UTRGV COURSE SYLLABUS

UTRGV Course: ELEE 6399 Topic: robot modeling and control
Instructor Name: Wenjie Dong
Term: Fall 2017
Tel: 956-665 2200. Email: Wenjie.dong@utrgv.edu
Times and location: TR 5:55pm - 7:10pm, ENGR 1.242 (Edinburg)
Office location and hours: ENGR 3.242 and BB IM, TR 3:00pm - 4:00pm or by appointment

Textbook and/or Resource Material

Course Description and Prerequisites
The goal of the course is to provide students with knowledge about robot modeling and control. We will primarily focus on how to obtain the kinematics and dynamics of a robot and how to control a robot based on its kinematics or dynamics to accomplish a given task. We also introduce some basic results on cooperative control of multiple robots and lead students to cutting edge research.
Prerequisites: ELEE 4330.

Grading Policies
Your final grade depends on your points for the following parts: 1. Homework, 2. Attendance, 3. Middle term exam, and 4. final exam.

- **Homework:**
  1. Homework is assigned in Blackboard (BB).
  2. Homework is required to be submitted through Blackboard by uploading a single PDF file before the deadline. Submissions of homework by paper or email are not accepted.
  3. Late homework is not accepted.

- **Attendance**
  1. Attendance of class is required. Your attendance is checked by at the beginning of each class.
  2. You may be absent for two times without the instructor’s approval.

- **Middle term exam:**
  1. The date for middle term exam will be announced one week in advance.
  2. Make-up for a missed exam will not be permitted unless it has been arranged in advance.

- **Final exam:**
  1. The date for the final exam will be announced one week in advance.
  2. Make-up for the missed final exam will not be permitted for any situation.

Calendar of Activities
The UTRGV academic calendar can be found at http://my.utrgv.edu at the bottom of the screen, prior to login.

Other Course Information

Topics (tentative):
1. Overview of some fundamental concepts
2. Rigid motions and homogeneous transformations
3. Robot kinematics
4. Robot dynamics
5. Motion planning
6. Overview of multivariable Control
7. Robot control
8. Stabilization of mobile robots
9. Trajectory tracking control of mobile robots
10. Formation control of mobile robots
UTRGV Policy Statements

STUDENTS WITH DISABILITIES: If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at accessibility@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD: Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Online evaluations will be available Nov. 18 – Dec. 9, 2015. Students who complete their evaluations will have priority access to their grades.

ATTENDANCE: Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC INTEGRITY: As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE: In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

COURSE DROPS: According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.