

# Robotics Core \* & Elective \*\* Course Offerings

| (Typically Offered) <b>Fall Semester</b>                   |                                                             |                                                    |                                                                  | (Typically Offered) <b>Spring Semester</b>                                           |                                                                            |                                                                  |
|------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>MECHANICS</b>                                           | <b>COGNITION</b>                                            | <b>PERCEPTION</b>                                  | <b>DESIGN</b>                                                    | <b>ROBOT DESIGN</b>                                                                  | <b>CONTROL</b>                                                             | <b>COGNITION</b>                                                 |
| * <b>ROBOT 6000</b><br>Robotics I:<br>Mechanics            | * <b>CS 6300</b><br>Artificial<br>Intelligence              | * <b>CS 6640</b><br>Image<br>Processing            | * <b>ROBOT 6960</b><br>Wearable<br>Robotics<br>(every even Fall) | ** <b>ROBOT 6500</b><br>Adv. Mechatronics<br>(every even Spring)                     | * <b>ROBOT 6100</b><br>Robotics II:<br>Control                             | * <b>ROBOT 6200</b><br>Motion<br>Planning                        |
| <b>MECHANICS</b>                                           | <b>COGNITION</b>                                            | <b>PERCEPTION</b>                                  |                                                                  | <b>ROBOT DESIGN</b>                                                                  | <b>CONTROL</b>                                                             | <b>HUMAN-ROBOT</b>                                               |
| ** <b>ROBOT 7010</b><br>System ID<br>(every odd Fall)      | ** <b>CS 6350</b><br>Machine Learning                       | * <b>CS 6320</b><br>Computer<br>Vision             |                                                                  | ** <b>ECE 6780/<br/>CS 6780</b><br>Embedded<br>System Design                         | ** <b>ECE 6670</b><br>Control of<br>Electric Motors                        | ** <b>ROBOT 7400</b><br>Haptics<br>(every odd Spring)            |
| <b>HUMAN-ROBOT</b>                                         | <b>CONTROL</b>                                              | <b>PERCEPTION</b>                                  |                                                                  | <b>ROBOT DESIGN</b>                                                                  | <b>CONTROL</b>                                                             | <b>MECHANICS</b>                                                 |
| ** <b>ROBOT 6400</b><br>NeuroRobotics<br>(every even Fall) | ** <b>ME EN 6200/<br/>ECE 6615</b><br>Classical Control Sys | ** <b>CS 6353</b><br>Deep Learning                 |                                                                  | ** <b>ROBOT 6960</b><br>Adv. Design in<br>Robotics Techniques<br>(every even Spring) | ** <b>ME EN 6210 /<br/>ECE 6652</b><br>Linear Sys & State<br>Space Control | ** <b>ROBOT 7000</b><br>Robot Manipulation<br>(every odd Spring) |
| <b>HUMAN-ROBOT</b>                                         | <b>CONTROL</b>                                              | <b>PERCEPTION</b>                                  |                                                                  | <b>ROBOT DESIGN</b>                                                                  | <b>CONTROL</b>                                                             |                                                                  |
| ** <b>CS 6360</b><br>Virtual Reality                       | ** <b>ME EN 7200</b><br>Nonlinear Control                   | ** <b>ECE 6530</b><br>Digital Signal<br>Processing |                                                                  | ** <b>ROBOT 6960</b><br>Medical Robotics<br>(every even Spring)                      | ** <b>ME EN 7210</b><br>Optimal Control<br>(every even Spring)             |                                                                  |