

College of Engineering and Applied Science – Engineering Education Degree

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

UCCSTeach Advising:

Vickie Newkirk vnewkirk@uccs.edu

719-255-3446

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 Letters, Arts & Sciences (LAS) 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.

Restrictions and Limitations

Students must be admitted into the degree major in the College of Engineering and Applied Science at least 30 credit hours prior to graduation. Only three hours of Independent Study may count toward the degree. Work Experience/Military Science/ROTC credit will not apply toward fulfillment of the requirements for a degree from the College of Engineering.

Probation/Suspension

Students whose semester or cumulative GPA falls below 2.0 may be placed on probation for the next semester in which they are enrolled in the College of Engineering and Applied Science and will be notified by email. If, after that semester, the next semester or cumulative GPA is still below 2.0, the student may 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, Engineering Education Major Degree Requirements

- A minimum of 128 hours must be completed with a cumulative CU grade point average of 2.0.
- 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 Engineering Education program requires a minimum 2.0 GPA in all Engineering course work taken in order to graduate. Students must also complete an Exit Interview during their final semester 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
Explore – Arts, Humanities and Cultures	See Degree Audit
Explore – Society, Behavior and Health	CURR 4800
Explore – Physical and Natural World	PES 1110
Navigate	ECE 3610
Summit	UTED 4730
Writing Intensive Course (WIC)¹ <i>Two courses with at least one upper-division (3000+ level).</i>	UTED 4720 ECE 3610
Inclusiveness¹	MAE 1503
Sustainability¹	ENSC 1600

¹ Can count towards other requirements within the Compass Curriculum or within a student's degree program.



Bachelor of Science, Engineering (STEM) Education Degree

Department website: www.uccs.edu/eas

Degree Requirements	Courses		
<p>B.S. Engineering Education Core Courses (24 hours)</p> <p>The BSEEd major requires a minimum of 24 credit hours of Engineering course work selected from the following areas: Introductory Courses, Engineering Foundations, and Capstone Experience.</p> <p>Pre-requisites will not be waived, plan sequences accordingly using electives to take pre-requisites when necessary.</p> <p>Any EAS course that is NOT listed as an Introductory or Capstone course may be used toward the Foundations requirement.</p> <p><i>You must be admitted into the College of Engineering in order to take any CS, MAE, ECE, or ENGR coursework.</i></p>	Course Number	Course Title (pre-requisites shown in parentheses)	Credit Hours
	Introductory Courses – Complete MAE 1503 and select one additional Introductory course from those listed below:		
	CS 1120	Computational Thinking and Beginning Programming (<i>HS algebra</i>)	3
	CS 1150	Principles of Computer Science (<i>HS algebra, familiarity with computer concepts</i>)	3
	ECE 1001	Introduction to Robotics	3
	ECE 1021	Computer Based Modeling (<i>ECE 1001 and MATH 1350</i>)	3
	MAE 1502	Principles of Engineering	3
	MAE 1503	Introduction to Engineering Design	3
	Engineering Foundations – Complete ECE 3610, MAE 2200 and a minimum of 6 additional hours of Engineering Foundations courses from the following:		
	CS 1450	Data Structures and Algorithms (<i>CS 1150</i>)	3
	CS 2060	Programming with C (<i>CS 1150</i>)	3
	CS 2160	Computer Org. & Assembly Language (<i>CS 1450, CS 2060</i>)	3
	CS 3020	Advanced Object Technology Using C#/.NET (<i>CS 1450</i>)	3
	ECE 1411	Logic Circuits I	2
	ECE 2411	Logic Circuits II (<i>ECE 1411</i>)	2
	ECE 2205	Circuits and Systems I (<i>ECE 2610, co-req MATH 3400</i>)	4
	ECE 2610	Intro to Signals & System (<i>MATH 1360, ECE 1021 or CS 2060</i>)	4
	ECE 3610	Engineering Probability and Statistics (<i>MATH 2350</i>)	3
	MAE 2103	Engineering Mechanics I (<i>MAE 1502, PES 1110, co-req MATH 2350</i>)	3
	MAE 2104	Engineering Mechanics II (<i>MAE 2103, co-req MATH 3400</i>)	3
	MAE 2200	Materials Engineering (<i>MATH 1350, PES 1110, CHEM 1401/1402</i>)	3
	MAE 2301	Engineering Thermodynamics (<i>MATH 1350, PES 1110</i>)	3
	Engineering Capstone – Complete a minimum of 4 hours within one department from the following courses. <i>You must have junior level classification in order to take the capstone.</i>		
ENGR 3300 AND ENGR 4010	Software Engineering (<i>CS 2080, CS 3020 or CS 3060</i>) AND Computer Science Education Seminar	6	
MAE 4000 AND ENGR 4510 AND ENGR 4511	Mechanical Engineering Seminar (optional) AND Project Design I (<i>ENGL 2090</i>) AND Project Design II (<i>ENGR 4510</i>)	5-6	
ENGR 4890 AND ENGR 4899	Electrical Engineering Senior Seminar AND Design Project (<i>ENGR 4890</i>)	4	
Mathematics Content (21 hours)	Complete all of the following courses (<i>ECE 3610 is part of the BSEEd core</i>):		
<i>NOTE: Content Courses may be substituted as long as Highly-Qualified content & pre-requisites are met. Math courses require a grade of C or better to progress through the Math sequence.</i>	MATH 1350	Calculus I (<i>MATH 1050 or placement by Math Placement Test</i>)	4
	MATH 1360	Calculus II (<i>MATH 1350</i>)	4
	MATH 2350	Calculus III (<i>MATH 1360</i>)	4
	MATH 2150	Discrete Math (<i>MATH 1350</i>)	3
	MATH 3130	Intro to Linear Algebra (<i>MATH 2350</i>)	3
	MATH 3210	Introduction to Geometry (<i>MATH 2350, 2150</i>)	3
	ECE 3610	Engineering Probability and Statistics (<i>MATH 2350</i>)	Credited Above

Science Content (23 hours) <i>NOTE: Content Courses may be substituted as long as Highly-Qualified content & pre-requisites are met.</i>	Complete all of the following courses (<i>MAE 2200 is part of the BSEEd core</i>):		
	BIOL 1300/1310	General Biology: Organismic Biology and Lab	4
	BIOL 1350/1360	General Biology: Intro to the Cell and Lab (<i>CHEM 1401/1402 and BIOL 1300/1310</i>)	4
	CHEM1401/1402	General Chemistry I and Lab	5
	ENSC 1600	Intro to Solar Energy	3
	GEOL 1010 or PES 1050	Physical Geology or General Astronomy	4 or 3
	PES 1110	General Physics I – Calculus based (<i>co-req MATH 1350</i>)	4
	MAE 2200	Materials Engineering (<i>MATH 1350, PES 1110, CHEM 1401/1402</i>)	Credited Above
UCCS Teach Courses (32 hours) <i>NOTE: A grade of "B-" or better must be earned in all Education courses.</i>	Complete all of the courses listed below. Courses should be taken in the appropriate semester. See the four-year plan for details.		
	UTED 1010	Step I: Inquiry Approaches to Teaching	1
	UTED 1020	Step II: Inquiry-Based Lesson Design	1
	UTED 2010	Knowing and Learning in MATH and Science	3
	UTED 3020	Classroom Interactions	3
	UTLS 3030	Perspectives on Math and Science	3
	UTLS 3480	Functions and Modeling	3
	UTED 4710	Project-Based Instruction	3
	UTED 4720	Reading in the Content Area	3
UTED 4730	Apprentice Teaching UCCSTeach	12	
Composition (6 hours)	<i>Complete ENGL 1310, 2090, and The English Writing Portfolio.</i>		
	ENGL 1310	Rhetoric & Writing I	3
	ENGL 2090	Technical Writing & Presentation (<i>ENGL 1310</i>)	3
	PORT 3000	Writing Portfolio Assessment (<i>ENGL 2090</i>)	0
Compass Curriculum (9 hours) <i>Note: CURR 4800 is required for your degree and also fulfills the Explore – Society, Behavior and Health requirement. PES 1110 fulfills Explore – Physical and Natural World.</i>	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	Gateway Program Seminar	3
	CURR 4800	Schools, Society, & Diversity (soph level)	3
	Explore - AHC	Select 3 hours from the Explore - Arts, Humanities & Cultures list	3
Open Electives (12-16 hours)	Complete courses of your choosing to fulfill the total minimum hour requirement (128) for the degree program. The chosen course(s) can be selected from any discipline but may not include any math course below MATH 1350. Only 3 credit hours of CS course work numbered below CS 1150 may count towards Electives.		

UCCS Four-Year Degree Plan – BS in Engineering (STEM) Education

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Engineering Education 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
	Engineering Intro Course	3		MAE 1503 – Intro to Engineering Design	3
	UTED 1010 – Step I: Inquiry Approaches to Teaching	1		UTED 1020 – Step 2: Inquiry-based Lesson Design	1
	MATH 1350 – Calculus I	4		MATH 1360 – Calculus II	4
	GPS 1010 – Gateway Program Seminar	3		PES 1110 – General Physics I	4
	ENGL 1310 – Rhetoric & Writing I	3		Compass Explore: Arts, Humanities, Cultures Elective	3
	Open Elective	3		Open Elective	3
	TOTAL	17		TOTAL	18

Suggested Second Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	Engineering Foundation course	3		Engineering Foundation Course	3
	UTED 2010 – Knowing & Learning in Math & Science	3		ECE 3610 (Spring Only) – Engineering Prob. & Stat.	3
	MATH 2350 – Calculus III	4		UTED 3020 – Classroom Interactions	3
	CHEM 1401 – General Chemistry I	4		MAE 2200 – Materials Engineering	3
	CHEM 1402 – General Chemistry I Lab	1		ENGL 2090 – Technical Writing	3
	ENSC 1600 – Intro to Solar Energy	3			
	TOTAL	18		TOTAL	15

Suggested Third Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	ENGR Capstone	3		ENGR Capstone	3
	UTLS 3480 (Fall Only) – Functions & Modeling	3		UTLS 3030 (Spring Only) – Perspectives on Sci. & Math	3
	UTED 4720 – Teaching Reading/Writing in the Cont. Area	3		MATH 3130 – Intro to Linear Algebra	3
	MATH 2150 – Discrete Math	3		BIOL 1300 – General Biology I	3
	PES 1050 – Astronomy I OR GEOL 1010 – Phys. Geology	3-4		BIOL 1310 – General Biology I Lab	1
				Open Elective	3
	TOTAL	15-16		TOTAL	16

Suggested Fourth Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	CURR 4800 – Schools, Society & Diversity	3		UTED 4730 – Apprentice Teaching	12
	UTED 4710 – Project-based Instruction	3			
	MATH 3210 – Intro to Geometry	3			
	BIOL 1350 – General Biology II	4			
	BIOL 1360 – General Biology II Lab	1			
	PORT 3000 – Writing Portfolio Assessment	0			
	Open Elective	3			
	TOTAL	17		TOTAL	12

NOTE: Students must complete all course requirements other than UTED 4730 before the final semester.

