

Engineering Physics Degree - Mechanical Emphasis

Bachelor of Science Degree

Stephen F. Austin State University



Fall Semester				Spring Semester			
Year 1	ENGR 1301/1001	Foundations in Engineering I	3	ENGR 1302/1002	Foundations in Engineering II	3	
	MATH 2211/2011	Precalculus A (8 week)*	2	MATH 2313/2113	Calculus I	4	
	MATH 2212/2012	Precalculus B (8 week)*	2				
	PHYS 1308/1008	Intro to Physics/Engineering (recommended) *	3	CSCI 1302	Computer Science Principles	3	
	ENGL 1301	Rhetoric and Composition	3	ENGL 1302	Research and Argument	3	
	HIST 1301	U.S. History I	3	HIST 1302	U.S. History I	3	
		Hours 16			Hours 16		
Fall Semester				Spring Semester			
Year 2	PHYS 2325/2125	Technical Physics I	4	PHYS 2326/2126	Technical Physics II	4	
	MATH 2314/2115	Calculus II	4	MATH 3315/3115	Calculus III	4	
	ENGR 2305/2105	Linear Circuit Analysis I	4	ENGR 1304/1004	Geom. Modeling for Mech. Design	3	
				ENGR 3343/3043	Digital Systems	3	
	GOVT 2305	Federal Government	3	GOVT 2306	Texas Government	3	
		Hours 15			Hours 17		
Fall Semester				Spring Semester			
Year 3	ENGR 2401/2001	Engineering Statics	4	ENGR 3421/3021	Engineering Dynamics	4	
	PHYS 3347	Math Applications in Physics	3	MATH 3330	Differential Equations	3	
	PHYS 3333/3133	Modern Physics	4	PHYS 4330	Thermodynamics	3	
	CHEM 1311/1111	General Chemistry I	4	CHEM 1312/1112	General Chemistry II	4	
		Hours 15			Hours 14		
Fall Semester				Spring Semester			
Year 4	ENGR 3305	Mechanics of Materials	3	ENGR 3345	Fluid Mechanics	3	
	ENGR 4260	Engineering Captone Design I	2	ENGR 4270	Engineering Captone Design II	2	
	ENGL 2311	Technical Writing or Equivalent ⁵	3	PHYS 4340	Electricity and Magnetism	3	
	Core ²	Language, Philosophy, & Culture ²	3	SPCH 1315	Public Speaking ⁴	3	
	Core ³	ECON/PSYC/SOCI ³	3	Core ¹	ARTS/MUSI/DRAM/DANC ¹	3	
		Hours 14			Hours 14		

Several of the courses above have required labs with a separate course number. For example, the lab PHYS 2125 is a co-requisite for PHYS 2325. Students will be required to repeat pre-requisite courses when the grade is below a C. A minimum of 42 semester hours of work must be completed at SFA, of which at least 36 hours must be advanced. A maximum of 66 academic hours plus 4 hours of kinesiology activity from junior/community colleges may apply towards a bachelor's degree. Students can make up for the difference in the number of hours by taking independent study courses at SFA. Contact your SFA advisor for alternative courses to the core courses listed.

* There are several ways to meet the pre-requisite requirements for Calculus I:

- Take Pre-Calculus A & B during 1 or 2 semesters depending on ACT or SAT scores. (MATH 2211 & 2212)
- Take Algebra, Trigonometry, and Analytical Geometry. (MATH 1314,1316,1318)
- Received AP credit or take a CLEP exam in the SFA Testing Services center.

Students that are qualified to take calculus their first semester at SFA can choose to replace MATH 2211, MATH 2212, and PHYS 1308 with other courses to bring the degree total to 120 credit hours. Students are encouraged to take math and chemistry courses during the summer to reduce fall and spring semester loads and to decrease the time required for a degree.

- (1) Options include ARTS 1301, 1303, 1304; MUSI 1306; DRAM 1310; MUMH 1307; DANC 2303
- (2) Options include ENGL 2309,2322-2341; HIST 2311-2322; PHIL 1301,2306
- (3) Options include ECON 2301,2302; GEOG 1303; PSYC 2301; SOCI 1301; ANTH 2351
- (4) Options include SPCH 1315, SPCH 1318, or SPCH 2333
- (5) Options include ENGL 2311; BUSI 2304; SPAN 1301,1302; FREN 1301,1302; GERM 1301,1302; PORT 1301,1302; SNGL 1301,2302