

PhD Course Requirements

CORE COURSES

Required (12 credits)

MECHANICS	CONTROL	COGNITION	PERCEPTION
ROBOT 6000 Robotics I: Mechanics	ROBOT 6100 Robotics II: Control	ROBOT 6200 Motion Planning or CS 6300 Artificial Intelligence	CS 6640 Image Processing or CS 6320 Computer Vision

SEMINARS

Required (3 credits)

ME EN 6890 or CS 7930 or ECE 6900	ROBOT 6800 Robotics Seminar (Enroll in 2 semesters for 1 credit each semester)
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ALLIED COURSES

3 courses (9 credits, as needed to reach the 30-credit hour coursework minimum)

RESEARCH

Minimum 14 credits required

ELECTIVE COURSES

Select 3 courses from two different categories (9 credits):

ROBOT 7970 PhD Dissertation

MECHANICS	CONTROL	DESIGN	HUMAN-ROBOT INTERACTION	PERCEPTION
ROBOT 7000 Manipulation, Mobility ROBOT 7010 System Identification for Robotics	ME EN 6200/ ECE 6615 Classical Control Systems ECE 6670 Control of Electric Motors ME EN 6210/ ECE 6652/ CH EN 6203 State Space Control ME EN 7200 Nonlinear Control ME EN 7210 Optimal Control ECE 6570 Adaptive Control	ROBOT 6500 Advanced Mechatronics ROBOT 6960 Wearable Robotics ECE 6780/ CS 6780 Embedded System Design ECE 6960 Robotic Millisystems CS 6956 Medical Robotics	CS 6360 Virtual Reality ROBOT 7400 Haptics for VR,Tele- operation, and Physical Human-Robot Interaction ROBOT 6400 Neural Engineering and NeuroRobotics	CS 7640 Adv. Image Processing CS 6353 Deep Learning for Image Analysis ECE 6530 Digital Signal Processing
COGNITION				
CS 6350 Machine Learning CS 6958 Robot Learning				