

## Minimum required: 126 semester credit hours

### General Requirements

1. The general education core curriculum courses are listed in the degree plan below along with the statewide component code number. See the General Education Core Curriculum (<http://mycatalog.txstate.edu/undergraduate/general-education-core-curriculum/>) section of this catalog for the Texas State requirements and options in the core curriculum, including Honors courses.
2. Students must complete a minimum of 36 advanced hours (3000 or 4000 level courses).
3. No minor is required in this Bachelor of Science degree program because of the breadth of the foundation and support coursework.
4. Nine semester credit hours must be writing intensive (WI).
5. If two years of the same, non-English language are taken in high school, then no additional language hours will be required for the degree. In the absence of such high school language, two semesters of the same modern language must be taken at the college level.
6. A maximum of three hours of credit from any combination of the following courses may be applied to the elective requirement.

Code	Title	Hours
ENGR 3190	Cooperative Education	1
ENGR 3290	Advanced Cooperative Education	2
ENGR 4299	Engineering Undergraduate Research	2

### Course Requirements

		Freshman	
		First Semester Hours	Second Semester Hours
ME 1201		2 ME 1101	1
CHEM 1335 (Life and Physical Science Component Code 030 [TCCN CHEM 1309 or 1409])		3 ENGR 1304	3
CHEM 1135 (TCCN CHEM 1109 [taken with TCCN CHEM 1309])		1 CS 1342	3
MATH 2471 (Mathematics Component Code 020 [TCCN MATH 2413])		4 MATH 2472 (Component Area Option Code 092 [TCCN MATH 2414])	4
ENG 1310 (Communication Component Code 010 [TCCN ENGL 1301])		3 PHYS 1430 (Life and Physical Science Component Code 030 [TCCN PHYS 2425])	4
US 1100		1 Communication Component Code 010	3
		<b>14</b>	<b>18</b>
		Sophomore	
		First Semester Hours	Second Semester Hours
ENGR 2300		3 ENGR 2302 (TCCN ENGR 2302)	3
ENGR 2301 (TCCN ENGR 2301)		3 ENGR 3311	3

MATH 2393 (TCCN MATH 2315)	3 ENGR 3373	3
PHYS 2425 (Component Area Option Code 093 [TCCN PHYS 2426])	4 ME 3330	3
American History Component Code 060	3 MATH 3323	3

		16	15
		First Semester Hours	Second Semester Hours
MATH 3376 or 3383	3 ME 3314		3
ME 3311	3 ME 3331		3
ME 3112	1 ME 3351		3
ME 3335	3 ME 3151		1
ME 3361	3 ECO 2301 or 2314 (Social and Behavioral Sciences Component Code 080 [TCCN ECON 1301 or 2302])		3
IE 3320	3 POSI 2310 (Government/Political Science Component Code 070 [TCCN: GOVT 2306])		3

		16	16
		First Semester Hours	Second Semester Hours
ME 4131	1 ME 4391		3
ME 4390	3 ME Technical Elective		3
ME Technical Elective	3 ME Technical Elective		3
POSI 2320 (Government/Political Science Component Code 070 [TCCN GOVT 2305])	3 MFGE 4378		3
American History Component Code 060	3 PHIL 1305 or 1320 (Language, Philosophy, and Culture Component Code 040 [TCCN PHIL 1301 or 2306])		3
Creative Arts Component Code 050	3		

		<b>16</b>	<b>15</b>
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**Total Hours: 126**

### Mechanical Engineering Technical Electives

Code	Title	Hours
EE 4331	Introduction to Machine Learning for Engineering Applications	3
ENGR 4395	Independent Studies in Engineering	3
IE 4310	Statistical Design of Experiments	3
IE 4330	Reliability Engineering	3
IE 4381	Introduction to Systems Engineering	3
ME 4311	Mechanical Vibrations	3
ME 4312	Mechanics of Composite Materials	3
ME 4332	Modern Heating, Ventilating, and Air Conditioning	3
ME 4341	Computational Fluid Dynamics	3
ME 4351	Control Systems	3

2 Bachelor of Science (B.S.) Major in Mechanical Engineering

ME 4355	Autonomous Systems and Robotics	3
MFGE 4318	Additive Manufacturing	3
MFGE 4367	Polymer Properties and Processing	3
MFGE 4377	Introduction to Polymer Nanocomposites	3
MFGE 4392	Microelectronics Manufacturing I	3
MFGE 4394	Microelectronics Manufacturing II	3
TECH 4330	Foundry & Heat Treatment	3
Choose 3 hours from the following:		
ENGR 3190	Cooperative Education	
ENGR 3290	Advanced Cooperative Education	
ENGR 4299	Engineering Undergraduate Research	