

The University of Texas at El Paso
Department of Engineering Education and Leadership
 Phone: (915) 747-8427 || eel.utep.edu
2020 – 2021 B.S. in Engineering Innovation and Leadership Degree Plan –
Mechanical Engineering Concentration

Summer Semester (if needed)			
MATH	1508	Pre Calculus	5
OR			
MATH	1310	Trigonometry and Conics	3

Year	Fall Semester				Hrs.	Spring Semester				Hrs.	
Freshman	RWS	1301	Rhetoric and Composition I ⁺³		3	RWS	1302	Rhetoric and Composition II ⁺³		3	
	PHYS	2420	Introductory Mechanics ⁺ (MATH 1411 ⁺)		4	PHYS	2421	Fields and Waves ⁺ (PHYS 2420 ⁺)		4	
	EL	1405 ⁺	Fund of Engineering Leadership and Graphics ⁺ (Co-req MATH 1508 ⁺)		4	MECH	1321	Mechanics I – Statics ⁺ (MATH 1411 ⁺ , PHYS 2420 ⁺)		3	
	MATH	1411	Calculus I ⁺ (MATH 1508 ⁺)		4	MATH	1312	Calculus II ⁺ (MATH 1411 ⁺)		3	
	UNIV	1301	Foundations of Engr ⁺ (MATH 1508 ⁺)		3	EL	1302	Intro to Engineering Design and Leadership ¹⁺ (MATH 1411 ⁺)		3	
Total Semester Hours					18	Total Semester Hours					16
Sophomore	HIST	1301	History of the US to 1865 ⁺³		3	HIST	1302	History of the US since 1865 ⁺³		3	
	CHEM	1305	General Chemistry ⁺ (MATH 1411 ⁺)		3	CE	2326	Economics for Engineers and Scientists ⁺³		3	
	MECH	2311	Intro to Thermal-Fluid Sci ⁺ (MATH 1312 ⁺)		3	MECH	2322	Mechanics of Materials ⁺ (MECH 1321 ⁺)		3	
	MATH	2313	Calculus III ⁺ (MATH 1312)		3	MATH	2326	Differential Equations ⁺ (MATH 1312 ⁺)		3	
	EL	2301	Modeling and Simulation ⁺ (EL 1302 ⁺ , MATH 1312 ⁺)		3	EL	3302	Engineering Measurements ¹⁺ (EL 2301 ⁺ MATH 1312 ⁺)		3	
Total Semester Hours					15	Total Semester Hours					15
Junior	MATH	3323	Matrix Algebra ⁺ (MATH 2313 ⁺ , MATH 2326 ⁺)		3	CS	1320	Computer Programming for Sci/Engr		3	
	MECH	2340	Mechanics II – Dynamics (MECH 1321 ⁺)		3	MECH	3312	Thermodynamics ⁺ (MECH 2311 ⁺)		3	
	MECH	2103	Engineering Computations (MATH 1312 ⁺)		1	PHIL	2306	Ethics ⁺²		3	
			Emphasis Elective #1		3			Emphasis Elective #2		3	
	EL	3373	Eng. Probability and Statistics Models ² (MATH 2326 ⁺)		3	EL	3304	Engineering Entrepreneurship: Products to People ¹⁺ (EL 3331 ⁺)		3	
	EL	3331	Engineering Design: People to Products ⁺¹ (EL 3302 ⁺ , PHYS 2421 ⁺)		3						
Total Semester Hours					16	Total Semester Hours					15
Senior	POLS	2310	Introduction to Politics ⁺³		3	POLS	2311	American Government and Politics ⁺³		3	
			Visual and Performing Arts Elective ⁺		3	MECH	4315	Heat Transfer (MECH 3312 ⁺ , MECH 3314)		3	
	MECH		Fluid Mechanics (MECH 2311 ⁺)		3	MECH		ME Concentration Elective ^{3,4}		3	
			Emphasis Elective #3		3			Emphasis Elective #4		3	
	EL	4395	Capstone Design I: Definition & Exploration ⁺¹ (MATH 2326 ⁺ , EL 3332 ⁺ , PHYS 2421 ⁺ , CE 2326 ⁺)		3	EL	4396	Capstone Design II: Development & Evaluation ⁺¹ (EL 4395 ⁺)		3	
Total Semester Hours					15	Total Semester Hours					15
	Summer 1					Summer 2					
	EL	3003	Professional Practice 1		0	EL	3005	Professional Practice 2		0	

Total 125 Credit Hrs.