

TOXICOLOGY (TOX)

TOX 7010 - Mouse and Stem Cell Pathology (1 Credit)

Crosslisted with VTBMS 7010

Introduction to principles and methods of pathology. Pathology role in stem cell research, regenerative medicine and cancer biology. Systematic evaluation of mouse models, with a particular attention to such topics as experimental design, model validation, identification of novel phenotypes, histotechnology and mouse necropsy.

Prerequisites: Recommended prerequisite: BIOAP 4130.

Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2021, Fall 2019

Learning Outcomes:

- Understand principles and methods of pathology as discipline.
- Experience in planning of animal experiments, collecting and processing of biological materials.
- Become familiar with pathology terminology.
- Learn about the role of stem cell pathology in stem cell research and regenerative medicine.

Schedule of Classes

TOX 7130 - Cell Cycle Analysis (1 Credit)

Crosslisted with VTBMS 7130

Presents a brief historical review of the cell cycle; a summary of cell cycle regulatory processes; and practical methods for cell cycle analysis, including mathematical representations. Topics include: growth control of bacterial cell cycle including chemostats, mammalian cell tissue culture, cell synchronization, flow cytometry, age-density representation, G1 regulation, labile regulatory protein models, cell transformation, regulation by growth factors and the cytoskeleton, cyclin/E2F/RB regulatory model, practical examples for analysis of cell cycle phase durations, cell cycle phase specific growth factor sensitivity, timing of RB protein phosphorylation within the cell cycle. The objective of the course is to present graduate students with methods for cell cycle analyses that will be used in their research.

Last Four Terms Offered: Spring 2020, Spring 2019, Spring 2018, Spring 2017

Schedule of Classes

TOX 8900 - Master's Thesis and Research (1-12 Credits)

Thesis research for master's students.

Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022

Schedule of Classes

TOX 9900 - Doctoral Thesis and Research (1-12 Credits)

Thesis research for Ph.D. candidates.

Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022

Schedule of Classes