

## Mechanical Engineering Major, Bachelor of Science (84 credit hours)

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Students in Mechanical Engineering will learn the principles and skills necessary to understand how heat and mechanical power can be used in the design and operation of machines and other tools. Graduates of the Mechanical Engineering program will have a diverse background, with skills that can be ready for employment in industries such as automotive, aerospace, manufacturing, and consumer goods.

### 21 credit hours from the Common Engineering Core:

- CPSC 2320: C++ Programming, 1 credit hour<sup>1</sup>
- ENGR 2001: Introduction to Engineering, 1 credit hour
- ENGR 2002: Introduction to Mechanical Laboratory, 1 credit hour
- ENGR 2003: Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010: Statics, 2 credit hours
- ENGR 2030: Circuit Analysis, 3 credit hours
- ENGR 2090: Systems Engineering, 3 credit hours<sup>2</sup>
- ENGR 2110: Dynamics, 2 credit hours
- ENGR 2310: Computational Problem Solving, 3 credit hours
- ENGR 4950: Senior Design I, 2 credit hours<sup>3</sup>
- ENGR 4960: Senior Design II, 2 credit hours<sup>4</sup>

### 31 credit hours of Mathematics and Basic Sciences:

- CHEM 2110: General Chemistry I, 4 credit hours<sup>5</sup>
- MATH 2010: Calculus I, 4 credit hours<sup>6</sup>
- MATH 2020: Calculus II, 4 credit hours
- MATH 3010: Linear Algebra with Differential Equations, 4 credit hours
- MATH 3020: Calculus III, 4 credit hours
- MATH 3100: Differential Equations, 3 credit hours
- PHYS 2240: General Physics I, 4 credit hours
- PHYS 2250: General Physics, II, 4 credit hours

### 32 credit hours of major specific requirements:

- ENGR 2070: Thermodynamics, 3 credit hours
- ENGR 3030: Signals and Controls, 3 credit hours
- ENGR 3100: Mechanics Lab, 2 credit hours
- ENGR 3110: Kinematics and Robotics, 3 credit hours
- ENGR 3160: Vibrations, 2 credit hours
- ENGR 3180: Materials and Processes, 3 credit hours
- ENGR 3190: Thermodynamics: Cycle Analysis, 2 credit hours
- ENGR 3510: Solid Mechanics, 3 credit hours
- ENGR 4100: Thermal-Fluids Lab, 2 credit hours
- ENGR 4110: Machine Design, 3 credit hours
- ENGR 4130: Fluid Mechanics, 3 credit hours
- ENGR 4160: Heat and Mass Transfer, 3 credit hours

**NOTE:** All students must complete 120 total credit hours to graduate from Anderson University.

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<sup>1</sup> May also be fulfilled with CPSC 2500.

<sup>2</sup> This course fulfills the Global/Intercultural Ways of Knowing requirement for the Liberal Arts Program.

<sup>3</sup> This is a Writing Intensive course in the Liberal Arts Program.

<sup>4</sup> This is both a Writing and Speaking Intensive course in the Liberal Arts Program.

<sup>5</sup> This course fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program.

<sup>6</sup> This course fulfills the Quantitative Ways of Knowing requirement in the Liberal Arts Program.

Questions? Please contact the [School of Science and Engineering](#).

Proposed Course Sequence:

Freshman: MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310  
 Sophomore: MATH 3010, PHYS 2250, CPSC 2320, ENGR 2010, 2110;  
 MATH 3020, 3100, ENGR 2030, 2090  
 Junior: ENGR 2070, 3030, 3110, 3180; ENGR 3100, 3190, 3510, 4130  
 Senior: ENGR 3160, 4100, 4160, 4950; ENGR 4110, 4960

Common Engineering Core Suggested Course Sequence

SEMESTER 1		SEMESTER 2	
Quantitative Reasoning: MATH 2010	4 Hours	MATH 2020	4 Hours
Scientific Ways: CHEM 2110	4 Hours	PHYS 2240	4 Hours
ENGR 2001, 2002, 2003	3 Hours	ENGR 2310	3 Hours
ENGL 1100/ENGL 1110	3-4 Hours	ENGL 1120	3 Hours
LART 1050	1 Hour	Personal Wellness	2 Hours

SEMESTER 3		SEMESTER 4	
MATH 3010	4 Hours	MATH 3020	4 Hours
PHYS 2250	4 Hours	MATH 3100	3 Hours
CPSC 2320	1 Hour	ENGR 2030	3 Hours
ENGR 2010 & ENGR 2110	2+2 Hours	Global/Intercultural Ways: ENGR 2090 (Writing Intensive)	3 Hours
COMM 1000	3 Hours	Foreign Language	4 Hours

Mechanical Engineering Major Suggested Course Sequence

SEMESTER 5		SEMESTER 6	
ENGR 2070	3 Hours	ENGR 3190	2 Hours
ENGR 3030	3 Hours	ENGR 3510	3 Hours
ENGR 3180	3 Hours	ENGR 3100	2 Hours
ENGR 3110	3 Hours	ENGR 4130	3 Hours
BIBL 2000	3 Hours	Aesthetic Ways of Knowing	3 Hours

SEMESTER 7		SEMESTER 8	
ENGR 3160	2 Hours	ENGR 4110	3 Hours
ENGR 4100	2 Hours	ENGR 4960 (Speaking Intensive, WI)	2 Hours
ENGR 4160	3 Hours	Christian Ways of Knowing	3 Hours
ENGR 4950 (WI)	2 Hours	Civic Ways of Knowing	3 Hours
Social/Behavioral Ways of Knowing	3 Hours	Critical Reasoning: ENGR 2060	2 Hours

Questions? Please contact the [School of Science and Engineering](#).