

# Robotics: Integrated Systems Design

## Tentative Topic Schedule

### Spring 2004

Modified on April 6, 2004

Date	Monday	Wednesday
Jan. 12 & 14	<b>Course Introduction and Introduction to Robotics</b> Karacal & Weinberg	<b>Teamwork &amp; group dynamics</b> Karacal & Weinberg
Jan. 19 & 21	<b>MLK Day – No Classes</b>	<b>DoF Definitions , Spatial Descriptions, Servo Motors, Sensors, and Actuators</b> Karacal
Jan. 26 & 28	<b>Control &amp; Kinematics</b> Hu	<b>Control &amp; Kinematics</b> Hu
Feb. 2 & 4	<b>Handy Board tutorial and introduction to IC4 programming</b>	<b>Inverse Kinematics - Hu</b>
Feb. 9 & 11	<b>Feedback Control - Hu</b> <b>Electronics Primer and Sensor Fundamentals - Engel</b>	<b>Circuits and the Handy Board</b> Engel
Feb. 16 & 18	<b>Operating Principles for Several Sensors</b> Engel	<b>Advanced Sensors</b> Engel
Feb. 23 & 25	<b>Answers to ECE Homework and more Circuits – Engel</b>	Quiz covering Jan. 19 <sup>th</sup> to Feb 18 <sup>th</sup>
March 1 & 3	<b>Planar Robot Lab – Hu</b> <b>Artificial Intelligence applied to Robotics &amp; Reactive Robots - Weinberg</b>	<b>Image Processing &amp; Vision</b> Weinberg
March 8 & 11	<b>Spring Break</b>	
March 15 & 17	<b>Localization &amp; Navigation</b> Weinberg	<b>Localization &amp; Navigation 2</b> Weinberg
March. 22 & 24	<b>Problem Analysis &amp; System Design</b> Karacal (Assessment Interviews)	<b>Team Project Preparation</b> Karacal (Assessment Interviews)
March 29 & 31	<b>Multi-Robot Coordination, Communication, shared information, Multi-agent Planning System</b> Karacal (Assessment Interviews)	<b>Centralized, Distributed Coordination, Market/Auction Based Coordination</b> Karacal
April 5 & 7	<b>Time &amp; Space Complexity</b> Weinberg	<b>Robotics Competitions</b> Weinberg
April 12 & 14	Quiz covering March. 1 <sup>st</sup> to April 7 <sup>th</sup>	<b>Project Trouble Shooting Day</b>
April 19 & 21	<b>Project Presentations</b>	<b>Project Presentations</b>
April 26 & 28	<b>Project Demonstrations</b>	<b>Project Demonstration</b>
<b>May 4</b>	Final Exam 2 pm – 3:40 pm	