

Mechatronics Engineering Bachelor of Science (92 credit hours)

Mechatronics Engineering is the multidisciplinary union of mechanical, electrical, and computer engineering with application towards the design and control of electromechanical systems. Students pursuing a degree in mechatronics engineering will be exposed to topics from each of these disciplines, capped off by a course in Mechatronics System Design.

**49 credit hours from the Common Engineering Core, Including Mathematics and Basic Sciences:**

- ENGR 2001, Introduction to Engineering, 1 credit hour
- ENGR 2002, Introduction Mechanical Laboratory, 1 credit hour
- ENGR 2003, Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010, Statics, 3 credit hours
- ENGR 2030, Circuit Analysis, 3 credit hours
- ENGR 2080, Service Through Engineering and Technology, 3 credit hours<sup>1</sup>
- ENGR 2090, Systems Engineering, 3 credit hours<sup>1,2</sup>
- ENGR 2310, Computational Problem Solving, 3 credit hours
- ENGR 4950, Senior Design I, 2 credit hours<sup>2</sup>
- ENGR 4960, Senior Design II, 2 credit hours<sup>3</sup>
- CHEM 2110, General Chemistry I, 4 credit hours<sup>4</sup>
- MATH 2010, Calculus I, 4 credit hours<sup>5</sup>
- MATH 2020, Calculus II, 4 credit hours
- MATH 3010, Linear Algebra with Differential Equations, 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

**43 credit hours of major specific requirements:**

- MATH 2120, Introductory Statistics OR MATH 3020, Calculus III, 4 credit hours
- CPSC 2020, Fundamentals of Computational Thinking and Programming
- ENGR 2110, Dynamics, 3 credit hours
- ENGR 2200, Foundations of Digital Electronics, 2 credit hours
- ENGR 3030, Signals and Controls, 3 credit hours
- ENGR 3110, Kinematics and Robotics, 4 credit hours
- ENGR 3220, Electronics, 3 credit hours
- ENGR 3280, Microcontrollers, 3 credit hours
- ENGR 3510, Solid Mechanics, 4 credit hours
- ENGR 3850, Engineering Projects Lab, 1 credit hour
- ENGR 4020, Mechatronics System Design, 4 credit hours
- Remaining 8 hours from 3000 level and above courses in CPSC, ENGR, PHYS

<sup>1</sup> This course fulfills the Global/Intercultural Ways of Knowing Requirement in the Liberal Arts Program.

<sup>2</sup> This is a Writing Intensive course in the Liberal Arts Program.

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

<sup>4</sup> This course fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program.

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

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

Questions? Please contact the [Department of Physical Sciences & Engineering](#).

Proposed Course Sequence:

Freshman: MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310  
 Sophomore: MATH 3010, PHYS 2250, ENGR 2010, 2110, CPSC 2320; MATH 3100, ENGR 2030, 2090  
 Junior: ENGR 3030, 3110, 3220; ENGR 3510, MxE Electives  
 Senior: ENGR 3280, 4950, MATH 4010; ENGR 4020, 4960, MxE Electives

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 1110	3 Hours	ENGL 1120	3 Hours
LART 1050	1 Hour	Personal Wellness	2 Hours

SEMESTER 3		SEMESTER 4	
MATH 3010	4 Hours	MATH 3100	3 Hours
PHYS 2250	4 Hours	ENGR 2030	3 Hours
ENGR 2010	3 Hours	ENGR 2110	3 Hours
Global/Intercultural Ways, ENGR 2080	3 Hours	ENGR 2200	2 Hours
COMM 1000	3 Hours	Global/Intercultural Ways, ENGR 2090 (Writing Intensive)	3 Hours
		ENGR 3850	1 Hour

SEMESTER 5		SEMESTER 6	
ENGR 3220	3 Hours	MATH 2120/3020	4 Hours
ENGR 3110	3 Hours	Christian Ways of Knowing	3 Hours
ENGR 3030	3 Hours	Social/Behavioral Ways of Knowing	3 Hours
BIBL 2000	3 Hours	MxE Elective	3 Hours
ENGR 3510	3 Hours	Language	4 Hours

SEMESTER 7		SEMESTER 8	
ENGR 3280	3 Hours	ENGR 4020	4 Hours
ENGR 3100	2 Hours	ENGR 4960 (Speaking Intensive, WI)	2 Hours
ENGR 4950 (WI)	2 Hours	MxE Electives	5 Hours
CPSC 2020	4 Hours	Critical Reasoning	2 Hours
Civic Ways of Knowing	3 Hours	Aesthetic Ways of Knowing	3 Hours

Questions? Please contact the [Department of Physical Sciences & Engineering](#).