

College of Engineering & Applied Science – B.S. Mechanical Engineering

Academic Advising Hours:

Location: Main Hall 208

Hours: Monday–Friday: 9am–4pm Appointments Only (except Wednesday afternoons)

Drop-in Advising every Wednesday from 1pm–4:30pm

Call: (719) 255-3260

Website: www.uccs.edu/advising

General Academic Information

Academic Policies

It is the responsibility of each student to know and follow all Academic policies established by the University and the College of Engineering & Applied Science (EAS) that are set forth in the Catalog (catalog.uccs.edu).

Course Prerequisites

Students are responsible for knowing and completing all course prerequisites. Course prerequisites are strictly enforced for all classes at UCCS. **See your degree audit for specific course prerequisites.**

Residency, Restrictions, and Limitations

Students must be admitted into the College of Engineering and Applied Science as well as complete at least the final 30 credit hours of coursework exclusively at UCCS. Only three hours of Independent Study may count toward the degree. Credit for work experience, Military Science, and ROTC – when granted – is generally not applicable to degree fulfillment.

Probation/Suspension

Students whose full-time semester's or cumulative GPA falls below 2.0 will be placed on probation for the next semester in which they are enrolled in the College of Engineering & Applied Science and will be notified by email and mail. If, after that semester, the semester or cumulative GPA is still below 2.0, the student will be suspended from the college. *PLEASE NOTE: While on probation, registration for the subsequent semester will be blocked until final grades are posted for the current semester. This is to verify that the minimum semester GPA for each student has been fulfilled.*

UCCS Bachelor of Science, Mechanical Engineering Major Degree Requirements

> A minimum of 128 hours must be completed with a cumulative CU and major grade point averages of 2.0 or higher.

> The last 30 hours of the degree must be completed while registered in the College of Engineering and Applied Science at UCCS.

> Courses numbered below 1000 do not count towards degree completion.

> This guide is provided for student use only. It does not represent an official documentation of a student's progress towards completion of their degree program. The ME program requires a minimum of 129 credit hours to complete. Students must have a minimum 2.0 GPA in all MAE course work taken, and a minimum 2.0 GPA in all cumulative course work. Students must also complete an Exit Interview with the MAE Department to graduate.

Compass Curriculum

Compass Curriculum is the campus-wide general education program at UCCS. The Compass Curriculum has multiple components many of which will coincide with the degree requirements listed in this guide. Please visit the Compass Curriculum website at www.uccs.edu/compasscurriculum, review your degree audit, or check out the Compass Curriculum advising guide for specific course details. The required components are listed below and referenced in the guide.

REQUIRED COMPASS CURRICULUM COMPONENTS:

Component	Course
Gateway	GPS 1010
Explore¹ – Arts, Humanities and Cultures	See Degree Audit
Explore¹ – Society, Behavior and Health	See Degree Audit
Explore¹ – Physical and Natural World	PES 1110
Navigate²	ENGR 3040
Summit	MAE 4511
Writing Intensive Course (WIC)³ <i>Two courses with at least one upper-division (3000+ level).</i>	MAE 3130 MAE 4310
Inclusiveness³	MAE 1503
Sustainability³	MAE 3302

¹ Explore must be outside major and area requirements.

² Navigate must be outside major requirements.

³ Can count towards other requirements within the Compass Curriculum or within a student's degree program.



DEPARTMENT OF MECHANICAL ENGINEERING

Department website: www.uccs.edu/mae

Degree Requirements	Courses							
Mechanical Engineering Core Courses (57 hours) <i>You must be admitted into the College of Engineering in order to take any MAE coursework.</i>	Complete all of the following courses:							
	MAE 1502	Principles of Engineering	3					
	MAE 1503	Intro to Engineering Design	3					
	MAE 2055	MechEtronics I	4					
	MAE 2103	Engineering Mechanics I	3					
	MAE 2104	Engineering Mechanics II	3					
	MAE 2200	Materials Engineering	3					
	MAE 2301	Engineering Thermodynamics I	3					
	MAE 3005	Engineering Measurement Lab	3					
	MAE 3130	Fluid Mechanics	4					
	MAE 3201	Strength of Materials	3					
	MAE 3302	Engineering Thermodynamics II	3					
	MAE 3401	Modeling & Simulation of Dynamic Systems	3					
	MAE 3501	Machine Design I	3					
	MAE 4000	Mechanical and Aerospace Engineering Seminar	1					
	MAE 4120	Machine Design II	3					
MAE 4310	Heat Transfer	4						
MAE 4421	Control of Aerospace & Mechanical Systems	3						
MAE 4510	Engineering Design I	2						
MAE 4511	Engineering Design II	3						
Technical Electives (12 hours)	Complete 12 credit hours of technical electives. At least 6 hours must be MAE courses and at least 6 hours must be completed from courses numbered 3000 or higher. Any remaining Technical Electives should be chosen from the following disciplines: <ul style="list-style-type: none"> • Computer Science • Electrical Engineering • Mechanical Engineering <ul style="list-style-type: none"> ○ MAE 3342 may be used if ENGR 3040 is taken as a Business Elective • Math (with at least MATH 1350 as a prerequisite) • Physics (with at least PES 1110 or MATH 1350 as a prerequisite) • PES 2130 General Physics III 							
Computing Requirement (3 hours)	Complete the following course: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 20%;">MAE 1090</td> <td style="width: 60%;">Introduction to Structured Programming</td> <td style="width: 20%; text-align: right;">3</td> </tr> </table>			MAE 1090	Introduction to Structured Programming	3		
MAE 1090	Introduction to Structured Programming	3						
Composition Courses (6 hours)	Complete all of the following courses:							
	ENGL 1310	Rhetoric & Writing I	3					
	ENGL 2090	Technical Writing & Presentation	3					
	PORT 3000	Writing Portfolio Assessment	0					
Mathematics (21 hours) <i>NOTE: Math courses require a grade of C or better in MATH 1350, 1360, and 2350.</i>	Complete all of the following courses:							
	MATH 1350	Calculus I	4					
	MATH 1360	Calculus II	4					
	MATH 2350	Calculus III	4					
	MATH 3130	Intro to Linear Algebra	3					
	MATH 3400	Intro to Differential Equations	3					
	MATH 3810 or ECE 3610	Intro to Probability & Statistics Engineering Probability & Statistics	3					
Basic Science (13 hours)	Complete all of the following courses: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 20%;">PES 1110</td> <td style="width: 20%;">PES 1120</td> <td style="width: 20%;">CHEM 1401</td> <td style="width: 20%;">CHEM 1402</td> <td style="width: 20%;"></td> </tr> </table>			PES 1110	PES 1120	CHEM 1401	CHEM 1402	
PES 1110	PES 1120	CHEM 1401	CHEM 1402					

Compass Curriculum/ Humanities/ Social Science Requirements (9 hours)	COMPASS CURRICULUM – In addition to the courses outlined above, a Gateway Seminar (GPS 1010) must be completed by all students to complete the Compass Curriculum. To see a list of all Compass Curriculum courses, please visit: www.uccs.edu/compasscurriculum .		
	GPS 1010		
	HUMANITIES/SOCIAL SCIENCE – Select one course from the Explore Arts, Humanities & Cultures list, and one from the Explore Society, Behavior & Health list to total 6 hours.		
Business Electives (6 hours)	ENGR 3040 OR MAE 3342	Engineering Ethics Engineering Economy	3
	<i>Complete one of the following courses.</i>		
	BUAD 1000	Intro to Business	3
	ENTP 1000	Introduction to Entrepreneurship	3
	INOV 1010	The Innovation Process	3
	ACCT 2010	Intro to Financial Accounting	3
	BLAW 2000	Business Law	3
	BLAW 2010	Bus. & Intellectual Property	3
	MKTG 3000	Principles of Marketing	3
	MGMT 3300	Intro to Management & Organization	3



Four-Year Degree Plan – Mechanical Engineering

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Mechanical Engineering degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary.

Suggested First Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MAE 1502	3		MAE 1503	3
	MATH 1350	4		MATH 1360	4
	GPS 1010	3		PES 1120	4
	ENGL 1310	3		CHEM 1401	4
	PES 1110	4		CHEM 1402	1
TOTAL		17	TOTAL		16

Suggested Second Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MAE 2103	3		MAE 2104	3
	MAE 2200	3		MAE 2301	3
	MAE 2055	4		MATH 3400	3
	MATH 2350	4		MATH 3810 OR ECE 3610	3
	MAE 1090	3		ENGL 2090	3
TOTAL		17	TOTAL		15

Suggested Third Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MAE 3005	3		MAE 3130	4
	MAE 3302	3		MAE 3501	3
	MAE 3401	3		MAE 4421	3
	MAE 3201	3		Technical Elective	3
	MATH 3130	3		Explore – Society, Behavior & Health Course	3
				PORT 3000	0
TOTAL		15	TOTAL		17

Suggested Fourth Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MAE 4510 (Fall only)	2		MAE 4511 (Spring only)	3
	MAE 4000	1		Technical Elective	3
	MAE 4120	3		Technical Elective	3
	MAE 4310	4		Explore – Arts, Humanities & Cultures Course	3
	Technical Elective	3		Business Elective	3
	Business Elective	3			
TOTAL		16	TOTAL		15