ECE666 Topics in Robotics

**Description:** Students in this course will be required to read and critique recently published research papers in robotics.

**Prerequisite:** ECE555 or permission of instructor.

**Text:** Recent papers from the *IEEE Transactions on Robotics and Automation, IEEE Conference on Robotics and Automation*, or comparable sources available via CSU libraries

**Learning Objectives:**

1. Summarize current state-of-the-art in a selected field of robotics.

2. Critically analyze technical manuscripts submitted for review.

3. Distinguish between evolutionary advances and seminal work.

4. Design effective technical presentations

**Content:** Will vary each semester based on the interests of the current student population.

   Examples topics include:

   1. Robot locomotion
   2. Motion planning
   3. Manipulation
   4. Sensing (visual/haptic/proximity)
   5. Anthropomorphic robots
   6. Robots in unstructured environments (space, underwater, service)
   7. Human/robot interaction
   8. Internet robotics
   9. Virtual reality
   10. Medical robotics

**Weekly Schedule:**

1. How to assess state of the art (citations, impact, etc.)

2. Peer review process

3. Assessing technical papers/proposals

4. Elements of quality technical presentations

5-16. Student technical presentations and critiques
Method of Evaluation:

25% Annotated Bibliography/Survey of Related Work
25% Paper Reviews
50% Paper Presentations