ME 421L Automatic Controls Lab - Fall 2011

Instructors & Class Times:

- Instructor: Muna Slewa (TBE-B121, • Sec 001: Mon 4:00 PM - 6:45 PM
- Instructor: Ahmad Fayed (TBE B153,

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○ Sec 002: Fri 4:00 PM - 6:45 PM
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• Sec 003: Thr 1:00 PM - 3:45 PM

Course Content:

slewam@unlv.nevada.edu) Room: TBE-B121 fayeda@unlv.nevada.edu http://complabs.nevada.edu/~fayeda/) Room: TBE-B121 Room: TBE-B121

Week	Dates		Горіс	Notes
1	Mon 08/29			Lab Chambadh a
	Thu	09/01	NO LAB	Lab Starts the
	Fri	09/02		2 rd Week
2	Mon	09/05	NO LAB - Labor Day Recess	Labor Day Recess
	Thu	09/08	Lah 1. Computer Deced Dynamic System Analysis L	
	Fri	09/09	Lab 1 Computer-Based Dynamic System Analysis I	
3	Mon	09/12	Lab 1 Computer-Based Dynamic System Analysis I	
	Thu	09/15	Lah 2 Computer-Based Dynamic System Analysis II	
	Fri	09/16		
4	Mon	09/19	Lab 2 Computer-Based Dynamic System Analysis II	
	Thu	09/22	Lab 3 Computer-Based Dynamic System Analysis III	
	Fri	09/23		
5	Mon	09/26	Lab 3 Computer-Based Dynamic System Analysis III	
	Thu	09/29	Lab 4 DC Mater Speed Control	
	Fri	09/30	Lab 4 DC Motor Speed Control	
6	Mon	10/03	Lab 4 DC Motor Speed Control	
	Thu	10/06	Leh E. DOMeter Desition Control	
	Fri	10/07	Lab 5 DC Motor Position Control	
7	Mon	10/10	Lab 5 DC Motor Position Control	
	Thu	10/13		
	Fri	10/14	Lab 6 Temperature Control	
8	Mon	10/17	Lab 6 Temperature Control	
	Thu	10/20	Lab 7 CE 117 Process Trainer part 1 Flow control by Valve	
	Fri	10/21		
9	Mon	10/24	NO LAB - Nevada Day Recess	
	Thu	10/27		
	Fri	10/28		Nevada Day Recess
10	Mon	10/31	Lab 7 CE 117 Process Trainer part 1 Flow control by Valve	
	Thu	11/03	Lab 8 CE 117 Process Trainer part 2 Flow control by Pump	
	Fri	11/04		
11	Mon	11/07	NO LAB – Veterans Day Recess	
	Thu	11/10		
	Fri	11/11		Veterans Day Recess
12	Mon	11/14	Lab 8 CE 117 Process Trainer part 2 Flow control by Pump	
	Thu	11/17	Lah Q. Dandulum Cantru Control	
	Fri	11/18		
13	Mon	11/21	NO LAB – Thanksgiving Recess	
	Thu	11/24		Thanksgiving Pococc
	Fri	11/25		manksgiving Recess
14	Mon	11/28	Lab 9 Pendulum Gantry Control	
	Thu	12/01	Lab 10 Upright Pondulum Control	
	Fri	12/02		
15	Mon	12/05	Lab 10 Upright Pendulum Control	
	Thu	12/08		Study Week
	Fri	12/09	NU LAB	

All handouts have been posted on the ME web page at: http://www.me.unlv.edu/Undergraduate/coursenotes/control/421Lab.htm

Policy on Attendance and Lab Reports

Lab attendance is mandatory and failure to attend any one lab will result in an "F" grade for the entire lab course. Students must complete <u>every lab</u> <u>assignment</u> with a passing grade. Lab reports are due at the beginning of the next lab meeting. A penalty of 20% of the maximum grade will be assessed for each day of late submission of any report. Any report submitted more than five days late will be given a failing grade, and result in an "F" grade for the course.

Policy on Make-up Labs

No Lab time switching is allowed or make-up labs are given unless arrangements are made with the instructor at least 48 hours before the lab day to be missed or in case of illness (must bring a doctor's note).

Grading Final grade will be based on the Lab reports.

Office Hours (By appointment, email your instructor for arrangement)

All ME students must meet their faculty mentors at least once each semester to avoid any hold in their registration. Please contact department for the name of the faculty mentor. When your faculty mentor is not available, you can contact ME Department for assistance.

Computer Use: We will use computers extensively throughout the lab and for homework. Please obtain an account on the college network. You will find that the software tools (Matlab, Mathcad, VisSim) are very useful for eliminating menial work, and for improving your understanding. The software tools are installed on the PC's in TBE-B-361 and the controls lab (TBE-B121). Learning the tools will require some time and effort from everyone. Be patient, and take enough time to practice. You may use other appropriate software instead of Matlab for homework assignments. Both software packages are functionally the same at the command level. Home users: A student version of Matlab is available at the bookstore.

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." <u>Under no circumstances will multiple identical</u> <u>submissions of any homework problem or part thereof be accepted.</u> <u>All multiple submissions will receive</u> <u>zero credit for the entire assignment. Future cases will be referred to the UNLV Offices of the Vice</u> <u>President for Student Life and Student Conduct.</u> See the "Student Academic Misconduct Policy" (approved December 9, 2005) located at: <u>http://studentlife.unlv.edu/judicial/misconductPolicy.html</u>.

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: <u>http://www.unlv.edu/committees/copyright/</u>.

Disability Resource Center (DRC) – 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 <u>no later than the last day at late registration</u> 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 – 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: <u>http://writingcenter.unlv.edu/</u>

Rebelmail - By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's Official e-mail system for students.

Expected Learning Outcomes – With the completion of the course students will have acquired:

- a. A fundamental knowledge and practice of state-of-the-art technology associated with automated processes in mechanical engineering
- b. The ability to solve and experimentally validate open-ended design problems
- c. An introductory knowledge of manufacturing and design methods
- d. The ability to use computers in solving, modeling, and analyzing control engineering problems
- e. Training in the oral and written presentation of technical information

Grade Posting – Final Grades will be posted on the Registrar's site at the end of the semester.