
Department of Mechanical Engineering, University of Nevada Las Vegas

- ## Course Objectives

- To introduce students the science and engineering of mechanical manipulators
- To introduce kinematics, dynamics, and control problems of robotic manipulators
- To introduce feedback controller of robot manipulators including PID and Nonlinear controllers.
- To introduce various trajectories or motion generation schemes in robotics

- Understand the science and engineering behind the motions generated by robot manipulators
- Design the basic feedback position controller for robot manipulator
- Simulate the robot system using Matlab and Simulink (kinematics, dynamics, controller)
- Deal with common control and dynamic problems in robot manipulators

[illegible]

All ME students must meet with their faculty mentor at least once in each semester to avoid any hold on their registration. Please contact the department for the name of your faculty mentor if you have not already been assigned one. When your faculty mentor is not available, please contact the ME Department for any advice at 895-1331.

Academic Misconduct – “Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.”

An example of academic misconduct is plagiarism: “Using the words or ideas of another, from the Internet or any source, without proper citation of the sources.” See the “Student Academic Misconduct Policy” (approved December 9, 2005) located at: <http://studentlife.unlv.edu/judicial/misconductPolicy.html>.

Copyright – The University requires all members of the University Community to familiarize themselves and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. To familiarize yourself with copyright and fair use policies, you are encouraged to visit the following website: <http://www.unlv.edu/committees/copyright/>.

Disability Resource Center (DRC) – It is important to know that over two-thirds of the students in the DRC reported that this syllabus statement, often read aloud by the faculty during class, directed them to the DRC office.

The Disability Resource Center (DRC) coordinates all academic accommodations for students with documented disabilities. The DRC is the official office to review and house disability documentation for students, and to provide them with an official Academic Accommodation Plan to present to the faculty if an accommodation is warranted. Faculty should not provide students accommodations without being in receipt of this plan.

UNLV complies with the provisions set forth in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, offering reasonable accommodations to qualified students with documented disabilities. If you have a documented disability that may require accommodations, you will need to contact the DRC for the coordination of services. The DRC is located in the Student Services Complex (SSC), Room 137, and the contact numbers are: Voice (702) 895-0866, TDD (702) 895-0652, fax (702) 895-0651. For additional information, please visit: <http://studentlife.unlv.edu/disability/>.

Religious Holidays Policy -- Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the last day at late registration of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternate time would impose an undue hardship on the instructor or the university which could not be avoided. <http://catalog.unlv.acalog.com/content.php?catoid=1&navoid=44&bc=1>

Tutoring -- The Academic Success Center (ASC) provides tutoring and academic assistance for all UNLV students taking UNLV courses. Students are encouraged to stop by the ASC to learn more about subjects offered, tutoring times and other academic resources. The ASC is located across from the Student Services Complex, #22 on the current UNLV map. Students may learn more about tutoring services by calling (702) 895-3177 or visiting the tutoring web site at: <http://academicsuccess.unlv.edu/tutoring/>

UNLV Writing Center – *The following statement is recommended for inclusion in course syllabi:*

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance.

Appointments may be made in person or by calling 895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>

Any other class specific policies (e.g., absences, make-up exams, extra credit policies, plagiarism/cheating consequences, policy on pagers/mobile phones, specialized department or college tutoring programs, bringing children to class, policy on recording classroom lectures, etc.)