



ECE425 – Introduction to Mobile Robotics

Course Calendar (Winter 2011 - 2012)*

| Class | Day | Date | Торіс | Reading | Assignment Due |
|--|-----|------|--|-------------|---------------------------------------|
| 1-1 | Μ | 3/5 | Overview, From Teleoperation to Autonomy | Nieumel | Quiz 1 |
| | | | Lab 1 Recitation – Locomotion and Odometry | 1 | |
| 1-2 | Т | 3/6 | The Hierarchical Paradigm | Ch. 1-3 | Quiz 2 |
| 1-L | R | 3/8 | Lab 1 Demonstration – Locomotion and Odometry | | Lab 1 Report |
| 2-1 | Μ | 3/12 | Biological Foundations of the Reactive Paradigm | Martin | Quiz 3 |
| 2-2 | Т | 3/13 | The Reactive Paradigm | CH. 4-5 | Quiz 4 |
| 2-L | R | 3/15 | Lab 2 Demonstration – Random Wander, Obstacle | | Lab 2 Report |
| | | | Avoidance | | |
| FIRST BOILERMAKER REGIONAL, Purdue (3/15/12 - 3/17/12) | | | | | |
| 3-1 | М | 3/19 | Feedback Control | Brooks | Quiz 5 |
| 3-2 | Т | 3/20 | Designing a Reactive Implementation | Ch. 6 | Quiz 6 |
| 3-L | R | 3/22 | Lab 3 Demonstration – Wall Following (PD or PI Control) | | Lab 3 Report |
| 4-1 | Μ | 3/26 | Common Sensing Techniques for Reactive Robots | Arkin | Quiz 7 |
| 4-2 | Т | 3/27 | Common Sensing Techniques for Reactive Robots | Ch. 7 | Quiz 8 |
| 4-L | R | 3/29 | Lab 4 Demonstration – Hybrid Control – Homing | | Lab 4 Report |
| SPRING BREAK (3/31/12 - 4/8/12) | | | | | |
| 5-1 | Μ | 4/4 | The Hybrid Deliberative/Reactive Paradigm | Silva | Quiz 9 |
| 5-2 | Т | 4/5 | The Hybrid Deliberative/Reactive Paradigm | Ch. 9 | Quiz 10 |
| 5-L | R | 4/7 | Lab 5 Demonstration - Topological Navigation | | Lab 5 Report |
| 6-1 | Μ | 4/1 | Topological Path Planning | Mataric | Quiz 11 |
| 6-2 | Т | 4/12 | Metric Path Planning | Ch. 10 | Quiz 12 |
| 6-L | R | 4/14 | Lab 6 Demonstration – Path Planning (OG & TP) | | Lab 6 Report |
| 7-1 | Μ | 4/23 | Metric Path Planning | Grabow s | Quiz 13 |
| 7-2 | Т | 4/24 | Localization and Map Making | Ch. 11 | Quiz 14 |
| 7-L | R | 4/26 | Lab 7 Demonstration – Map Making | | Lab 7 Report |
| FIRST CHAMPIONSHIP, ST. Louis, MO (4/25/12-4/28/12) | | | | | |
| 8-1 | М | 4/30 | Final Project – Localization | | Quiz 15 |
| 8-2 | Т | 5/1 | Final Project – Localization | | |
| 8-L | R | 5/3 | Final Project – Localization | | |
| 9-1 | Μ | 5/7 | Final Project – Localization | | |
| 9-2 | Т | 5/8 | Final Project – Localization | | |
| 9-L | R | 5/10 | Final Project – Localization | | |
| 10-1 | Μ | 5/14 | Final Project – Localization | | |
| 10-2 | Т | 5/15 | Final Project Demonstration | | |
| 10-L | R | 5/17 | Final Project Competition | | Final Project Report Due Friday |

*This schedule, topics and assignments may be modified at the discretion of the instructor