine production climate, viticulture, winemaking practices, and classifications work together to produce the great French wines that are known and respected worldwide. It is recommended to only take this course if you have completed "Wine Essentials" or have equivalent experience.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA685 - Experiencing Wines of France (0 Credits)**
In this course, your journey with French wines culminates with a wine-tasting experience. You will select and compare two to six wines from the eight wine regions we studied. In addition to reviewing important wine label terms, you will explore how the French wine market works and the factors affecting wine prices. You will then prepare for a casual, at-home wine tasting, which includes selecting wines to share and determining appropriate food pairings. During your event, you will observe how different people interpret different wines. You will also consider the ways in which the wines are distinct from each other and compare your expectations to your experiences as well as the experiences of your guests. It is recommended to only take this course if you have completed "Wine Essentials" and "Foundations of French Wines" or have equivalent experience. Important: Alternatives can be made for those who do not drink alcohol, who are in areas where alcohol purchases or consumption are not allowed, or who are in circumstances where in-person gatherings are either not allowed or not recommended.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA686 - Foundations of Italian Wines (0 Credits)**
Taken as a whole, Italian wines are dynamic and offer a wide variety within the different growing regions of the country. In this course, you will explore the history of viticulture and winemaking in Italy and analyze the unique geographic features of the regions and how they impact the various wines. You will also read and interpret wine labels to select wines to meet a desired experience. "Wine Essentials" is required to be completed prior to starting this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA687 - Experiencing Wines of Italy (0 Credits)**
It is wonderful to learn and study wines, but your journey is best completed once you experience the wines. In this course, you will consider the wine-producing regions located within the four geographic zones of Italy and select two to four wines to share in a wine event. You will be guided through the process of selecting, sharing, and obtaining others' opinions about the wines you choose. You will deepen your understanding of Italian wines and hopefully be encouraged to continue learning. Because each part of the course project must be completed in order, we recommend you review all the project pages before you start the course to plan your time accordingly. "Wine Essentials" is required to be completed prior to starting this course.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA688 - Foundations of Spanish and Portuguese Wines (0 Credits)**
In this course, you will explore the history of viticulture and winemaking in Spain and Portugal. By analyzing the unique geographic features within the countries, you will gain insights into the many factors that impact which grape varieties are grown and the characteristics of the wines produced. You will also consider the many styles of wines from these countries and prepare to read and interpret wine labels to select wines to meet a desired experience, sparking discussion and engagement for you and your guests.The following course is required to be completed before taking this course:Wine Essentials
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA689 - Experiencing Wines of Spain and Portugal (0 Credits)**
This course may not physically take you to Spain or Portugal, but, through the process of selecting, tasting, and sharing wines, your taste buds may believe you've been there.In this course, you will select two to five wines from the countries of Spain and Portugal to share in a wine event. To prepare, you will research the wines and wineries to determine what information to share with your guests. You will then be guided through the process of thoroughly preparing a virtual or in-person wine-sharing event, including how to determine which foods to pair with your wines and which glasses would best showcase your wines, as well as how to obtain others' opinions of the wines. This learning experience is sure to challenge your palate, create conversation, and encourage your study of wines from your region and beyond.Because of the steps required to plan and host your event, we strongly recommend you review the project requirements and plan your time accordingly.The following courses are required to be completed before taking this course:Wine Essentials Foundations of Spanish and Portuguese Wines
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA690 - Real Estate Site Selection Analysis and Decisions (0 Credits)**

Choosing the best available building site for your project is the first step in getting a commercial real estate project off the ground. In this course, you will develop a systematic, project-based site selection process. Using a set of building sites, you will evaluate each site's proximity to economic generators, as-of-right zoning, budget, and size fit to quickly and efficiently eliminate sites. You will then analyze the project's target market to assess each property's intrinsic and extrinsic qualities to further verify the project fit. Lastly, you will compare, contrast, and rank each site based on project filters. Ultimately, you'll efficiently and systematically select the best available site for your project.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA691 - Creating the Real Estate Development Package (0 Credits)**

In this course, you will calculate, compile, and organize your project vision, budget estimates, and materials into a single document called the development package. This document will not only help you communicate your project to potential investors, it will also serve as a basis for developing a compelling financial pitch. To create the development package, you will clearly and concisely communicate your project vision and scope, and calculate and finalize your project's feasibility, schedule, and budget. You will also communicate the project team and culture, and address potential project impacts and how you will account for them.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA692 - Preparing and Delivering the Project Pitch (0 Credits)**

Real estate development projects have many moving pieces, involving millions of dollars and teams of individuals. From the initial spark of an idea to opening day, most projects take several years to complete. If you have a clear vision, a strong opportunity, a ready team, and a solid work and budget plan, it is now time to gain the attention and interest of potential investors. In this course, you will prepare a financial pitch for your project. To begin, you will dissect and examine the components of a financial pitch, understand your audience, and analyze industry best practices. Finally, you will refine and compile the project vision, culture, estimates, and data to compose and deliver a compelling, succinct, and effective financial pitch.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA693 - Creating the Basis of Design for Real Estate Projects (0 Credits)**

After gaining the trust of investors, lenders, and municipalities by clearly communicating your project's vision, market opportunity, and feasibility, you must now turn to the nuts and bolts of bringing the project to life. In this course, you will analyze your project's specific market sector's required program needs to create the basis of design, which articulates the project's vision and rationale as well as the physical space and the functional and aesthetic requirements. This deliverable is the foundation for the project teams' choices and decision-making processes as they put your vision into action.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA694 - Instilling Resiliency in Real Estate Development Projects (0 Credits)**

Despite your best planning efforts, additional challenges and opportunities arise during a project's life cycle. The difference between a successful project and an unmitigated disaster is how you assess and address these impacts. In this course, you will learn and apply methods to proactively identify, dissect, and mitigate project impacts while maximizing project opportunities. This will lead to decision-making processes to help you overcome and absorb the unexpected yet inevitable challenges every project faces.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA695 - Feasibility and Market Analysis (0 Credits)**

Is the value of your proposed property greater than its cost? Can you confidently forecast revenues for both new and existing properties? The ability to produce accurate estimates of rents, occupancy, and absorption is essential in making real estate investment and financing decisions. In this course, you will explore the process of accurately forecasting real estate occupancy for properties facing significant new competition. You will forecast revenues and expenses using contemporary techniques, including real estate cash flows and benchmarking analysis. Given that forecasts are only as accurate as starting assumptions, you will also investigate how to use data to support your forecasts. By the end of this course, you will have the strong foundation needed to create a successful and rigorous feasibility study and to use your skills to produce accurate, supportable forecasts.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA696 - Managing Real Property Rights (0 Credits)**

Without well-established rights to acquire, charge rents, and sell real estate, investors will not invest. Legal systems create these rules and institutions that facilitate the efficient identification and transfer of real property rights. So how do you tackle the legal aspects of real estate? In this course, you will explore the various estates in real property, including how property ownership is registered or recorded, how real property interests are transferred, and how ownership can be shared. You will understand the vocabulary of real property rights, identify the limitations on property rights, and examine the major contracts that surround real property transfer. By the end of this course, you will have the knowledge needed to connect financial and property rights, setting you up to increase the value of your property and transform fundamental property rights to your benefit.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA697 - Real Estate Appraisal Process (0 Credits)**
No survey of real estate as a financial asset would be complete without a discussion of appraisal. Understanding this critical piece of the process will set you up for success when you make complex decisions. In this course, you will explore the classic triad of real estate valuation methods: the cost approach, the sales comparison approach, and the income approach. The appraiser's task is to produce an estimate of the value of the real estate using each approach then reconcile these values in a final market value estimate. You will not become an appraiser in this course, but you will understand how to use appraisals to make better investment decisions and potentially increase the value of your real estate. Upon completion of this course, you will be able to use appraisals to make better decisions in a variety of areas in real estate. In the field, you will be able to use appraisals to support real estate investment decisions, asset management decisions, disposition decisions, refinancing decisions, and more.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA698 - Public Real Estate Capital Markets (0 Credits)**
Real estate investment trusts (REITs) are becoming an accepted equity structure around the globe, and commercial mortgage-backed securities (CMBS) create liquidity and lower the cost of borrowing for real estate developers and owners. Understanding their vocabulary and importance can set you up for successful, forward-looking strategies in your future projects. In this course, you will consider public real estate structures and their markets with a focus on the practical aspects of public equity (REIT) and public debt (CMBS) structures and markets. You will concentrate on the impact that REIT legislation has on the operation of REITs and how CMBS is designed to manage the risks of default and prepayment. By the end of the course, you will have a deeper understanding of real estate public markets as well as an ability to analyze how real estate performs as a security in the secondary market.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA699 - Real Estate Leases (0 Credits)**
Within the commercial real estate industry, it is vital to develop a deep understanding of an asset's condition as well as the market in which it competes. There are several strategies for optimizing your occupancy and lease rates through an evaluation of the competitive landscape. This critical look at your market environment will enable you to best position your real estate assets in terms of lease structures, leasing trends, term expectations, and much more.This course has been designed to simulate the way in which asset managers, along with those working in leasing departments, gather information and develop a leasing strategy. You will create a leasing strategy to convey the pertinent data about an asset and the market landscape to a particular audience. This course will train your eye to scan a property for key indicators of physical and financial health. Using a variety of downloadable tools, you will determine how to gather data for analysis that will provide insight and inform decision making for every step of the cycle of tenancy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA701 - Facilities Management (0 Credits)**
In commercial real estate, managing the upkeep of the physical asset is critical for multiple reasons, including occupant safety, meeting legal occupancy requirements, functionality of systems, efficiencies of systems, productivity of occupants, maintaining asset value, and more. Successfully optimizing the functionality of a building requires a strategic approach to maintenance activities and equipment selection, as well as continually seeking new technologies, devices, and practices to improve building performance and reduce departmental expenses. In this course, you will access important building management strategies and best practices, professional expert interviews, and exercises that bring various strategies to light.This course has been designed to simulate the way in which asset managers, building managers, and other stakeholders gather, analyze, and use various forms of building maintenance information to make decisions. Throughout this course, you will develop a robust tool kit of skills and resources to deal with property management issues including labor, code, financial management, and renovations. As you build your knowledge and skills in facilities management, you will be able to offer valuable recommendations and ask pertinent questions that will improve any asset's physical functionality and enhance the business's financial performance.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA702 - Building Systems, Engineering, and Equipment Management (0 Credits)**
Buildings rely on a variety of systems interacting to successfully support occupant safety and comfort. In managing an asset, it is important to have an understanding of all mechanical systems along with the ways in which they depend on one another. This knowledge becomes pivotal when ensuring code compliance, troubleshooting systems issues, or planning for improvements. In this course, you will explore the common issues, consequences, and solutions for the maintenance of building systems, including the building envelope (facade, windows, and doors), water, electricity, lighting, and heating/ ventilating/air conditioning (HVAC) systems. Once you have a handle on how these systems work, you will be able to identify areas for improved efficiency, which will, in turn, reduce cost and environmental impact. You will find that improved efficiency relies heavily on the monitoring techniques and preventative maintenance schedules explored in this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA703 - Sustainability in Building Design and Operation (0 Credits)**

Large buildings are some of the leading consumers of resources such as raw materials, electricity, and water. They also generate an incredible amount of waste. Customers and potential lessees now expect asset management to be transparent in their deployment of sustainable practices. On the flip side of this expectation, it has never been easier to make, measure, and communicate improvement in the area of sustainable operation. In this course, you will discover the importance of depth, clarity, and transparency when developing a sustainability strategy. You will then determine how to align your everyday efficiency goals with your overall sustainability strategy through environmental policies and practices, as well as the products you choose.Taking it a step further, you will investigate the popular "green" certification standards and the options available for new development projects and existing buildings. You will make on-site observations of a LEED-certified building and explore the criteria making the LEED and Green Globes programs the international benchmarks for green building design and operation.Beyond building design, there are valuable opportunities to empower and encourage your employees and/or residents to adopt sustainable practices by establishing a "green team" within your building or company. This team usually includes individuals passionate about sustainability and preserving the environment, so they will often be happy to help ensure your sustainability goals are met, in turn having a positive effect on waste reduction and, thus, your bottom line.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA705 - Introduction to Restaurant Revenue Management (0 Credits)**

Owning or managing a restaurant is a challenging prospect in today's competitive food service environment. To increase your chances of success, you need a proven system of data-driven tools focused on profits, not just costs. In this course Professor Kimes will guide you through the restaurant revenue management process, providing real-world examples, strategies, and techniques that will help you apply these tools to your own restaurant. You will explore the key inputs of space, time, and price to determine how you make appropriate trade-offs to maximize restaurant revenue. Using spreadsheet tools, you will calculate critical metrics and establish baseline performance levels. Based on these levels, you will identify the most significant challenges and determine which strategies will be most effective in overcoming these issues and optimizing your restaurant's revenue and overall performance.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA706 - Menu Design and Engineering (0 Credits)**

According to recent research, customers spend only one or two minutes reviewing a restaurant's menu. This provides you with just a small window of opportunity to capture your customers' attention and help them find just what they are looking for. In this course, Professor Sheryl Kimes will present you with proven strategies and techniques that can help you optimize your menu and increase the revenue it generates for your restaurant. Through the process of menu engineering, you will explore a unique approach to categorizing menu items based on profitability and sales volume. Using this categorization, you can implement a variety of strategies to increase the overall profitability of your menu. You will also explore several effective menu design techniques that will help you improve how you name and describe menu items and organize and highlight them to showcase your most profitable, best-selling dishes. Critical to your restaurant revenue management program is your approach to pricing, and you will determine the strategies that make the most sense for your restaurant. You will walk away from this course with a set of practical tools you can use right now to maximize your revenue, whether your restaurant is slow, busy, or somewhere in-between.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA707 - Optimizing Restaurant Space and Pricing (0 Credits)**

When your restaurant is busy, you might think that you can't possibly generate any additional revenue. However, in this course Professor Sheryl Kimes will provide you will a set of tools you can use to optimize your table mix so it better reflects the mix of parties you have coming in through the door. You will also learn how to select and place tables, assign guests to tables, and set the ambiance of your restaurant to grow your revenue. Finally, you will devise pricing strategies that are most effective when your restaurant is busy.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA708 - Managing Meal Duration and Reservations (0 Credits)**

When your restaurant is busy, every minute can count towards increasing your revenue. Professor Kimes explores how reducing meal duration, even by a single minute, can increase revenue potential. You need to consider the style of your restaurant and your customers when thinking about what an appropriate meal duration is. Then you can analyze the six stages of meal duration to determine where you can reduce time while maintaining a pleasant dining experience for your customers. Additionally, the way you manage reservations is crucial, especially during busy periods. There are several things you need to decide when it comes to how you are going to take reservations in your restaurant. You will examine the different approaches to taking and managing reservations, whether by phone, online, or mobile. You can use a dedicated website for the restaurant, a third party website, or a third party app. Professor Kimes will give you practical strategies to determine how you can improve your meal duration and your reservation systems, which are critically important to increasing revenue when your restaurant is at capacity.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA709 - Building Demand During Slow Periods (0 Credits)**
How can you increase your revenue when your restaurant is slow and not performing to capacity? In this course, Professor Kimes will discuss several revenue management tools and techniques you can use to improve your restaurant's performance when it is slow. First you will consider how to maximize your distribution channels and consider the costs of online reservations and ordering systems and how to balance the costs with the benefits. How can you make it easy for customers to come to your restaurant? Another important tool you can use is promotions. You will explore different strategies such as happy hours, special events, and other options that can entice customers to come to your restaurant. Finally, you will consider pricing and determine what approaches are most effective when your restaurant is slow.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA711 - Communication Planning for Change (0 Credits)**
The ability to effectively communicate about change in an organization is essential for success. Change is inevitable and people will be affected by it to varying degrees even by positive change so it's important to be able to communicate clearly. In this course, you will explore the different ways change can impact people, how communication can alleviate negative reactions, and how to work with resistance to change. You will be introduced to formal communication plans, identifying the kinds of change that require documented plans and establishing the appropriate internal and external audiences that must be considered. You will then define the communication objectives for each audience, identifying their needs and discovering that each audience is distinct and may need different information at different times. Lastly, you will examine message strategy and timing, determining the content of the message, the forms of media that should be used for delivery, when to communicate with each audience, who the messenger will be, and the types of reactions to expect so that negative reactions can be effectively addressed and positive reactions can be encouraged.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA712 - Crisis Communication Planning (0 Credits)**
A crisis can have a tremendous impact on the people involved and on an organization's performance and reputation, so it's important to communicate effectively in order to minimize negative consequences. Preparing for a crisis through the creation and ongoing analysis of a crisis communication plan can help minimize negative reactions and fallout. In this course, you will define crisis, paracrisis, and the goals of crisis communication. You will share your own experiences and practice identifying potential crises, creating a crisis communication plan, choosing a crisis communication team, and evaluating the plan. A key component of preparing for a crisis is crafting messages for internal and external stakeholders. Messages must be quick, consistent, and open, and preparing initial statements ahead of time will help leaders and spokespersons communicate effectively during a crisis. You will examine the content of effective initial statements with the opportunity to review real-life examples, evaluating them for quality and success. You will practice addressing difficult questions and criticisms, exploring acceptable and graceful responses. Once the crisis is over, it's important to review what worked well, what didn't, and to update the crisis communication plan for next time. Reflecting on a real life example, you will evaluate the response to the crisis and the crisis communication plan itself.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA713 - Foundations of German and Austrian Wines (0 Credits)**
The remarkable variety and exceptional quality of German and Austrian wines may surprise you, but they will not disappoint. To get to know the wines of Germany and Austria, this course sets up a unique opportunity to dive into the contexts, varietals, and characteristics of wines from these regions.Throughout the course, you will explore the similar wine histories, climates, and geographies of Germany and Austria and consider how they influence the grapes grown and wines produced in these regions. By identifying the varietals grown there, you will draw connections across your expertise and set an exciting foundation for more education on regional wines and their individuality. You will also analyze and learn how to interpret wine labels from these countries to enable you to select wines to experiment with, discuss, and enjoy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA714 - Experiencing Wines of Germany and Austria (0 Credits)**
One of the best ways to learn is to teach. In the case of wine, one of the best methods of learning comes through sharing.In this course, you learn by working through the process of planning and hosting a wine-sharing event. You begin by selecting two to five wines from Germany and Austria to share. You are then guided through the process of planning the event (in person or virtual), including determining what information to share about each of the wines and how to serve them. Finally, while hosting the event, you will formulate your own opinions about the wines and learn from the experiences of others. By exploring these wines in this unique course, you will expand your palate, spark conversation, and support your lifelong study of wine.Because of the steps required to plan and host your event, we strongly recommend you review the project requirements and plan your time accordingly.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA715 - Foundations of Southern Hemisphere Wines (0 Credits)**
The wine industry in the Southern Hemisphere is part of the growing and dynamic "new world" wine industry. Southern Hemisphere wines include those based on the traditional international varieties as well as wines based on signature varietals you will only find in their respective countries.In this course, you will explore the foundations of high-quality wines coming from five of the highest-volume wine-producing countries in the Southern Hemisphere: Argentina, Australia, Chile, New Zealand, and South Africa. You will start with the consideration of the climate of these areas, remembering that Vitis vinifera is best grown between the 30th and 50th parallels of both the Northern and Southern Hemispheres. You will explore the grape varieties and wine styles associated with each of our countries of focus, and you will combine all that you discover to research a specific winery and wine from each country.The following course is required to be completed before taking this course:Wine Essentials
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA716 - Experiencing Wines of the Southern Hemisphere (0 Credits)**

The Southern Hemisphere offers myriad wines to the world, and now you have the opportunity to experience these wines and share them with others.During this course, you will be guided through the process of planning and hosting an event sharing the wines of the Southern Hemisphere. You will start by selecting wines for others to try, then research and plan what information to share about each wine. Finally, you will host your event and lead your guests in trying each wine and sharing their opinions about the experience. Through your work in preparing and hosting this event, you will deepen your understanding of Southern Hemisphere wines, perhaps find a few favorites to enjoy regularly, and hopefully be inspired to continue exploring the wines of the Southern Hemisphere.The following courses are required to be completed before taking this course:Wine Essentials Foundations of Southern Hemisphere Wines

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA721 - Discounted Cash Flows in Real Estate (0 Credits)**

In this course, you will gain an overview of real estate financial modeling, focusing on properties with multi-year leases. Using the models and frameworks established as today's industry standards in real estate, you will explore deriving basic valuations and performance calculations. You'll discover how a discounted cash flow model can be used to deliver sound real estate investment and financial decision-making through hands-on practical exercises.As part of this process, this course will introduce the various Excel functions required to develop dynamic models to assist decision-makers. To be successful, these tools must be simple to use and interpret, must offer realistic outcomes to complex hypothetical real estate situations, and must be capable of handling a wide range of scenarios. High-stakes decision-making requires a comprehensive understanding of the options and their associated risk. Therefore, the first step is to adopt best practices then apply the essential building blocks in Excel that will be covered in this course, creating a foundation for your future work in this area.

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA722 - Unlevered Real Estate Acquisitions (0 Credits)**

In the competitive world of commercial real estate and asset management, creating reliable tools like acquisition models will allow you to make confident predictions, even in the face of common risks such as building vacancy. In this hands-on course, you will analyze the procedure for building a structural model from the ground up.This course will start with forecasting rental income and its main challenge, vacancy, for an office building. Forecasting future operating income requires looking lease by lease through each source of operational revenue and expense. Some items, such as expense recoveries, are recurring; others, like tenant improvements and leasing commissions, are exceptional. From here, an estimation of value and performance will require an assessment of the risks to which the investment will be exposed. Aggregating this forecast of unlevered income after making the proper adjustments for risk is the foundation for all future acquisition models. By the end of this course, you will be poised for success as you apply the concepts from this course in your role and beyond.You are required to have completed the following courses or have equivalent experience before taking this course:Discounted Cash Flows in Real Estate ORFamiliarity with the Microsoft Excel environment and the structure of a basic discounted cash flow model The ability to apply conditional functions in Excel (IF statements and LOOKUP, TRUE/FALSE, INDEX/MATCH, OFFSET, and MIN/MAX functions) to produce the desired outcome

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA723 - Real Estate Debt Financing and Scenario Analysis (0 Credits)**

While all commercial real estate transactions first require understanding the merits of a particular location and property, investors also pay close attention to the capital stack and the equity at risk. In fact, few deals are done with equity capital only. Using external financing to close on certain transactions is often motivated by risk-adjusted target performances. When done carefully, investors can take advantage of the cheaper cost of capital to potentially magnify their returns positively.In this course, you will expand on the basic underwriting model for property acquisition to incorporate financial leverage and scenario analysis. The first step is to take a precise look at how the most common types of mortgages work, noting that financing and capital structure decisions are far more complex than just building amortization tables. They include crucial details that can lead to a deal's success or failure and have important ramifications down the road. To apply your learnings on the optimal balance in your deal structure, you will model a variety of scenarios across many loan types while keeping the element of uncertainty in the forefront. You will acquire a what-if mindset through this process, helping you identify the optimal capital structure given the deal you are contemplating. With this tool combining your forecasting intelligence with a strategic choice, you will be set up to expand your knowledge in new ways and grow in your role and beyond.You are required to have completed the following courses or have equivalent experience before taking this course:Discounted Cash Flows in Real Estate Unlevered Real Estate Acquisitions

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA724 - Real Estate Development Financing (0 Credits)**
With population growth and a finite amount of space on this planet comes a natural expansion of the land we use for human activity, and real estate development is the immediate consequence of this ever-growing human footprint. Most of the time, real estate development is a business in and of itself, with each development decision requiring meticulous economic analysis.In this course, you will start by assessing the real estate process as a whole, which will inform your understanding of why properties are located where they are. You will then examine the financing process that facilitates real estate development. To apply your knowledge, you will build a model from the ground up that includes the sequence of various equity and construction loan draws, including how to reallocate the proceeds. The course concludes with an evaluation of the optimal use of a vacant lot in New York City. You will apply what you have studied throughout this course to make a recommendation with respect to the appropriate land value and its best use given the financing structure in place, providing you with experience and best practices to apply to your role.You are required to have completed the following courses or have equivalent experience before taking this course:Discounted Cash Flows in Real Estate Unlevered Real Estate Acquisitions Real Estate Debt Financing and Scenario Analysis
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA725 - Equity Waterfalls in Joint Ventures (0 Credits)**
Most commercial real estate deals succeed or break down around a simple concept: Does the ownership have what it takes to make it happen? The dilemma, then, that most investors contemplate is whether to be the sole investor and own all risks and profits or to partner with someone in a joint venture.In this course, you will discover how to analyze these options for a variety of investment scenarios, balancing the right incentives for each partner to perform at their best while avoiding conflicts of interest. You will examine examples of incentives, including profit-sharing rules, assessing the options when it comes to profit distribution and the variables involved, such as the timing and proportions of this disbursement.You will then gain experience applying the most common profit-sharing rules at the joint-venture level by building an equity waterfall from the ground up that includes four layers of distribution. By the end of this course, you will have more context and experience with joint ventures and the variables behind successful deals in the marketplace.You are required to have completed the following courses or have equivalent experience before taking this course:Discounted Cash Flows in Real Estate Unlevered Real Estate Acquisitions Real Estate Debt Financing and Scenario Analysis Real Estate Development Financing
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA726 - Real Estate Acquisitions Integrating ARGUS and Excel (0 Credits)**
In this course, you will apply real estate financial modeling skills to a real-world example, offering the advantages of immersive decision-making but also assessment of that decision based on the outcome of a real example. You will examine an opportunity to invest in a Class B building located within the New York City submarket of Hell's Kitchen on the west side of Manhattan. You will walk through the process of carefully underwriting the deal and, ultimately, deciding whether or not to invest.In the process of this example transaction, you will gain experience using the industry's commonly adopted approach: utilizing widely used modeling tools including Microsoft Excel and ARGUS, which is used to model office, retail, and industrial operating cash flows. By adjusting crucial variables, you will discover new insights in the process of creating a dynamic model using these industry best practices. Finally, you will delve into the step-by-step market analysis behind each one of the tenant scenarios to inform a final recommendation. By experiencing the whole project process, you will be equipped to apply these skills to your projects across the industry.You are required to have completed the following courses or have equivalent experience before taking this course:Discounted Cash Flows in Real Estate Unlevered Real Estate Acquisitions Real Estate Debt Financing and Scenario Analysis Real Estate Development Financing Equity Waterfalls in Joint Ventures
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA731 - Purchasing Considerations (0 Credits)**
In this course, you will determine the factors of importance in making purchasing decisions in line with your organization's strategies and tactics. You will explore purchase specifications and align them with requests for quotations (RFQs) and purchase orders. You will then examine how purchasing supports your organizational goals, such as choosing higher-quality versus lower-price goods, in line with your organization's strategy and tactics. Finally, you will explore the factors that influence whether you should make a good (or provide a service) in house, or purchase that good or service from an outside vendor.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA732 - Inventory Management (0 Credits)**
In this course, you will investigate the different factors that can be manipulated to impact your inventory. By monitoring customer service and inventory turns, you can minimize investment, resulting in the optimal level of inventory for your organization. You will forecast independent and dependent demand for inventory items and how that is impacted by the typical costs for various types of inventory. You will then calculate the inventory level that minimizes overall inventory costs for your organization while establishing reorder points that meet your proscribed service levels. By the end of the course, you will have created an MS Excel forecasting model and an EOQ model that will allow you to efficiently optimize your inventory.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA733 - Purchasing Strategy (0 Credits)**
In this course, you will identify the purchasing strategy and/or policy appropriate for any given purchasing scenario. First, you will explore reactive and proactive buying strategies and draft an annual purchasing plan using a sales forecast. Next, you will conduct an ABC analysis, or demand analysis, to differentiate your inventory. This will guide your strategy choices for different types of inventory items. Finally, you will draft buying strategies for differing levels of inventory that address short- and long-term planning for your organization. By the end of this course, you will have the skills and resources you need to create and refine the purchasing strategy for your organization.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA734 - Supplier Selection and Evaluation (0 Credits)**
In this course, you will develop a supplier selection and evaluation tool. By evaluating your organization's strategies and tactics, you will be able to identify the procurement factors of importance that you will use in your supplier decisions. You will explore what makes a "good" supplier and identify how much time to commit to sourcing requirements. You will then examine how your organization's goals and objectives interact with sourcing requirements and supplier selection. Finally, you will draft a supplier screening process using key financial ratios that you will then apply to your supplier selection and evaluation tool.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA735 - Cost Management (0 Credits)**
In this course, you will prepare for a supplier negotiation or collaboration by evaluating purchasing decisions for significant expenditures based on various cost models. You will examine various factors that affect costs, such as a supplier's pricing strategy and market conditions. By leveraging various costing strategies that are commonly used in industry, you will draft a price analysis for a complex item. Finally, you will explore collaborative cost management strategies and build a total cost of ownership model of your own.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA736 - Bidding, Negotiation, and Contract Management (0 Credits)**
In this course, you will develop the most appropriate interaction style and contract type to secure supply requirements for your purchasing scenario. To begin, you will examine two interaction styles competitive bidding and negotiating and determine which strategy is most appropriate for a given scenario. You will then explore and plan for a successful negotiation using typical strategies such as identifying both your and your partner's negotiation stances. Once you have successfully applied best practices, strategies, and tactics for a negotiation, you will follow up with securing the contract parameters that meet your organization's procurement goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA739 - Making Strategic Change Happen (0 Credits)**
With emerging technologies and expanding global marketplaces, it is imperative that organizations become highly proficient in driving their change agenda. Whether diversifying, downsizing, merging, reorienting business, or developing new management structures, organizations must be able to effectively carry out change initiatives to remain productive and competitive.In this course, you will discover how to assess organizational readiness and your own ability to facilitate change. Working with a comprehensive organizational change management simulation, this experiential exercise provides an opportunity for you to learn by doing. By selecting and implementing strategies, you will see the rewards and consequences of your choices. You will also examine why the majority of change efforts fail, study change strategies, and determine how to fit them effectively to the stages of change. Finally, you will build an action plan for introducing a change initiative in your organization. In effect, this course enables you to begin building the skills and habits that you need to help make strategic or substantial change happen.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA741 - Social Media Strategy (0 Credits)**
In order to be successful with your social media marketing, you must first understand how and why to structure a social media strategy to guide campaign execution. In this course, you will explore social media marketing platforms, publishers, tools, agencies, and the foundational elements of running a successful social media campaign.You will also examine what social media marketing is and how it is part of a brand-driven integrated marketing communications strategy. As the course progresses, you will evaluate the main social platforms used for digital marketing and practice aligning these platforms with your marketing goals and campaign strategy. You will also examine how marketers incorporate effective social media content that is brand-, influencer-, or user-generated. Lastly, you will assess the role of social media agencies to help you decide if and when to outsource your campaigns.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA742 - Social Media Marketing Across the Purchase Funnel (0 Credits)**
Social media is best known by its platforms, especially the ones we use every day like Facebook, Instagram, and Twitter. But social platforms are not all alike, nor are they used by the same people and for the same purposes. Marketers need to know which platforms are appropriate to serve specific business goals and objectives. In this course, you will learn how to create a platform strategy by conducting an audience analysis to identify and describe the brand target markets. You will then perform a competitive audit to clarify the brand's social media presences relative to the competitive set and determine the social media marketing goals for the brand by applying the social media marketing funnel. Lastly, you will select the right social media platforms to deliver on specific marketing objectives across the social media marketing funnel.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA743 - Creating Effective Content Marketing (0 Credits)**
Effective marketing communications inform and inspire consumers. It's messaging that creates product awareness and knowledge, and encourages positive brand attitudes and action. Traditional marketing, especially advertising, uses a "tell and sell" promotional approach that's unidirectional in presentation from brand to buyer and designed to persuade. It's hard marketing. Effective social media marketing is different. It's bidirectional conversation from brand to buyer and buyer to brand about the brand experience and designed to engage. This is soft marketing, the kind that target audiences seek as opposed to avoid. The key to social media marketing is connecting the customer with the brand through content that's informative, interesting, or entertaining ideally, a combination of all three.In this course, you will conduct a brand audit to identify the brand's pillars, tone, imagery, and personalty. You will use these to create a clear brand voice for social media. You will then develop a content marketing social media strategy centered around a big idea and produce creative content that meets the business objectives of the organization as well as the needs and wants of the customer. Lastly, you will identify opportunities for user-generated content (UGC) that motivates the brand community and create a detailed content-posting cadence designed to meet the specific marketing goals.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA744 - Building the Brand Through Influencer Marketing (0 Credits)**
Influencers are social media's celebrity spokespersons. Their followers provide a core audience of avid social media users, while the influencers themselves, through the endorsement of and engagement with brands, provide authenticity and trustworthiness. Teaming up and collaborating with the right influencers can help a company reach and expand target audiences, improve brand engagement, and inspire conversions. However, not all influencers are right for all brands; knowing when and how to use social influencers is an important element of social media strategy.In this course, you will analyze the types and roles of social media influencers and identify specific influencers that will help drive your marketing efforts. You will apply the consumer purchasing funnel to devise strategies aimed at connecting the right influencer at the right time with the right customers. Additionally, you will evaluate the ethical and regulatory aspects of working with influencers, and examine how to measure influencer campaign success across the funnel. Lastly, you will craft an influencer program to achieve social media campaign objectives by integrating influencers into the content marketing strategy.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA745 - Social Listening and Community Management (0 Credits)**
Understanding what past, present, and potential customers are saying, hearing, and seeing about your brand is an important part of brand management and social media presence. Monitoring brand mention and conversations on social platforms can seem like a daunting, even impossible task. Fortunately, there are tools and solutions providers who can facilitate social listening and reputation management. What's important, then, is your understanding of why and how to manage social discourse about the brand to maintain and enhance your brand's credibility and overall reputation. In this course, you will build a strategic, proactive social listening system that amplifies the efforts of social media marketing and creates close relationships between the brand and members of the brand community. You will also develop a systematic organizational approach to community management that is consistent with the brand and leverages best practices for different social media platforms.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA746 - Measuring Social Media Marketing Success (0 Credits)**
What makes a social media marketing campaign successful? Is it growth in followers? More engagement on social channels? Greater positive sentiment about the brand? What about increases in sales leads or in sales revenue? Social media success might be reflected in all, some, or just one of these outcomes. Ultimately, however, success is a function of how well the campaign performed in meeting its marketing objectives. Measuring this performance used to be elusive for social media, but as the practice has evolved, so has the means to determine what worked and what did not. In this course, you will identify the right metrics for measuring and benchmarking social media success across the marketing funnel. From measures of impressions, to engagement, to conversion, and to advocacy, you'll learn how brands and agencies link campaign objectives activity and outcomes to assess, test, and optimize campaign results. Additionally, you'll see how existing and emerging performance-reporting tools and dashboards help social media managers control dynamic campaigns to best ensure social media success.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA751 - Asset Management Process and Plan (0 Credits)**
In this course, you will develop an understanding of how hospitality real estate fits into a typical owner's investment portfolio and articulate how your property contributes to the overall ownership investment strategy and goals. You will examine the different approaches to the asset manager role, which often depends on the ownership and property needs. You will determine how the asset manager who works with your property functions in their role. You will review the typical design and contents of an asset management plan and analyze the strengths and weaknesses of your hotel from the asset manager's perspective. By the end of this course, you will gain an understanding of the perspective of the hotel owner so you can more effectively collaborate with the owner and asset manager by closely aligning your hotel goals with the goals of ownership.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA752 - Asset Management Strategy (0 Credits)**
In this course, you will explore the strategic decisions asset managers make, determining how you can proactively share information that maximizes your influence and helps them make better decisions. You will review the key components of a market assessment and pinpoint the data needed for effective analysis. You will develop an understanding of hold vs. sell decisions and determine how you can help optimally position your property for analysis. You will determine strategies for effectively communicating with the asset manager through periodic status meetings and site visits. After completing this course you will be prepared to influence the asset management strategy for your property and work more effectively with your asset manager.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA753 - Asset Management Toolkit (0 Credits)**
In this course, you will examine the analytical tools asset managers use to perform critical analyses. You will conduct both a competitive analysis and a SWOT analysis on your property. You will explore benchmarking practices and financial analyses to identify deviations from expected performance. You will also examine best practices for projecting capital expenditures and performing a highest and best use analysis.You will leave this course with an array of helpful techniques that will enable you to provide the data and analysis that asset managers need to perform their jobs effectively.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA754 - Property Management Operations (0 Credits)**
In this course, you will explore critical aspects of facility maintenance including best practices for various types of maintenance, waste reduction strategies, methods for reducing environmental impact, and computerized maintenance systems that enhance efficiency. You will explore several tools critical to the effective financial and operational management of the facilities department. You will be prepared to make critical outsourcing decisions, to manage overlapping maintenance and housekeeping activities, and to use the best financial analysis tools to effectively manage the financial impact of the facilities department. By completing this course you will gain the skills necessary to effectively and efficiently manage your property building operations and extend the useful life (maximize the value) of the ownership group's physical asset.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA765 - Examining the Uniform System of Accounts for the Lodging Industry (USALI) (0 Credits)**
An operating statement tells the tale of a hotel's performance, and in this course, you'll begin to decipher this narrative at an overarching level. You'll dissect the hotel operating statement, scrutinizing each major section and the intricate story it weaves. As you delve into the specifics of hospitality lodging accounts, your analysis of the reported figures will deepen, helping you discern the hotel's current situation: How is it yielding profit? Where are its pain points? You might observe that while the hotel's revenues are on an upward trend, its expenses are also climbing. Why is that? What's the underlying cause? Should management adjust its strategy? Even if you're not an accountant or the person responsible for crafting the operating statement, you play a significant role within the hotel property management. The lodging industry employs a unique reporting structure using uniform terms and definitions, known as the Uniform System of Accounts for the Lodging Industry (USALI). This system, while being unique to the hotel industry and not widely taught, is essential for hotel decision makers. You need to build a strong enough understanding of USALI to interpret the numbers and make informed decisions accurately. The operating statement serves as a call to action. Every decision you make has ramifications. The key question is: What will you champion?
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA766 - Benchmarking Hotel Performance (0 Credits)**
Imagine that you know that the administrative expenses for your hotel are 6%. Looking at other properties within your peer set, you can see that your competitors' administrative expenses are 4.5%. Is your property getting value out of spending more? How can you tell? What changes might you choose to make in response to that information? As a hotel manager or decision maker, you want to analyze what the metrics are telling you so that you can make informed decisions that will increase profitability for your property. In this course, you will practice analyzing leading hotel benchmarking reports and their provided industry data, drawing inferences about what it means for you. You will delve into the process of benchmarking so that you can identify how well one property is performing in comparison to its peers. Using relevant metrics, including revenue per available room, dollars per available room, dollars per occupied room, expenses on an occupied room basis, and occupancy percentages, hotel owners and operators can compare the financial performance of their properties with industry-wide averages of a similar profile. You are required to have completed the following courses or have equivalent experience before taking this course: Examining the Uniform System of Accounts for the Lodging Industry (USALI)
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA767 - Using Financial Statements for Decision Making (0 Credits)**

If you want to understand a hotel property fully, you need to read and analyze three critical financial statements: its operating statement, its balance sheet, and its cash flow statement. These statements will answer key questions, including: In what ways is this property performing well or underperforming? Using provided data for a sample property, you will practice reading and interpreting financial statements to assess areas of strength and weakness, then you'll apply that understanding to critical higher-level decisions from different perspectives. What improvements would you make to this property if you were the owner? What improvements would you want to make to this property if you were the GM, who typically doesn't see the balance sheet? How about as an asset manager? These three people will see things differently, so how and what they advocate will differ. You want to be in the position to review the financials from all points of view and make the most informed decisions you can. You are required to have completed the following courses or have equivalent experience before taking this course: Examining the Uniform System of Accounts for the Lodging Industry (USALI) Benchmarking Hotel Performance

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA768 - Applying Managerial Accounting Tools to Improve Flow-Through (0 Credits)**

In this course, you will practice using accounting tools to answer one critical question facing all hotel managers, owners, and operators: How much of the additional revenue generated from one period to another is retained as profit? As a manager or owner in the lodging industry, your ultimate goal is to make better decisions to improve your property's bottom line, but the challenge with any hotel is that so much of its costs are fixed, which means you incur those costs regardless of whether the property is turning a profit. You will work with Excel to practice analyzing and interpreting costs so that you can better manage them and use a regression formula to calculate change in profit and revenue over time. You will also explore the cost behavior of a property so that you can understand what's causing the costs to be incurred, and you will examine utility costs over time: How much of that is fixed and how much is variable based on usage? You will calculate "flow-through," which tells you how much of your revenue "flows through" to the bottom line. You will calculate the break-even point for a property and the margin of safety. Of particular significance to decision makers, you will identify what you can and cannot influence, both in the short term and the long term. You are required to have completed the following courses or have equivalent experience before taking this course: Examining the Uniform System of Accounts for the Lodging Industry (USALI) Benchmarking Hotel Performance Using Financial Statements for Decision Making

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA769 - Preparing the Operating Budgets and Monitoring Performance (0 Credits)**

In this course, you will pull together the tools of USALI accounting, using revenue and cost projections, to prepare an operating budget for a property. Hotel decision makers use the operating budget to identify ways to control costs and improve profitability. An operating budget is a living not static document; you will develop skills to monitor it over time and develop best practices for interpreting what it's telling you to take appropriate corrective action. You will practice working with occupancy estimates that come from external sources in the industry, such as CBRE's widely used economic analysis reports. You will develop cost estimates, including fixed, variable, and mixed. You are required to have completed the following courses or have equivalent experience before taking this course: Examining the Uniform System of Accounts for the Lodging Industry (USALI) Benchmarking Hotel Performance Using Financial Statements for Decision Making Applying Managerial Accounting Tools to Improve Flow Through

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA771 - Price and Inventory Controls (0 Credits)**

Revenue management is about rejecting current opportunities for potential future opportunities while maximizing profit. This course provides a rigorous foundation in traditional revenue management control of room and rate availability. You will begin by exploring inventory control, focusing on controlling rate but not length of stay. You will then add uncertain demand and discuss traditional availability controls such as requiring a minimum length of stay. Finally, you will explore optimization and illustrate methods for full-rate and availability control. This foundation is necessary if you want to develop your own revenue management system or engage effectively and fully with commercially available revenue management systems.Note that you are being asked to use Microsoft Excel for this course. It contains an add-in called Solver. While many open-source spreadsheet programs include Solver, the MS Excel version has a specific function that you will need for this course.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA772 - Price Sensitivity and Pricing Decisions (0 Credits)**

Pricing has become an increasingly important mechanism in maximizing a firm's profits. The ease with which consumers comparison-shop has inspired firms to become more active pricers. Unfortunately, if you lack a proper understanding of the impact of price on demand (and contribution), changing prices can quickly erode your firm's profits. This course describes the impact of changing prices in a competitive environment and describes several methods for measuring demand sensitivity to price changes, or price elasticity.The course begins with a strategic look at pricing and discusses the impact of price changes, including the anticipated reaction of your competitors. You will examine these impacts through a discussion of recent price changes during economic declines as well as a well-documented airline price war. Following this strategic discussion, you will use a set of tactical tools to evaluate the effect of a price action on demand and, ultimately, on profitability. You will have a chance to immediately practice what you've studied by participating in a pricing simulation game.This course contains an optional module on Tableau, an interactive visualization software used for business intelligence. You can download a free copy of it to your desktop. While this is optional material, you can use Tableau skills for data analysis and presentations.You are required to have completed the following course or have equivalent experience before taking this course: Price and Inventory Controls.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA773 - Segmentation and Price Optimization (0 Credits)**

Today's progressive businesses use technology to evaluate and set prices in almost every major market. This use of technology has quietly revolutionized the way we do pricing. Shoppers find that prices vary widely, from customer to customer and even from day to day, and businesses can target individual customer segments to maximize their profitability.In this course, you will examine techniques for analyzing and setting prices. The first part of the course focuses on variable pricing, exploring how to create different prices for the same service or product and how to use segmentation, communication, and upgrading to capitalize on those prices. The second part of the course examines dynamic pricing, or how prices evolve over time.You will complete a project designed to evaluate the variable and dynamic pricing strategies of your firm or another hospitality-related firm. Over the duration of the course, you will monitor and record prices at a firm of your choosing. Toward the end of the course, you will analyze and report on the data.You are required to have completed the following courses or have equivalent experience before taking this course: Price and Inventory Controls, Price Sensitivity and Pricing Decisions.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA774 - Displacement and Negotiated Pricing (0 Credits)**

Group business from associations or conferences often comprises 50% or more of hotel room nights. Although groups typically negotiate their rates, systematic approaches to group pricing are still underdeveloped. In this course, you will examine strategic and tactical group-booking decisions over the long, medium, and short terms. You will examine why the hotel's strategic focus is the mix of groups while its tactical focus is rate and availability decisions for specific group requests. In the medium term, the hotel's focus shifts as both group and transient reservations begin to arrive. Finally, in the short term, the hotel's focus is on group materialization. In other words, will the group use its entire block of rooms?The course demonstrates how an effective revenue management strategy deals with arrival uncertainty using forecasting and overbooking. It explores the issue of displacement, looking specifically at how a property, when considering a group booking, should estimate the future arrivals that could be rejected due to lack of room availability. You'll discover that, using estimates of displacements, hotels can determine the number of rooms to allocate to each segment.Note that you are being asked to use Microsoft Excel for this course. It contains an add-in called Solver. While many open-source spreadsheet programs include Solver, the MS Excel version has a specific function that you will need for this course.You are required to have completed the following courses or have equivalent experience before taking this course: Price and Inventory Controls, Price Sensitivity and Pricing Decisions, Segmentation and Price Optimization.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA775 - Search Engines and Online Selling: Stimulating Incremental Demand (0 Credits)**

Today's hospitality consumers rely less upon traditional travel agents and more on web-based research when booking travel. In this course, you'll explore how to develop strategies designed to improve your standing in internet search results, known as search engine optimization (SEO), and increase your visibility to target customers.You will also investigate how to optimize your position on internet search results and increase conversions: the moment when a search becomes a purchase. Online travel agencies are especially popular because they provide one-stop convenience and notifications for consumers searching for deals and promotional opportunities. The success of online travel agencies is largely attributable to their marriage of leading-edge technology and a keen insight into consumer behavior patterns.You will have a chance to immediately practice what you've studied by participating in a pricing simulation game.You are required to have completed the following courses or have equivalent experience before taking this course: Price and Inventory Controls, Price Sensitivity and Pricing Decisions, Segmentation and Price Optimization, Displacement and Negotiated Pricing.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA776 - Pricing and Revenue Management Essentials (0 Credits)**

Have you traveled recently? More than likely, you used the internet to search for the "best" price in whatever way you might define that: a combination of room, car rental, and airline seat class prices; discounts; travel dates; length of stay; and so on. Conversely, as a decision maker in the hospitality industry, you cannot escape the influence of search engines, online travel agents, and social media on how you price your product. In this course, you will explore various revenue management, pricing, and internet marketing strategies and tactics that can enable you to maximize revenue at your firm.Revenue management is about rejecting current opportunities for potential future opportunities while maximizing profit. Pricing has also become an increasingly important mechanism in a firm's profits. In this course, you will begin by examining how to incorporate uncertainty in setting prices along with the trade-offs between demand and price. Calculating breakeven rates will assist you in determining where to set prices.Your customers have varying appetites for risk; in hospitality, this entails whether they will book now or wait for a lower price. How your competitors react to price changes you make will impact your revenue as well, and you will explore a model for framing these interactions.Finally, you can optimize your position on internet search results and increase conversions by applying the search engine optimization strategies that you will explore in this course. These strategies can increase your visibility to target customers.This course includes a pricing simulation game, where you will first compete against the computer to set prices competitively, then you will play the game with your peers. We recommend that you start the game immediately to ensure that you have enough time to experience (and enjoy!) the game in the final module.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA781 - Active Listening and Processing Feedback (0 Credits)**
A leader's listening ability has a tremendous impact on their effectiveness. Professor Judi Brownell's HURIER model of listening provides a comprehensive method of listening improvement. In this course, you will assess your listening skills, set personal goals, and plan a development strategy. The application of listening principles to Servant Leadership and the development of emotional intelligence are emphasized.You will use the HURIER self-assessment instrument to assess your personal listening skills then solicit feedback from your colleagues to compare your self-assessment results to their perceptions. You will then reflect on the results and create a SMART specific, measurable, attainable, relevant, time-bound listening goal. As you move forward in the course, you will take on the role of a Servant Leader and determine how to facilitate a listening environment. You will observe and analyze a team and create an action plan to recommend improvements to the listening environment. Finally, you will examine three emerging issues that impact listening in the workplace and the larger social environment: diversity, ethics, and technology. After taking this course, you will be prepared to foster a strong listening environment within your organization and set clear goals for your continued skill development.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA782 - Leading Service-Focused Transformation (0 Credits)**
As a service-based business, the hospitality industry experiences unique challenges that require agile, people-centered, and authentic leadership. Organizations that can adapt to ever-shifting customer demands will be the ones that thrive. This requires leaders to have both the skillset and mindset to create flexible, team-focused cultures, ones that celebrate experimentation and the continuous learning of its team members. In this course, you will develop the skills needed to enable your enterprise to not only navigate the shifting landscape of the services industry but to actually thrive from it. As a student in this course, you will first explore the strategic purpose of asking framing questions to build the critical thinking skills of your team. This will enable you to frame opportunities to innovate with your team members. You will then determine how to set priorities that align with your purpose and focus on the right goals at the right time. You will also discover techniques to engage your team to own and implement your strategic priorities. Finally, you will identify your own unique strengths as a leader and understand the components and impact of an agile leadership style. By the end of the course, you will be able to better understand and apply your authentic leadership approach to create an inspired and innovative enterprise, one that is ready to capitalize on the opportunities before you.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA783 - Creating an Agile Enterprise (0 Credits)**
A firm's agility depends as much on its teams as it does on its leaders. By focusing on how you can strengthen the collaborative skills, future thinking, and sense of belonging in your team, you will develop essential skills for creating an agile enterprise ready to meet the challenges of today's hospitality industry. In this course, you will discover critical strategies to help you maximize the value of working in different formats, increase your team's skillful collaboration and self-organization, develop the ability to anticipate and address future risk, and inspire a culture of ongoing learning. You will do so by exploring ways to leverage innovative ways of working and evaluating team structures and processes to increase your firm's capacity to improvise and respond to change. You will also develop your scanning and monitoring skills to help you and your team prepare for potential future environments. To gain a broader perspective, you will define your firm's higher purpose and how the work your team does fits into it. Finally, you will investigate how to inspire the ongoing learning of your team to help them strengthen their self-organizing skills. By the end of the course, you will be able to apply your enhanced collaboration and facilitation skills to create an agile team that is capable of anticipating future changes to the business environment and inspired to continue growing with your firm.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA784 - The Power of Experimentation (0 Credits)**
Hospitality organizations of the future will need leaders with the skills to envision new ideas, build a workplace that fosters innovation, and design operations that give employees choice and control to achieve excellence. In this course, you will review key aspects of developing a leadership experimental mindset that helps to foster innovation and transformation in your enterprise. Leveraging the advantages of greater access to information in uncertain circumstances, you will discover how to design and test experiments and how to create an experimental work culture that fosters innovation and change to alter the way your enterprise approaches transformational change, one step at a time. Finally, you will explore the social nature of innovation along with ways to encourage safe risk taking and engage in honest conversations in a supportive and healthy workplace. By the end of this course, you will have the tools you need to implement the power of experimentation in your role and beyond.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA811 - Positioning the HR Function for Competitive Success (0 Credits)**
Top hospitality firms understand the critical function HR plays in creating and implementing key organizational strategies. This is why it is crucial to develop and continually adapt your company's HR function to best meet the needs of today's employees and drive business objectives. In this course, you will conduct a labor market analysis to surface and compare key indicators of local market labor conditions. You will then analyze a company's business priorities, strategic position, and core competencies and pinpoint specific competitive advantages and challenges. You will conduct an HR analysis and make suggestions to align the HR function and practices with a firm's vision, mission, values, and goals. By the end of the course, you will have gathered and analyzed critical information you will use to implement a comprehensive HR strategy for your service firm. It is highly recommended that you take this course first.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA812 - Sustainable Talent Attraction and Selection Strategy (0 Credits)**

Hiring talented people for your organization can be challenging. Having a brand-aligned recruitment and selection strategy can be the difference between attracting top talent and losing valuable customers. In this course, you will look at essential HR planning purposes, processes, and applications then conduct a cost of turnover analysis for a position in your organization. You will then perform a comprehensive analysis of the position to refine the job description, reporting structures, task and competency requirements, and key performance indicators. You will analyze and assess recruitment marketing efforts and make recommendations to better align the posting with the company and position requirements. You will also examine the candidate selection process and develop interview questions and accompanying guidelines that can be used to facilitate the hiring process for the same position you selected for the job analysis activity. By the end of this course, you will have practiced many of the key skills needed to develop a comprehensive and sustainable talent attraction and selection strategy for your firm.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA813 - Developing an Effective Retention Strategy (0 Credits)**

In the diverse, customer-oriented hospitality industry, retaining and developing value-generating employees should be at the forefront of every organization's retention strategy. Successful companies take pride in offering training and development opportunities so employees can learn, perfect, and excel in their roles and prepare for the next one. In this course, you will assess a company's current training strategy and needs and so you can develop a training plan to facilitate, assess, and engage both new and veteran employees. You will consider your current performance management process and recommend improvement strategies that will help your company reward and develop its employees. You will also evaluate your company's total rewards and compensation package, compare it to your competition's offerings, and make recommendations to better align these benefits with employees needs and company values. By the end of this course, you will have the working knowledge of how to create, develop, and improve an organization's development and retention programs.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA871 - Marketing Hospitality Brands Through Digital Media (0 Credits)**

Integrated marketing communications (IMC) is both a theory and a process. The goal of IMC is to make sure the promotional elements of a business work together and communicate a consistent brand experience for current and future customers. In the information age, it is critical that your brand penetrates through the dense marketing landscape and connects with your target audiences. In this course, you will examine what integrated marketing communications is and how you can use it to communicate your brand s strategy and promise. You will also identify why an IMC plan should constantly evolve in the face of a shifting media landscape and dynamic business realities and market conditions. You will discover how you can use marketing communications to effectively shape consumers brand beliefs and persuade them, while doing so in ways that are legal and ethical. Finally, you will explore a number of conceptual models that can help you define and refine the brand's marketing communications goals. Throughout, you will utilize these strategies to begin to build an IMC strategy for a fictional hotel in Baltimore, Maryland.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA872 - Implementing Brand Strategy Through Digital Media (0 Credits)**

A brand's marketing communications must be where target consumers are, and they are increasingly online. As the number of online channels grows, it becomes even more important to ensure that marketing communications are integrated and targeted to the brand s key audience. Successfully defining that target audience, then designing communication that will resonate with them and shape their brand beliefs, must be the basis of the organization's online marketing. With those in hand, you can focus on the two main channels of online marketing: website and search engine marketing.In this course, you will examine how to identify the brand's target market and develop a brand voice that will resonate with them. You will also determine how to develop a creative strategy and marketing messages that will effectively shape the target audience's brand beliefs. You will then examine the importance of the brand website as the centerpiece of your online channels along with the many ways to keep the website functional, engaging, and fresh. Finally, you will explore search engine marketing, including how to bid on search keywords, which keywords to bid on, and how to make effective use of online display advertising. Throughout the course, you will remain centered on the importance of ensuring that the brand channels speak with one voice, with messaging tailored to the target audience and in support of the broader integrated marketing strategy.It is highly recommended that you have completed the following course or have equivalent experience before taking this course:Marketing the Hospitality Brand Through Digital Media
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA873 - Communicating the Brand Across Marketing Media (0 Credits)**

The contemporary media landscape offers a staggering range of marketing communications channels and tools. These include digital channels, social media platforms, influencers and content creators, user-generated content, and experiential marketing, along with the full suite of traditional media such as print, radio and TV, and public relations. It is therefore critical that brands optimize their marketing communications to meet and exceed the needs and expectations of their current and future customers. In this course, you will explore ways to utilize online and traditional media to effectively communicate a brand's promise and voice, build positive associations with the brand, drive sales, and meet marketing goals. You will examine search engine optimization strategies and analyze the role content marketing plays in building the brand s online presence. You will also delve into the nuances of creating content for social media channels, managing online communities, and working with influencers. Throughout, you will assess the continued role that traditional media and tools play in meeting integrated marketing communications goals. After successful completion of this course, you will have analyzed, practiced, and applied a wide range of contemporary digital marketing strategies designed to strengthen and enhance the audience-brand relationship. You are required to have completed the following courses or have equivalent experience before taking this course:Marketing the Hospitality Brand Through Digital MediaImplementing Brand Strategy Through Digital Media
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA874 - Success Metrics for Hospitality Digital Marketing (0 Credits)**

Digital marketing is fast becoming the primary means for hospitality and related service firms to reach, engage, and transact with consumers across their multiple devices. Consumer planning, shopping, experience, and sharing through digital media is quickly changing how marketing is done as well as how marketing effectiveness is measured. Owners and managers must be able to make effective, data-driven, analytical, and integrated decisions related to digital marketing using the right metrics and reports. These decision support tools may be generated internally and/or by vendors, like digital or social media marketing agencies. Managers must be able to understand, evaluate, and communicate recommendations in line with the firm s overall business and marketing strategies. This course provides managers with the insight and tools to do the job.In this course, you will make marketing and service enhancement decisions based on the interpretation and integration of digital media performance metrics. Through this analysis, you will evaluate the effectiveness of digital marketing activities using standard and new performance metrics. You will also use digital media reports and available analytic tools to assess the competitive position of a business and articulate recommendations to improve performance.You are required to have completed the following courses or have equivalent experience before taking this course: Marketing the Hospitality Brand Through Digital MediaImplementing Brand Strategy Through Digital MediaCommunicating the Brand Across Marketing Media

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA881 - Leveraging Predictive AI in Hospitality (0 Credits)**

As a hospitality professional, it's essential to quickly understand how AI can enhance your daily operations as well as improve both customer and employee experiences. This process begins with establishing a foundation in predictive analytics and machine learning, which utilizes historical data to forecast, make recommendations, and support decision making. Understanding these practices is crucial for staying competitive and responsive in a rapidly evolving industry landscape.Throughout this course, you will delve into how AI is transforming the hospitality sector, exploring both the opportunities and challenges it presents. A focus will be placed on how machine learning can be leveraged to optimize customer experiences and enhance employee performance and operational efficiency. You will apply predictive analytic models to evaluate and optimize analytical processes, analyze qualitative and quantitative data to make informed predictions, and evaluate correlations among variables. You ll also select suitable predictive models, assess their performance, and refine these models to more accurately forecast market demands and business outcomes while identifying data biases and their potential impact on model limitations.By the end of this course, you'll have explored, practiced, and evaluated various methods of integrating machine learning and predictive analytics into your organization. These skills will assist in streamlining business activities, supporting organizational goals, and allowing employees to focus more on enriching the customer experience. Although the course includes numerous AI use cases, they are intended as foundational learning; you are encouraged to build upon these models and apply your skills to effectively address data-driven challenges as they arise in your professional environment.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA882 - Appyling Generative AI in Hospitality (0 Credits)**

In today s rapidly evolving hospitality industry, the advent of generative AI (GenAI) offers groundbreaking possibilities akin to historic innovations like the assembly line and the internet. GenAI has the potential to revolutionize how people work in the hospitality industry. One of GenAI s most immediate effects is increased access to analytical tools that were once reserved for experts, making them available to anyone with a smartphone or laptop. This newfound accessibility creates a wealth of opportunities for hospitality professionals who have a deep understanding of their business and market but may lack formal training in statistical analysis. Yet with these opportunities come certain risks. As a leader in the hospitality industry, it is increasingly crucial to understand, communicate, and effectively apply the capabilities, limitations, risks, rewards, and impacts of GenAI on your firm's customer service experience and business objectives.In this course, you will explore and apply GenAI best practices to help you address a variety of qualitative and quantitative challenges. Throughout, you will examine the critical role of human oversight while harnessing the capabilities of GenAI to serve as your data analysis assistant. You will work with large language models to perform cross-program computations; create custom, data-rich, and visually efficient reports; and enhance accuracy and efficiency in Excel. You will also practice methods to generate and refine content across diverse settings, such as crafting customized responses to consumer reviews; drafting documents, reports, and emails; and efficiently evaluating and categorizing consumer feedback.By the end of this course, you will have developed the skills necessary to effectively interact with GenAI as your on-demand data scientist, allowing you to tackle a range of data-driven problems and challenges in hospitality.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHA883 - Streamlining Hospitality Operations With Automation (0 Credits)**

Today s hospitality leaders face the challenge of constantly enhancing and optimizing their business processes while relying on the most up-to-date information. Yet valuable data about your organization is not confined to in-house systems; it is extensively distributed online. From desktop customer databases and property and reservation management systems to customer reviews, inquiries, market trends, and popular searches, data is omnipresent. The process of collecting, connecting, categorizing, and analyzing this data can be time consuming, potentially hindering business objectives as individuals struggle to keep pace. Fortunately, many of these tasks can be automated, allowing firms to react swiftly so that they can concentrate on doing what they do best: delivering exceptional service to their customers and clients.In this course, you will explore various forms of automation tailored for the hospitality industry. You ll set up alerts for new reviews and automatically forward key insights via SMS or email to relevant stakeholders. You ll leverage generative AI (GenAI) tools to craft responses to reviews, which can be posted online or shared with team members for approval. You ll also be able to gain hands-on experience scraping reviews using specialized tools and building custom solutions through robotic process automation. Additionally, you ll automate sentiment analysis of reviews using GenAI, enabling deeper insights into customer feedback.A key highlight of the course is creating and deploying your own virtual assistant powered by GenAI. This assistant can be trained on company-specific data to handle customer inquiries or support employee training. You ll also discover how to automate data entry and extraction from legacy desktop applications, enabling seamless integration between disconnected systems. This comprehensive approach will equip you with the skills to harness AI and automation for greater efficiency and improved guest experiences.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAIP011 - General Managers Program Capstone (0 Credits)**

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAIP018 - Advanced Hotel Real Estate: Asset Management Strategy (0 Credits)**

This on-campus course at Cornell University's Nolan School of Hotel Administration in Ithaca, NY, is designed to help owners, operators, and lenders optimize real estate and intellectual property returns from individual assets while recognizing their place in a larger real estate portfolio. You will use concrete tools to explore scenarios from holding/maintaining, renovating, expanding, or otherwise altering individual assets to maximize value and enhance the contribution that real estate brings to a mixed-asset portfolio. You'll consider how owners use the management contract as an important asset management tool, both to direct the partnership between the owner and manager and to optimize value. You'll also delve into the complexities and costs of modern-day channel management. You'll examine how to manage the risks inherent in lodging properties over the market cycle as well as how a sustainability mindset can enhance returns and value.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAIP019 - Creating and Managing the Guest Experience (0 Credits)**

Creating a guest experience that's memorable and profitable requires more than great personal service. Experience design involves a systematic approach to customer analysis, brand management, design thinking, and process control to align the service offer with guests' underlying needs and wants. In this on-campus course at the Cornell Nolan School of Hotel Administration in Ithaca, NY, you will use a product-as-experience model to highlight services marketing strategies and practical tactics to create and manage customizable guest experiences. You will discover best practices in service experience management across hospitality and related service sectors, and you will engage with a global cohort of service professionals in experiential exercises that hone your ability to apply the latest management practices for service excellence.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAIP021 - Advanced Hotel Real Estate: Deal Structuring and Capital Markets (0 Credits)**

Your insights into hotel real estate can help you strategically grow your businesses and prosper throughout the market and asset cycle. With the goal of developing your decision support skills using Excel , this on-campus course at Cornell University's Nolan School of Hotel Administration in Ithaca, NY, employs applications from the frontier of real estate investment to examine capital markets, deal structuring, advanced debt and equity financing, and risk analysis. Using cases and examples drawn from a wide range of international experience, the content has broad application across the Americas, Europe, and Asia. This year's offering has been thoroughly updated to reflect post-pandemic market conditions and attitudes toward lodging investment. You'll gain experience using contemporary tools from the capital markets, finance, and economics in a lodging context. Theoretical concepts are integrated into practical exercises and cases demonstrating how to create wealth.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAIP022 - Hospitality Brand Management (0 Credits)**

Brands have become the central organizing principle of most hospitality organizations, guiding every decision and every action. In this course, you will examine important brand management decisions faced by hospitality firms. Combining the latest in thought leadership with experiential exercises and case studies, you will examine how to manage a brand for increased customer loyalty, market advantage, and profitability. Using a combination of Professor Dev's proprietary 8P hospitality brand management model, case studies on hospitality brand management, insights from published brand management research, and in-class exercises, you will discover the winning secrets of developing, managing, and growing your brand. Whether you are an independent hotel seeking to break out of an enormously cluttered and confusing brandscape or part of a multi-unit brand trying to balance the demands of your brand manager with the pressure of the local market, this course is for you.

**Instruction Mode:** Taught online; instructor-led.

Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR005 - Global Hospitality Trends and Best Practices: Profit From Change (0 Credits)**

An increasingly complex global business environment requires general managers to think strategically to make smarter business decisions. This program offers participants innovative, practical, and profitable solutions for dealing with global trends in order to improve revenue, profit, and customer loyalty. Through presentations, discussions, case studies, and real-life examples, you'll explore the latest practical and fast-paced lessons in the application of strategic thinking to challenges and opportunities facing the hospitality industry. "Best in the business" (and some worst!) case studies and examples will be drawn from businesses worldwide. At the end of this program, you can expect to take away ideas for implementation in your own business. PROGRAM SCHEDULE Session 1:The Big Picture: Explore the key trends affecting hospitality and leverage them into better business practices Wednesday, November 1, 2023: 10am - 1pm (ET) Session 2:Analysis and Application: Identify the most important trends for you and define action steps to test on your organization Wednesday, November 8, 2023: 10am - 1pm (ET) Session 3:Presentations, Discussion, and a Plan of Action (Part I): Present your action plan and discuss actionable business ideas Wednesday, November 15, 2023: 10am - 1pm (ET) Session 4:Presentations, Discussion, and a Plan of Action (Part II): Present your action plan and discuss actionable business ideas Wednesday, November 22, 2023: 10am - 1pm (ET)

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR006 - Competitive Pricing and Revenue Management (0 Credits)**

Traditional hotel pricing hinges on ensuring rooms are available for late-arriving, higher-yielding guests while building base demand with other consumer segments through the use of historic demand patterns. Given today's online and connected traveler, revenue management needs to rely less on historic demand patterns, focusing instead on pricing by capitalizing on digital marketing opportunities to ensure hotels drive demand while avoiding rate dilution through excessive discounting actions. Using a strategic pricing simulation, you'll develop an understanding of the interplay between pricing and digital marketing and refocus RM on profit versus revenue. PROGRAM SCHEDULE Session 1:The State of Revenue Management Today Friday, October 6, 2023: 10am - 1pm (ET) Session 2:Competitive Pricing Friday, October 13, 2023: 10am - 1pm (ET) Session 3:Digital Marketing With Google, Meta, and OTAs Friday, October 20, 2023: 10am - 1pm (ET) Session 4:Profit Optimization Through Integrated Marketing and Pricing Friday, October 27, 2023: 10am - 1pm (ET)

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR007 - Hospitality Marketing During Uncertain Times (0 Credits)**

The hospitality industry has always been dynamic, whether it's the rise of new distribution channels in the digital economy or new lodging products in the sharing economy. But the COVID-19 economy has accelerated transformation in ways that even the most seasoned hospitality leaders could never have foreseen. The changes wrought by the pandemic have strained the hospitality industry but also revealed opportunities for those organizations that are nimble and innovative. This mini-program looks toward a positive future for hospitality and the role marketing will play in creating and communicating value for tomorrow's hospitality consumers. PROGRAM SCHEDULE Session 1: The New Travel Consumer: Changing consumer behaviors and expectations Wednesday, February 2, 2022: 10am - 1pm (ET) Session 2: Innovation in Hospitality to Drive Demand: Explore product and service changes necessitated by COVID-19 Wednesday, February 9, 2022: 10am - 1pm (ET) Session 3: Marketing to the New Travel Consumer: Examine new digital marketing approaches through conversation and virtual experiences Wednesday, February 16, 2022: 10am - 1pm (ET) Session 4: Market Planning for Uncertain Times: Develop a roadmap for hospitality marketing that's adaptable for reopening and recovery stages Wednesday, February 23, 2022: 10am - 1pm (ET)

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR008 - Boosting Hotel Value (0 Credits)**

This program focuses on how to use the tools of finance to evaluate capital investment ideas and sell them to hotels owners and brands. We begin by identifying capital investment opportunities in your property. We then assess the attractiveness of capital investment projects using both simple and sophisticated financial approaches. Finally, we demonstrate ways to use financial analysis to appeal to owners, brands, and other stakeholders.PROGRAM SCHEDULESession 1:Uncovering the Value in Capital Investments Wednesday, March 2, 2022: 10am - 1pm (ET) Session 2:Using Financial Acumen to Sell Your Investment Ideas Wednesday, March 9, 2022: 10am - 1pm (ET) Session 3:Optimizing Recurring Investments Wednesday, March 16, 2022: 10am - 1pm (ET) Session 4:Putting It All Together and Selling Ideas to Stakeholders Wednesday, March 23, 2022: 10am - 1pm (ET)

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR010 - Strategic Innovation for Hotel GMs (0 Credits)**

Innovation is a hot topic these days, and there is a plethora of information regarding how to transform, change, or revolutionize your hotel. But many hotel GMs find the application of technology and product innovation methodologies just do not apply to services. In this course, you'll learn what it takes to create and execute sustainable, service-based innovation programs. You'll zero in on the role of HR in innovation and examine how to integrate your entire staff into the innovation process. Through interactive case studies and active learning exercises, you'll walk away with a clear path to innovation. PROGRAM SCHEDULE Session 1: What Makes Service-Based Innovation Unique Wednesday, July 6, 2022: 10am - 1pm (ET) Session 2: The Workforce as a Key Element Wednesday, July 13, 2022: 10am - 1pm (ET) Session 3: Value Proposition Design Wednesday, July 20, 2022: 10am - 1pm (ET) Session 4: Business Model Innovation Wednesday, July 27, 2022: 10am - 1pm (ET)

**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR011 - Communication Skills for GMs (0 Credits)**
General managers face an array of complex communication challenges. This program provides both seasoned and new GMs with actionable communication strategies they can use at the property level and when communicating to ownership groups. Participants will better understand their own communication style, learn professional storytelling frameworks, polish their presentation skills, and practice giving and receiving constructive feedback. Through interactive lectures and engaging activities, you'll explore how to enhance your leadership presence and communication effectiveness. PROGRAM SCHEDULE Session 1:Improving Your Personal Effectiveness Tuesday, December 5, 2023: 10am - 1pm (ET) Session 2:Presenting Your Ideas With Clarity Thursday, December 7, 2023: 10am - 1pm (ET) Session 3:Preparing Professional Slide Decks and Reports Tuesday, December 12, 2023: 10am - 1pm (ET) Session 4:Giving and Receiving Feedback Successfully Thursday, December 14, 2023: 10am - 1pm (ET)
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SHAVR017 - Creating F&B Operations to Meet Changing Consumer Interests (0 Credits)**
The way consumers interact and engage with food both at home and out in the world is rapidly evolving. Consumers are looking at food as more than just something to eat: It's a way of life, an expression of values and identity, and a means for engaging with larger social and cultural concerns. This course will offer insights into changing consumer food trends across market segments. You'll explore the future of menus and restaurants as well as the ways in which those trends and changes inform how you can meet the needs of your current and future guests.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN511 - Changing Organizational Culture in Healthcare (0 Credits)**
Healthcare delivery continues to be in a state of constant change and as a result, today's healthcare leaders must transform the way their organizations respond to and lead change initiatives. In this course, professionals will "reset" their thinking around how best to understand, measure, implement, and lead successful change initiatives. Leaders will assess their current culture, map out the ideal future state, create a business strategy consistent with the organization's vision and values, and ultimately implement the strategies or business processes needed to affect and support the organizational culture they want.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN512 - Aligning Healthcare Products, Services, and Strategies (0 Credits)**
Healthcare organizations and the physicians who run them often approach the task of management in much the same way as they approach a patient: they quickly identify symptoms or problems, make a diagnosis or analysis, and develop a treatment plan or solution. While this technique may work when making decisions about day-to-day operations, it's inadequate for evaluating the overall health of an organization and for making long-term survival plans. Effective strategic planning requires healthcare managers to shift their perspective from being a service organization to being a business. This course teaches you several models to help you lay the foundations of a strategic plan based on the existing strengths, weaknesses, opportunities, and threats facing your organization. Ultimately, you will learn how to collect the right data to help you evaluate whether to invest in, discontinue, or develop certain products and services to ensure any strategic plan you devize will be profitable and in alignment with your organization's mission and vision.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN513 - How to Build A Strategic Plan for your Healthcare Organization (0 Credits)**
Many medical groups develop strategic plans that are never implemented because the plans did not articulate how to measure progress, did not assign resources to do the work, and did not consider how to report on the goals. This course asks you to apply organizational information you've gathered using analysis tools such as SWOT, BCG, and Porter's Five Forces to develop a strategic plan that includes specific details about who, what, when, where, and how to work on each of the agreed-upon strategic goals. Ultimately, this course will equip you with the tools to be able to develop a comprehensive strategic plan that involves the right stakeholders and that aligns with your organization's core mission and values. The course Aligning Healthcare Products, Services, and Strategies is required to be completed prior to starting this course.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN514 - Leading Change in Healthcare Organizations (0 Credits)**
The American healthcare system is continuously in flux and requires adaptability from those working in the industry. As a leader, it's also imperative that you make your organizations efficient and safe; improving quality is job number one. This unique balance of priorities requires healthcare leaders to ensure that everyone across the organization is in support of and working towards achieving new initiatives that will secure organization's competitiveness into the future. In this course, you will learn how to prepare your organization for change at the individual, departmental, and organizational level by focusing on communication and the development of a change management plan.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN571 - Analyzing Operations Processes (0 Credits)**
Processes are the building blocks that define everyday operations in all organizations, including healthcare organizations. All organizations run on processes, so the work of analyzing a department, a team, or even the entire organization starts with an analysis of the underlying processes. In this course, you will analyze processes where the input and processing rates are fixed and have no variability. You will investigate the basic tools of process analysis, starting with the process flow diagram and ending with the performance measures of the process. You will create a flow diagram of a system or process in your own organization, and finally, you will identify and quantify the effects of the bottlenecks in that system or process and propose strategies to manage them.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN572 - Improving Service Operations (0 Credits)**
A healthcare organization's service operations encompass all of the processes and systems through which the organization provides care and service to its customers, whether through human contact, automated systems, or virtually. Ensuring that service operations are optimized for effectiveness and efficiency as well as positive customer experiences is the goal of service operations management. Since the level of demand in these systems is often variable, analysis and improvement can be challenging. In this course, you will review the probability and statistics concepts necessary to analyze a service process where the level of demand is variable and explore how that variability affects the efficiency of systems. You will practice using tools of queue analysis, including the Lq approximation and Little's Law, to analyze service operations, and you will investigate ways to reduce variability in service processes. Finally, you will analyze a specific service process and recommend improvements to reduce processing and wait times.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN573 - Designing a Quality Control System (0 Credits)**
Every process needs a quality control method in place to ensure products and services are delivered consistently according to the quality standards set by the organization. To manage the quality of a process or service operation, you need the metrics required to analyze the process and you need a control system in place to monitor the quality of the product or service it produces. The set of activities and methods that ensure the quality of the products or services are what's known as the quality control system. In this course, you will use statistical process control tools and procedures to evaluate whether a system or process is in control (consistent) and capable (delivering according to needed specifications.) You will use tools for finding the root cause of a quality problem. Finally, you will propose a method to measure the quality of a process or system in your own organization and propose strategies to decrease variability within the process.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell SLN574 - Inventory Management (0 Credits)**
Inventory levels impact operational performance, customer service, and the cost structure that delivers a product or service. Carrying inventory is costly because it ties up cash and creates risk of obsolescence. Therefore, an inventory management policy aligned to deliver the organization's objectives needs to be in place. In this course, you will explore the drivers of inventory strategy and compare product life cycles. You will practice using the appropriate models and approaches to match levels of inventory with demand in a way that maximizes profit, and you will determine the optimal policies to manage two types of inventory in a given scenario. Finally, you will recommend strategies to improve operations management in your organization based on the principles of the Toyota Production System.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell WCM101 - Telemedicine (0 Credits)**
Telemedicine has emerged as a powerful tool in healthcare. During the COVID-19 pandemic, many clinicians and their patients were forced to explore and implement alternative and innovative forms of medical treatment. For many patients, telemedicine was their only link to care. But unlike in-person visits, it only takes a few seconds for a virtual visit to go poorly, exposing you and your institution to risk. This foundational course, authored by expert clinicians at Weill Cornell Medicine, offers you the chance to examine how to lead successful telemedicine encounters with your patients in a virtual space. More specifically, you will look at how to stage your telemedicine appointments effectively with patients. You will also explore how you can communicate effectively both verbally and nonverbally with patients in this arena. Given the many technical challenges inherent in conducting an effective telemedicine visit, you will examine techniques and tips to help you better prepare for your patients, creating a personal action plan to help you troubleshoot and overcome technical difficulties. In addition, you will investigate how to perform a basic physical exam virtually and have an opportunity to practice it with peers. Finally, you will study how to modify your medical decision-making process in the virtual space. All of the course materials are designed to help you adapt your in-person clinical skills to a virtual environment and ultimately form strong connections with your patients. The materials in this course correspond to the Association of American Medical Colleges (AAMC) Telehealth Competencies established in 2020.
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell WCM121 - Machine Learning in Healthcare (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell WCM122 - Data Management in Healthcare (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell WCM123 - Natural Language Processing in Healthcare (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

**eCornell WCM124 - Designing Digital Healthcare Tools (0 Credits)**
**Instruction Mode:** Taught online; instructor-led.
Schedule of Classes (https://classes.cornell.edu/)

# Policies and Procedures
## Drop/Transfer Policies
### Prepaid Certificate Program Drop/Transfer Policy
- **Drop** – You may request to drop out of your prepaid certificate program and receive a full refund if your drop request is received within 30 days of registration.[1] No refund will be given after 30 days for a prepaid certificate program. All drop requests must be made by email to droptransfer@ecornell.com.
- **Transfer** – If you initiate the process no later than 5 pm ET of the day prior to the start of your course, you may request to transfer to a different start date.
    a. Log in to your eCornell "Student Portal."
    b. Click on the "Enrollment History" link.
    c. Under "Current Courses" click the "Change Section" link next to the appropriate course title.

*If you do not see an option to "Change Section" or if you have any difficulty, please contact the accounting department at* droptransfer@ecornell.com*.*

[1] Please note this drop policy does not apply to the PHR Prep Certificate.

### Single Course Purchase and Payment Plan Drop/Transfer Policy
- Drop – Students are allowed to drop out of a single course purchase or Pay as You Go payment option; however, no refunds for these purchases will be given at any time. All drop requests must be made by email to droptransfer@ecornell.com.
- Transfer – If you initiate the process no later than 5 pm ET of the day prior to the start of your course, you may request to transfer to a different start date of your course.
    a. Log in to your eCornell "Student Portal."
    b. Click the "Enrollment History" link.
    c. Under "My Courses" click the "Request Transfer" link next to the appropriate course title.
    d. Under "Current Courses" click the "Change Section" link next to the appropriate course title.

*If you do not see an option to "Change Section" or if you have any difficulty, please contact the accounting department at* droptransfer@ecornell.com*.*

### Organizational Partner Drop/Transfer Policy [1]
The terms and conditions of the drop and transfer policies are agreed to between eCornell and the Organizational Partner Client. If you wish to drop or transfer out of a course please follow the steps below.

- **Drop** – If a student is requesting to drop out of a course the request must be made prior to the start of the course. Please note that all courses are considered started at 12:01am Eastern Time (US) of the course start date. All drop requests must be made by email to droptransfer@ecornell.com.
- **Transfer** – If you initiate the process no later than 5 pm ET of the day prior to the start of your course, you may request to transfer to a different start date.
    a. Log in to your eCornell "Student Portal."
    b. Click the "Enrollment History" link.
    c. Under "Current Courses" click the "Change Section" link next to the appropriate course title.

*If you do not see an option to "Change Section" or if you have any difficulty, please contact the accounting department at* droptransfer@ecornell.com*.*

[1] Please note this policy only applies to students who have registered through their organization's registration portal.

**Note:** The complete eCornell Drop/Transfer policy is available on eCornell's Drop/Transfer Policy page.

**For students using VA Education Benefits**, please review our Policies & Procedures-VA Education Benefits below for additional policies and procedures.

## Terms of Use
All users of eCornell (http://www.ecornell.com) are bound by the policies set for in eCornell's Terms of Use policy, eCornell's Privacy Policy, and the Academic Integrity Policy of Cornell University.

## How to Contact eCornell
If you have any questions or comments about these policies or dealings with the eCornell, please contact us by email to support@ecornell.com or by mail at:

eCornell
950 Danby Rd., Suite 150
Ithaca, NY 14850, U.S.A.

## Policies & Procedures - VA Education Benefits
### VA Student Refund Policy
In accordance with Veterans Affairs Regulations, refunds for students using VA Education Benefits will be calculated on a pro rata basis for all courses not yet started at the time of cancellation.  Cancellation requests submitted via email to droptransfer@ecornell.com.  For additional information on our standard Drop/Transfer Policy, please visit eCornell's Drop/Transfer Policy page.

## Standards of Progress and Attendance
eCornell makes every effort to ensure our students are engaged in their courses and making progress towards successful completion.  Every student receives multiple standard communications to ensure they are engaging and should issues arise students are given the opportunity to make changes to their course schedule.  In the event that a student receives an incomplete or non-passing grade in a course, our Student Success team will reach out to engage the student in a conversation about when they would be able to re-take the course that they were not able to successfully complete.  At this point in time, all future courses will be put on hold until the student successfully completes the previous course.

## Policy for Granting Credit for Previous Education and Training
eCornell will evaluate transcripts and documentation of previous education and training and appropriate credit will be given, if applicable.

# Faculty
## A
Anderson, Chris, Ph.D., U. of Western Ontario (Canada). Assoc. Prof., Academic Director CHR

Avgar, Ariel, Ph.D., Cornell University, Assoc. Prof., Labor Relations, Law, and History

Awrey, Dan, Professor of Law, Cornell University

# B

Bacharach, Samuel B., Ph. D., University of Wisconsin. Director of the Smithers Institute at Cornell University's ILR School

Bacharach, Yael

Barrington, Linda, Doctorate, University of Illinois at Urbana-Champaign, Associate Dean of External Relations, Cornell SC Johnson College of Business

Basu, Sumanta, Assistant Professor, Cornell Bowers CIS; Shayegani Bruno Family Faculty Fellow, Cornell Department of Computational Biology

Becker, Franklin, Ph.D, Professor Emeritus, College of Human Ecology, Cornell University

Bell, Bradford, Ph.D., Michigan State U. Assoc. Prof., Human Resource Studies

Bennoun, Steve, Ph.D., U. of British Columbia (Canada). Lec., Mathematics

Bernardo, Nathalia, J.D., Boston College Law School. Adjunct Professor of Law

Bhaskaran, Rajesh, Ph.D., Iowa State U., Sr. Lec. and Swanson Director of the Program for Engineering Simulation, Mechanical and Aerospace Engineering

Bigoness, Celia, J.D., Yale Law School, Associate Clinical Professor of Law

Bloomfield, Robert J., Ph.D., U. of Michigan. Prof., Accounting, Nicholas H. Noyes Professor of Management

Brecher, Susan, J.D., Case Western Reserve U. Director of Employee Relations and Employment Law at the Scheinman Institute, Cornell University, ILR

Brazier, Adam, Ph.D., Imperial College London. Computational Scientist

Brownell, Judi, Ph.D., Syracuse University, Professor Emeritus

Bruyere, Susanne M., Ph.D. University of Wisconsin-Madison, Academic Director, Yang-Tan Institute

Bueno, Juan, Vice President of Pro Business Sales and Sales Strategy at The Home Depot

Burton, M. Diane, Ph.D., Stanford U., Assoc. Prof., Human Resource Studies

Busch, Kristie, Assistant Professor of Clinical Emergency Medicine, Weill Cornell Medicine | Assistant Attending Physician, NewYork-Presbyterian Hospital

Byrne, Christopher, Senior Lecturer, Department of Communication, Cornell College of Agriculture and Life Sciences

# C

Cabrera, Derek, Ph.D., Cornell University. Systems Scientist, Cornell Institute for Public Affairs

Cabrera, Laura, PH.D., Cornell U. Visiting Lecturer, Cornell Institute for Public Affairs

Caggiano, Kathryn, Ph.D., Cornell U. Prof. of Practice, Operations Research and Information Engineering

Carroll, William, Ph.D. , Penn State U. Clinical Prof., School of Hotel Administration

Cahoon, Richard, Adjunct Professor, Department of Global Development, Cornell College of Agriculture and Life Sciences

Callies, John, Senior Advisor to McKinsey & Co.

Cartin, Stephanie, B.S., Cornell U. Co-CEO, Socialfly

Carvell, Steven A., Ph.D., SUNY Binghamton. Prof.

Casanova, Lourdes, Senior Lecturer and Gail and Roberto Ca√±izares Director of the Emerging Markets Institute, SC Johnson College of Business

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