

Course Title	MECH 3345 System Dynamics		Fall 2020
<b>TYPE ON INSTRUCTION</b>	Online with possible exams face to face.		
<b>INSTRUCTOR:</b>	Angel Flores-Abad, Office: Engineering Building, Room E331, Email: afloresabad@utep.edu		
<b>ASSISTANT:</b>	TBD. Office Hours on BbCU		
<b>OFFICE HOURS:</b>	MW 1:30-2:30 PM on BbCU		
<b>LECTURE</b>	TR 10:30 am – 11:50 am, on BbCU		
<b>PREREQUISIT</b>	Electromechanical systems and Dynamics		
<b>COURSE DESCRIPTION :</b>	The course educates students in system modelling, time-domain performance analysis, and frequency-domain analysis.		
<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>TOPICS COVERED</b>	<ul style="list-style-type: none"> <li>• Laplace transform</li> <li>• Solving ODE's using Laplace Transform</li> <li>• ODEs of mechanical, electrical and hybrid systems.</li> <li>• Transfer function of mechanical, electrical and hybrid systems.</li> <li>• System analysis in time domain</li> <li>• System analysis in frequency domain</li> <li>• State space representation</li> <li>• Frequency response</li> </ul>		
<b>TEXTBOOKS:</b>	[1] Palm, W. J. System dynamics. McGraw-Hill Higher Education. 4th Edition (Main reference) [2] Ogata, K. System dynamics. New Jersey: Prentice Hall. [3] Experience Controls – Quanser (mobile app)		
<b>McGrawHill Connect</b>	Systems Dynamics_Fall2020_Angel FloresAbad		
<b>McGrawHill Connect</b>	STUDENT REGISTRATION AND SUPPORT (Must use UTEP email address) <a href="#">Connect/Blackboard Student Registration Instructions</a>		
<b>GRADING:</b>	<ul style="list-style-type: none"> <li>• Homework, quizzes, online activities, assignments, etc. 500</li> <li>• Midterms (2) 300 (150 each)</li> <li>• Final Exam (Comprehensive): 200</li> </ul> <p style="text-align: right;"><b>Total points 1000</b></p> <ul style="list-style-type: none"> <li>○ Students with a minimum average of 90/100 in the two considered Midterm exams will be exempt from taking the final exam and will get full credit on it i.e., the 200 points.</li> <li>○ <u>Optional</u>: students with a minimum average of 85/100 but less than 89/100 will obtain his average midterm exams grade on the final exam.</li> </ul> <p><b>ESCALE</b>  A ≥ 900,  B ≥ 800 but &lt;900  C ≥ 700 but &lt;800  D ≥ 600 but &lt;700  F &lt;600</p> <p><b>Policies:</b></p> <ul style="list-style-type: none"> <li>• Make up exams are available <b>only</b> due to UTEP accepted reasons. See UTEP's catalog</li> <li>• Correction period: students will have one week after the assignments, quizzes, exams, etc., are returned with grades to ask for any revision on the grade, after that week, no changes can be done in the grades.</li> <li>• If you see a zero on blackboard as grade, that means you obtained a zero or you did not submit the assignment. It does not mean the assignment has not been graded.</li> </ul>		

	<ul style="list-style-type: none"> <li>If an assignment or exam has no name, they will be graded, but if they are not picked up, after the one-week period, they lost validity.</li> </ul>
<b>SOFTWARE:</b>	<p>-Matlab. <a href="https://www.mathworks.com/academia/tah-portal/university-of-texas-at-el-paso-40735445.html#get">https://www.mathworks.com/academia/tah-portal/university-of-texas-at-el-paso-40735445.html#get</a></p> <p>Refer to ETC for specific question. Engineering building E351D (915) 747-5131.</p>
<b>Academic honesty</b>	Read the supplementary documents available in Black Board: Addendum to syllabi and rules for exams and quizzes.
<b>Due date to have Matlab installed</b>	September 3– First activity in class. Make sure you install Simscape, Multibody and Symbolic Toolbox.
<b>Midterm exam 1:</b>	October 8 Format (F2F or online) TBD, The date is subject to changes according to UTEP exams calendar.
<b>Midterm exam 2:</b>	November 19 Format (F2F or online) TBD, The date is subject to changes according to UTEP exams calendar.
<b>Final Exam:</b>	TBD
<b>MATERIAL FOR CLASS</b>	<p>Mandatory: Laptop and Basic scientific calculator (Non-programmable). For reference:</p> <p><a href="https://ncees.org/exams/calculator/">https://ncees.org/exams/calculator/</a></p>
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.	