GRASP LABORATORY

SAAST Robotics
Syllabus-Summer 2014

Instructor:

Dr. Jonathan Fiene
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Course Description: The purpose of this course is to provide an introduction to robotics technology. The course ties together engaging classroom discussions on a variety of topics including sensing, actuation, control, and embedded programming with a rigorous series of laboratory exercises and projects to provide hands-on experience with mechanical prototyping methods, electronic circuits, robotic systems, and much more.

Course Materials: All lectures, assignments and labs will be available online. The SAAST Robotics website (http://medesign.seas.upenn.edu/index.php/Courses/SAAST) will have general course information.

Assignments: Assignments will reinforce lecture material. All assignments will be done individually unless otherwise specified.

Assignment 1: Mechanical Design- SolidWorks and the Laser Cutter
Assignment 2: Basic Circuits- VIR
Assignment 3: IR Sensors
Assignment 4: m2 and mX
Assignment 5: Rapid Prototyping / 3D Printing
Assignment 6: mRF Wireless Communications

Quizzes: The quizzes will cover material discussed in the lectures and will be given without notice.

Final Project: Students will be split into groups of three for the final project. Each group will design and build robots to solve missions in the ROBOTANK competition.

Grading Policy
Individual Assignments: 50%
Team Assignments: 15%
Quizzes: 10%
Final Project: 25%