

**ACADEMIC ADVISING**

*Partnering with students to successfully navigate college*

**Location:** Main Hall 208

**Phone:** 719.255.3260

**Website:** [Academic Advising](http://www.uccs.edu/academic-advising)

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Current UCCS Students

- Appointments: [www.uccs.edu/advising/current-students](http://www.uccs.edu/advising/current-students)

Prospective Students: [www.uccs.edu/admissions/contact](http://www.uccs.edu/admissions/contact)

**GENERAL ACADEMIC INFORMATION**

**Minimum Graduation Requirements**

- 157 credit hours
- 2.0 CU cumulative GPA
- Residency: Last 30 credit hours of degree must be completed while registered in the College Engineering & Applied Science at UCCS

**Student Responsibilities**

Students are required to know and follow:

- All academic policies set forth by the University, College, and academic department in the UCCS Catalog: [catalog.uccs.edu](http://catalog.uccs.edu)
- All course prerequisites designated by the University. Failure to meet course prerequisites may result in an administrative drop of the course from a student's schedule. See degree audit for course prerequisites within the academic major.

**DEGREE REQUIREMENTS**

Explore Mechanical Engineering: [Mechanical and Aerospace Engineering - Bachelor of Science in Aerospace Engineering and Mechanical Engineering | College of Engineering and Applied Science \(uccs.edu\)](http://www.uccs.edu/mechanical-aerospace-engineering-bachelor-of-science-in-aerospace-engineering-and-mechanical-engineering)

<b>Major Requirements</b>			
<b>Mechanical and Aerospace Engineering double major (81 hours)</b>	<b>Course/Area</b>	<b>Course Title</b>	<b>Credit Hours</b>
<ul style="list-style-type: none"> <li>• Requires a minimum of 81 hours of MAE course work, and a minimum of 59 hours of upper-division MAE (3000+ level) course work.</li> <li>• Requires an additional 21 hours of upper-division Technical Electives.</li> <li>• A minimum GPA of 2.0 must be maintained on all MAE course work.</li> </ul> <p><i>You must be admitted into the College of Engineering in order to take any MAE coursework.</i></p>	<b>MECHANICAL AND AEROSPACE ENGINEERING CORE COURSES (44 hours)</b>		
	MAE 1502 <i>or</i> MAE 1602	Principles of Mechanical Engineering <i>or</i> Principles of Aerospace Engineering	3
	MAE 1503	Intro to Engineering Design	3
	MAE 2055	Mech-Etronics I	4
	MAE 2103	Statics	3
	MAE 2104	Dynamics	3
	MAE 2200	Materials Engineering	3
	MAE 2301	Engineering Thermodynamics I	3
	MAE 3005	Engineering Measurements Lab	3
	MAE 3130	Fluid Mechanics	4
	MAE 3201	Mechanics of Materials	3
	MAE 3401	Modeling & Simulation of Dynamic Systems	3
	MAE 4000	Mechanical and Aerospace Engineering Seminar	1
	MAE 4020 <i>or</i> MAE 4021	Numerical Methods with MATLAB <i>or</i> Numerical Methods with MATLAB for Aerospace Engineering	3
	MAE 4510	Engineering Design I	2
	MAE 4511	Engineering Design II	3
	<b>MECHANICAL ENGINEERING CORE COURSES (16 hours)</b>		
	MAE 3302	Engineering Thermodynamics II	3
	MAE 3501	Machine Design I	3
	MAE 4120	Machine Design II	3
	MAE 4310	Heat Transfer	4
	MAE 4421	Automatic Control of Aerospace & Mechanical Systems	3
	<b>AEROSPACE ENGINEERING CORE COURSES (21 hours)</b>		
	MAE 4135	Aerodynamics	3
	MAE 4261	Space Structures	3
	MAE 4316	Aerospace Propulsion	3
	MAE 4360	Aerospace Thermal Systems	3
MAE 4410	Fundamentals of Astrodynamics	3	
MAE 4461	Attitude Determination and Control	3	
MAE 4470	Space Systems Engineering	3	

<b>Technical Electives</b> (21 hours)  <b>NOTE:</b> MAE 3342 Engineering Economy can be counted as a business <b>OR</b> a technical elective.	<i>Complete 21 credit hours of upper-division (3000+ level) technical electives.</i> <ul style="list-style-type: none"><li>• 12 hours must be 4000-level.</li><li>• 12 hours must be from MAE courses.</li><li>• Courses from the following disciplines may be used for technical electives: Computer Science, Electrical Engineering, Mechanical Engineering, Math (with at least MATH 1350 as a prerequisite), Physics (with at least PES 1110 or MATH 1350 as a prerequisite), PES 2130.</li><li>• Major core courses may not be used to meet technical elective requirements.</li></ul>		21
<b>Computing Course</b> (3 hours)	MAE 1090	Introduction to Structured Programming	3
<b>Business Courses</b> (6 hours)	ENGR 3040	Engineering Ethics	3
	Business Elective	Complete one course from the following: BLAW 2000, MAE 3342, MGMT 3300, MKTG 3000	3

### General Education and Elective Requirements

<b>Core Writing Requirement</b> (6 hours)	<ul style="list-style-type: none"> <li>• ENGL 1310, 1308, or 1305 (<i>Students choosing ENGL 1305 must complete ENGL 1300 first.</i>)</li> <li><b>OR</b></li> <li>• ENGL 1410</li> <li>• TCID 2090</li> <li>• PORT 3000 (0 Credits) – Writing Portfolio Assessment</li> </ul>	
<b>Mathematics</b> (18 hours)	<ul style="list-style-type: none"> <li>• MATH 1350</li> <li>• MATH 1360</li> <li>• MATH 2350</li> <li>• MATH 3130</li> <li>• MATH 3400</li> </ul>	
<b>Basic Science</b> (13 hours)	<ul style="list-style-type: none"> <li>• CHEM 1401/1402</li> <li>• PES 1110</li> <li>• PES 1120</li> </ul>	
<b>Compass Curriculum</b> (9 hours) <ul style="list-style-type: none"> <li>• Explore and Navigate courses must be outside major requirements.</li> <li>• Writing Intensive, Inclusiveness, and Sustainability courses can count towards other requirements within degree.</li> </ul>	<b>Component</b>	<b>Course</b>
	<b>Gateway Program Seminar</b>	GPS 1010
	<b>Explore – Arts, Humanities and Cultures</b>	See Degree Audit (counts towards HUM/SS Electives)
	<b>Explore – Society, Behavior and Health</b>	See Degree Audit (counts towards HUM/SS Electives)
	<b>Explore – Physical and Natural World</b>	PES 1110 (included in Basic Science requirement)
	<b>Navigate</b>	ENGR 3040 (included in Business requirement)
	<b>Summit</b>	MAE 4511
	<b>Writing Intensive Courses (WIC)</b> <i>Two courses with one upper-division (3000+ level)</i>	<ul style="list-style-type: none"> <li>• MAE 3005</li> <li>• MAE 3130</li> </ul>
<b>Inclusiveness</b>	MAE 1503	
<b>Sustainability</b>	MAE 3302	

**FIVE-YEAR DEGREE PLAN**

Please note that this is an *example* degree program and your program may vary. **Students are responsible for completing all course prerequisites.**

Year One	✓	FALL	Hours	✓	SPRING	Hours
			MAE 1502 <i>or</i> MAE 1602	3		MAE 1503
		MATH 1350	4		MATH 1360	4
		GPS 1010	3		PES 1120	4
		ENGL 1310	3		CHEM 1401	4
		PES 1110	4		CHEM 1402	1
		<b>TOTAL</b>	<b>17</b>		<b>TOTAL</b>	<b>16</b>

Year Two	✓	FALL	Hours	✓	SPRING	Hours
			MAE 1090	3		MAE 2104
		MAE 2103	3		MAE 2301	3
		MAE 2055	4		MATH 3130	3
		MAE 2200	3		MATH 3400	3
		MATH 2350	4		TCID 2090	3
		<b>TOTAL</b>	<b>17</b>		<b>TOTAL</b>	<b>15</b>

Year Three	✓	FALL	Hours	✓	SPRING	Hours
			MAE 3005	3		MAE 3130
		MAE 3201	3		MAE 3501	3
		MAE 3302	3		MAE 4421	3
		MAE 3401	3		Technical Elective	3
		MAE 4020 <i>or</i> MAE 4021	3		Explore – Society, Behavior, and Health Course	3
					PORT 3000	0
		<b>TOTAL</b>	<b>15</b>		<b>TOTAL</b>	<b>16</b>

Year Four	✓	FALL	Hours	✓	SPRING	Hours
			MAE 4000	1		MAE 4511 (Spring only)
		MAE 4120	3		MAE 4310	4
		MAE 4135	3		Technical Elective	3
		MAE 4510 (Fall only)	2		Technical Elective	3
		Technical Elective	3		Explore – Arts, Humanities & Cultures Course	3
		ENGR 3040	3			
		<b>TOTAL</b>	<b>15</b>		<b>TOTAL</b>	<b>16</b>

Year Five	✓	FALL	Hours	✓	SPRING	Hours
			MAE 4316	3		MAE 4261
		MAE 4461	3		MAE 4360	3
		MAE 4470	3		MAE 4410	3
		Technical Elective	3		Technical Elective	3
		Technical Elective	3		Business Elective	3
		<b>TOTAL</b>	<b>15</b>		<b>TOTAL</b>	<b>15</b>