

<b>Course Title</b>	<b>MECH 3345 System Dynamics</b>	<b>Fall/2016</b>
<b>INSTRUCTOR:</b>	Angel Flores-Abad, Office: Engineering Building, Room E331, Email: afloresabad@utep.edu	
<b>OFFICE HOURS:</b>	Tuesday 11:00 and Thursday at 10:00 hrs.	
<b>LECTURE</b>	MW 10:30 am - 11:50 am, Undergraduate Learning Center 220.	
<b>PREREQUISIT</b>	Dynamics, Engineering Analysis I (or Differential equations) and Engineering Analysis II.	
<b>COURSE DESCRIPTION:</b>	The course educates students in system modelling, time-domain performance analysis, frequency-domain analysis and control systems design.	
<b>COURSE OBJECTIVES:</b>	<ul style="list-style-type: none"> <li>• Students will use mathematical tools and physical laws to represent mechanical and electromechanical systems.</li> <li>• Students will use computer tools to validate and analyze dynamical systems.</li> </ul>	
<b>TEXTBOOKS:</b>	[1] Palm, W. J. System dynamics. McGraw-Hill Higher Education. 3 <sup>rd</sup> . Edition (Required) [2] Ogata, K. System dynamics. New Jersey: Prentice Hall.	
<b>SOFTWARE:</b>	Matlab, Adams, Multisim.	
<b>GRADING:</b>	<ul style="list-style-type: none"> <li>• Assignments (homework, quizzes, etc.) 30%</li> <li>• Test 1 (Midterm 1): 20%</li> <li>• Test 2 (Midterm 2): 20%</li> <li>• Project (theoretical and report): 10%</li> <li>• Final Exam (Comprehensive): 20% <ul style="list-style-type: none"> <li>◦ Students with an average grade of 90% in the two midterm exams are exempted from taking the final.</li> </ul> </li> </ul> <p><b>ESCALE</b>  A ≥ 90  B ≥ 80 but &lt;90  C ≥ 70 but &lt;80  D ≥ 60 but &lt;70  F &lt;60</p> <p><b>NOTE:</b> There will not be make up exams. If you miss an exam due to a UTEP approved reason (see the catalog) I will count the next exam as two scores.</p>	
<b>Midterm exam 1:</b>	October 05	
<b>Midterm exam 2:</b>	November 16	
<b>Final Exam:</b>	Dec 09, 10:00 AM-12 :45 PM.	
<b>MATERIAL FOR CLASS</b>	Laptop (required)	
<b>TOPICS COVERED</b>	<ul style="list-style-type: none"> <li>• Dynamic response and Laplace transform method</li> <li>• Transfer function</li> <li>• Rigid-body mechanical systems</li> <li>• Spring damper mechanical systems</li> <li>• State space representation</li> <li>• System analysis in time domain</li> <li>• Feed-back controllers design and analysis</li> </ul>	
The above schedule, policies, and assignments in this course are subject to change in the event of contingency or by mutual agreement between the instructor and the students.		