

GEORGIA INSTITUTE OF TECHNOLOGY

SCHOOL of ELECTRICAL & COMPUTER ENGINEERING

ECE 8843: Autonomous Control of Robotic Systems

Fall 2012

Course Syllabus (Subject to Revision)

Instructor: Prof. Ayanna Howard

Phone: 404-385-4824

Office Hours: 10:00am-12:00pm Monday and by appt (TSRB 444)

Office: TSRB 444

E-mail: ayanna.howard@ece.gatech.edu

WWW: t-square.gatech.edu (use PRISM login and password)

Text: George A. Bekey, Autonomous Robots: From Biological Inspiration to Implementation and Control, MIT Press, 2005.

Grading:

Homework Projects: 25%

Research Article: 10%

Mid-Term Exam: 15%

Final Project/Report: 25%

Final Exam: 15%

Class Participation: 10%

Homework: is due at the *start* of class. Late homework projects will be accepted with a deduction of 10% per day. Homework projects over 1 week late will not be accepted.

Research Articles: Students will each be responsible for selecting, summarizing, and leading the class in discussion on a robotic research article related to the course subject matter. Article must have been published within the last 18 months. Journals of relevance include: IEEE Transaction on Robotics and Automation, Autonomous Robots, and the Journal of Robotic Systems. Conferences of relevance include IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), and the International Conference on Advanced Robotics (ICAR), to name a few. By the Monday before each presentation, students must provide class with article reference so class can be prepared for discussion. Students will each have 15-minutes to present to the class on the Friday on which they are scheduled, followed by Q&A. A hardcopy of the presentation must be submitted to the professor during the scheduled presentation day. Sign-up sheets for presentations will be distributed the first week of class.

Class Participation: This class is designed to be interactive. There will be a number of instances that will be used to determine your class participation grade – such as involvement in article discussions, group case studies, and guest Robotics lectures occurring during class time.

Team Projects: Students, working in teams of 2-3, will work on a final project involving the use of the Pleo robotic platform, the Amigobot, or the Gazebo/Player/Stage robotic simulation package. If you are interested in using another hardware platform, you must clear it with me BEFORE the project abstract is due. Projects will be presented during the last week of class. Students will each have 20-minutes to present. A 7-10 page project report and the presentation slides, in both hard and soft copy, must be submitted to the professor during the scheduled presentation day to receive credit.