

ECE 425

Mobile Robotics



Description:

This course will introduce the basic principles of mobile robotics history, theory, hardware and control. Topics will include robot components, effectors and actuators, locomotion, sensors, feedback control, control architectures, representation, localization and navigation. This is a project-oriented course and the student will have hands-on experience with a real mobile robot. The student will be required to complete several laboratory assignments and a multidisciplinary team design project.

Prerequisites:

Control Systems (ECE 320 or ME 406),
Programming Proficiency (JAVA, C# preferred) or
Instructor permission

Required Textbook: *Murphy, Robin R., "Introduction to AI Robotics", The MIT Press, Cambridge, Massachusetts, 2001, 466 pp, ISBN 0-262-13383-0,*
<http://www.csee.usf.edu/~murphy/book/>
<http://mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=3776>

Instructor:

Dr. Carlotta A. Berry
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Note:

- formerly ECE497 – Mobile Robotics
- required for Tracks 1, 4, 5, 6, 7, 9 of the robotics minor