ROB 498/ROB 599: Robot Learning for Planning and Control
Winter 2025 Syllabus

Instructor: Dmitry Berenson

Time: Mon, Weds 3:00pm - 4:30pm

Location: FXB 1012

Course Website:
https://berenson.robotics.umich.edu/courses/winter2025robotlearning/index.html

The instructors reserve the right to modify the course outline and policies mentioned in this syllabus at any time during the term.

Overview: An introduction to modern machine learning methods for control and planning in robotics. Topics include function approximation, learning dynamics, using learned dynamics in control and planning, handling uncertainty in learned models, learning from demonstration, and reinforcement learning. Students will implement the above learning algorithms on robots in simulation.

Prerequisites:
-   Linear Algebra (ROB 101 or Math 214 or Math 217)
-   EECS 281

Course Layout: This course will consist of lectures, reading, and implementing and presenting a final project employing the ideas covered in the class. Students will complete quizzes, homeworks, and a final project report.

Lectures: Students are expected to attend all classes. It is essential that you carefully review any required reading before each class.

Homework: Homework will be assigned throughout the semester. All homework will have a due date and no late homework will be accepted (except using late-day tokens via autograder). **All homeworks must be done individually**.

Course Schedule: The course schedule is available on the course website.

Grading:

Homeworks	50%
Quizzes (drop lowest)	15%
Final Project	35%

Academic Integrity: All work submitted for credit must be your own. Plagiarism is cheating and will be dealt with accordingly. Review the college of Engineering's Honor Code here: http://www.engin.umich.edu/college/academics/bulletin/rules

Student Disability Services: If you need course adaptations or accommodations because of a disability, or if you have medical information to share with the instructor, please make an appointment with your instructor within the first week of classes.