Winter 2022 Course List

Updated November 30, 2021

Undergraduate

- ROB 103: Robotics Mechanisms (Yeo)
- ROB 204: Introduction to Human-Robot Systems (Stirling/Robert)
- ROB 320: Robot Operating Systems (Opipari)

Robotics Core

- ROB 550: Robotics Systems Lab (Gaskell)

Sensing

- BIOMEDE 517: Neural Engineering (Chestek)
- EECS 442: Computer Vision (Fouhey) *Enrollment is primarily reserved for undergraduate students. Grad enrollment with instructor consent. We recommend taking EECS 504 (when offered) instead.
- EECS 564: Estimation, Filtering, and Detection (Clayton)
- EECS 598: Deep Learning for Computer Vision (Johnson)
- ROB 530/NAVARCH 568/EECS 568: Mobile Robotics (Ghaffari)

Reasoning

- AEROSP 552: Aerospace Information Systems (Jeannin)
- EECS 486: Information Retrieval & Web Search (Mihalcea)
- IOE 434: Human Error and Complex Systems Failures (Sarter)
- EECS 545: Machine Learning (Lee)
- EECS 548: Information Visualization (Card)
- EECS 592: Foundations of Artificial Intelligence (Chakraborty)
- EECS 598: Reinforcement Learning Theory (Ying)
- EECS 692: Advanced Artificial Intelligence (Chai)
- IOE 511: Continuous Optimization Methods (Berahas)
- MECHENG 555: Design Optimization (Austin-Breneman)
- ROB 520: Motion Planning (Berenson)

Acting

- AEROSP 740: Multi-Agent Control (Panagou)
- EECS 461: Embedded Control Systems (Cook)
- [EECS 560](#)/MECHENG 564/AEROSP 550: Linear Systems Theory (Freudenberg)
- EECS 562/AEROSP 551: Nonlinear Systems & Control (Meerkov)
- EECS 565: Linear Feedback Control (Seiler)
- MATSCIE 593: Soft Robotic Materials and Actuators (Pena-Francesch)
- MECHENG 461: Automatic Control (Rouse)
- [MECHENG 542](#): Vehicle Dynamics and Automation (Orosz)
- MECHENG 561/EECS 561: Design of Digital Control Systems (Vasudevan)
- NAVARCH 599: Special Topics – Marine Robotics (Skinner)
- ROB 510: Robot Kinematics and Dynamics (Gregg)
- ROB 520: Motion Planning (Berenson)
- ROB 599: Bioinspiration (Moore)
- ROB 599/AEROSP 740: Experimental Unmanned Aircraft Systems (Gaskell)

Electives

* Any course listed under Sensing, Reasoning, or Acting that is not used to fulfill the breadth or depth requirement, 400-level courses listed here, 500-level or higher courses, and courses listed [here](#) can be considered an elective.

- AEROSP 585: Aerospace Seminar (Waas)
- EECS 460: Control Systems Analysis and Design (Ozay)
- EECS 501: Probability & Random Processes (Sadanandarao)
- EECS 586: Design & Analysis of Algorithms (Saranurak)
- IOE 465: Design of Experiments (Yang)
- ISD/MFG/ME 599: Foundations in Smart Additive Manufacturing (Okwudire)
- PSYCH 614: Advanced Statistical Methods (TBA)
- [ROB 599/EECS 598:](#) Ethics for AI and Robotics (Kuipers)