

ENGR 5326
Control of Mechanical Systems

Instructor	Dr. Jiang (Jenny) Zhou Office: 2022 Cherry Engineering Building Phone: 409-880-8770 Email: jenny.zhou@lamar.edu										
Meeting	TR 9:35-10:55 a.m. C2603 Cherry Engineering Building										
Office Hours	T Th 2:30-3:30 p.m.; or by appointment										
Textbook	1. Katsuhiko Ogata, <i>Modern Control Engineering</i> , 4th Edition, Prentice Hall, 2002.										
References	1. Richard C. Dorf and Robert H. Bishop, <i>Modern Control Systems</i> , 12 th ed., Prentice Hall, 2011. 2. William L. Brogan, <i>Modern Control Theory</i> , 3 rd Edition, Prentice Hall, 2002.										
Topics	<ol style="list-style-type: none"> 1. Introduction to Control Systems 2. Review of Laplace transformation 3. Mathematical modeling of dynamic systems, transfer function, state-space representation for the dynamic systems 4. Transient and steady-state response analyses 5. Root-locus analysis 6. Frequency-response analysis, Nyquist stability 7. Control system design by root-locus method and by frequency response 8. PID Controls 9. Analysis of control systems in state space * 10. Controllability and observability * 11. Design of system in state space * 										
Grading Policy	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Attendance</td> <td style="text-align: right;">10 %</td> </tr> <tr> <td>Projects</td> <td style="text-align: right;">10 %</td> </tr> <tr> <td>Homework & Quizzes</td> <td style="text-align: right;">10 %</td> </tr> <tr> <td>2 Midterms</td> <td style="text-align: right;">45 %</td> </tr> <tr> <td>Final Exam</td> <td style="text-align: right;">25 %</td> </tr> </table> <p>There will be one or more homework assignments for each chapter covered during the lecture. One week will be given to complete each homework assignment. Each homework solution must be turned in at the beginning of class on each scheduled due date. As there is a strong correlation between doing the homework and doing well on the exams, it is truly to student's benefit to work on all the problems. While the 'break points' for letter grades can depend on the relative performance of students in class, the following general guideline may be used:</p> <p style="margin-left: 40px;">100% -- 90% = A 89% -- 75% = B 74% -- 65% = C 64% -- 55% = D 54% -- 0% = F</p>	Attendance	10 %	Projects	10 %	Homework & Quizzes	10 %	2 Midterms	45 %	Final Exam	25 %
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Academic Integrity	During exams, collaboration is never authorized. For project and homework, collaboration is expected to remain within assigned groups. Please refer to the sections related to academic integrity in student handbook of Lamar University.										

Emergency Procedures

Many types of emergencies can occur on campus, instructions for specific emergencies such as severe weather, active shooter, or fire can be found at:

<http://www.lamar.edu/files/documents/about-lu/administration/risk-management/risk-management2013/Emergency%20Procedures%20Lamar%20University%20including%20Active%20Shooter.pdf>

Academic Continuation Policy

In the event of a campus closure due to hurricane or other disaster courses will continue after a four day lapse to allow time for evacuation. This course will be conducted via email and blackboard. Students must begin checking their Lamar email address and blackboard for where instructions and course materials and required student work will be sent and received by the instructor.