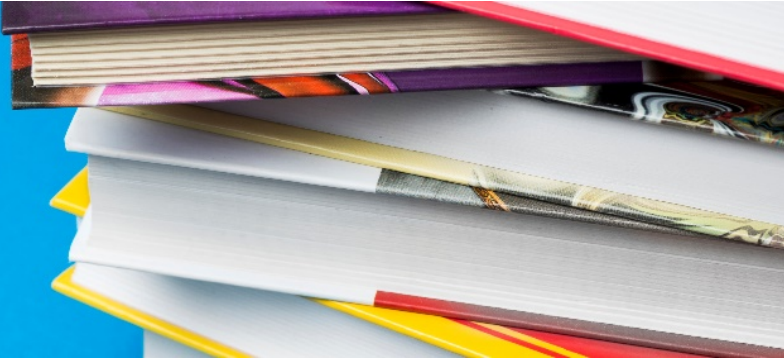
TEL AVIV UNIVERSITY אוניברסיטת תל אביב

Full Syllabus



Course Title

Advanced Topics in Reinforcement Learning and Control

Lecturer

Alon Cohen

Semester

B

Course requirements

Homework, Lecture scribes, Project

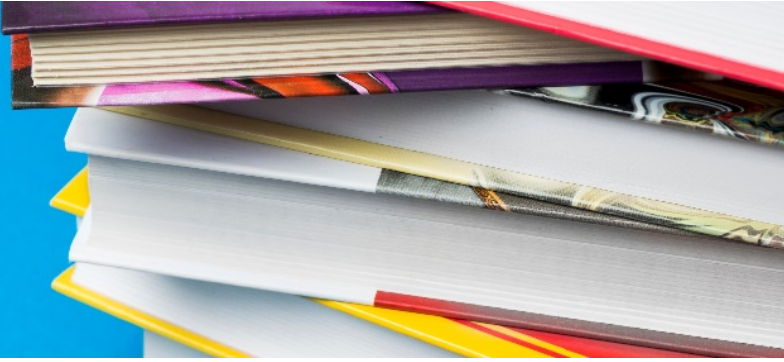
Final grade components

Homework 30%, Lecture scribes 30%, Project 40%

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Intro
2	Markov Decision Processes
3	Stochastic Multi-armed Bandits
4	Online Reinforcement Learning
5	Intro to online learning
6	Online mirror descent
7	Adversarial Multi-armed bandits
8	Adversarial Markov Decision Processes
9	Adversarial Reinforcement Learning
10	Intro to optimal control
11	Linear-quadratic regulators
12	Learning LQR systems
13	Nonstochastic control

Required course reading



Optional course reading

Introduction to Online Convex Optimization by Elad Hazan
Introduction to Online Optimization by Sebastien Bubeck
Online Learning and Online Convex Optimization by Shai Shalev-Shwartz
Prediction, Learning, and Games by Nicolo Cesa-Bianchi and Gabor Lugosi
Bandit Algorithms by Tor Lattimore and Csaba Szepesvári

Comments

Project involves presenting an academic paper, or a small incremental research project.