

College of Engineering Minors

Requirements for EAS minor programs are listed below.

NOTE: Engineering courses are available to students within the College of Engineering and Applied Sciences only. To declare an Engineering minor, contact your academic advisor in Main Hall, 2nd floor. All EAS minors require a minimum GPA of 2.0 or better to earn the minor.

COMPUTER SCIENCE

Department Website: www.uccs.edu/cs

A minor in Computer Science requires at least 20 credit hours. All classes must be completed with a grade of C or better. Students will be responsible for any prerequisites to required courses. A maximum of 9 hours of transfer work may apply to the minor.	Note: GDD majors can substitute GDD 1200 and GDD 2200 for CS 1150 and CS 1450.		
	CS 1150	Principles of Computer Science	3
	CS 1450	Data Structures & Algorithms	3
	CS 2060	Programming with C	3
	CS 2080	Programming with UNIX	2
	Upper Division CS Electives	<i>Complete 9 hours of upper-division (3000+ level) CS courses. (Can include CS 3020 or CS 3060 but not both.)</i>	9
	Total		20

GAME PROGRAMMING + 3D

Department Website: www.uccs.edu/cs

The Game Programming + 3D Minor requires 21 credit hours of coursework. All classes must be completed with a grade of C or better. A maximum of 9 hours of transfer work may apply to the minor. The student will be responsible for any prerequisites to required courses.	Note: Many of these courses require significant programming. Students pursuing the minor will need to have programming experience from formal course work or personal experience.		
	CS 1450 or GDD 2200	Data Structures & Algorithms Object-Oriented Analysis, Design and Implementation	3
	GDD 2150	Fundamental Game Design Concepts	3
	CS 2300 or MATH 3130	Computational Linear Algebra Intro to Linear Algebra	3
	CS 3350	Intro to Game Design & Development	3
	CS 4800	Computer Graphics	3
	Upper Division GDD Electives	<i>Complete 6 hours of upper-division (4000+ level) programming intensive GDD courses or CS 4780. Graduate level Games & Media Integration courses may also be used.</i>	6
	Total		21

GAME DESIGN

Department Website: www.uccs.edu/cs

The Game Design Minor requires 21 credit hours of coursework. All classes must be completed with a grade of C or better. A maximum of 9 hours of transfer work may apply to the minor. The student will be responsible for any prerequisites to required courses.	GDD 1100	Intro to Game Development	3
	GDD 1200	Intro to Programming for Game Developers	3
	GDD 2100	Game Design for Diverse Populations	3
	GDD 2150	Fundamental Game Design Concepts	3
	GDD 3100	User Interface Design for Games	3
	Upper Division GDD Electives	<i>Complete 6 hours of upper-division (3000+ level) design intensive GDD courses.</i>	6
	Total		21

COMPUTER ENGINEERING

Department Website: www.uccs.edu/ece

The minor in Computer Engineering requires at least 25 credit hours of course work. All classes must be completed with a grade of C or better. The student will be responsible for any prerequisites to required courses. A maximum of 9 hours of transfer work may apply toward the minor.	ECE 1001	Intro to Robotics	3
	ECE 1021	Computer Based Modeling & Methods in Engineering	3
	ECE 1411	Logic Circuits I	2
	ECE 2411	Logic Circuits II	2
	ECE 3420	Microprocessor Systems Lab	1
	ECE 3430	Intro to Microcomputer Systems	3
	CS 1150	Principles of Computer Science	3
	CS 1450	Data Structures & Algorithms	3
	CS 2080	Programing in UNIX	2
	CS 3300	Software Engineering	3
	Total		

AEROSPACE ENGINEERING

Department Website: www.uccs.edu/mae

A minor in Aerospace Engineering requires at least 23 credit hours. All classes must be completed with a grade of C or better. The student will be responsible for any prerequisites to required courses. A maximum of 6 hours of transfer work may apply to the minor.	MAE 3401	Modeling & Simulation of Dynamic Systems	3	
	MAE 4135	Aerodynamics	3	
	MAE 4410	Astrodynamics	3	
	MAE 4421	Control of Aerospace & Mechanical Systems	2	
	MAE 4510	Engineering Design I	2	
	MAE 4511	Engineering Design II	3	
	MAE 4000	Mechanical & Aerospace Engineering Seminar	1	
	<i>Complete 6 hours from the following courses:</i>			
	MAE 4000	Mechanical & Aerospace Engineering Seminar (must take 3 semesters)	6	
	MAE 4130	Intermediate Fluid Mechanics		
	MAE 4316	Propulsion		
	MAE 4402	Intermediate Dynamics		
	MAE 4415	Flight Dynamics		
	MAE 4425	Space Environment		
	or MAE 5091	Space Environment		
	MAE 4460	GPS Principles & Applications		
	MAE 5125	Advanced Dynamics		
	MAE 5130	Incompressible Flow		
	MAE 5131	Computational Fluid Mechanics		
	MAE 5140	Compressible Flow		
	MAE 5145	Hypersonics		
	MAE 5391	Rocket Propulsion		
	MAE 5419	Trajectory Optimization		
MAE 5424	Spacecraft Attitude, Dynamics & Control			
MAE 9510	Radiation			
Total			23	

MECHANICAL ENGINEERING			
Department Website: www.uccs.edu/mae			
The minor in Mechanical Engineering requires at least 22 credit hours of course work. The student will be responsible for any prerequisites to required courses. A maximum of 6 credit hours of transfer work may be applied to the minor.	MAE 2103	Engineering Mechanics I	3
	MAE 2104	Engineering Mechanics II	3
	MAE 2301	Thermodynamics I	3
	MAE 3130	Fluid Mechanics	4
	MAE 3201	Strength of Materials	3
	MAE 3501	Machine Design	3
	Upper Division MAE Electives	<i>Complete 3 hours of upper-division (3000+ level) MAE courses.</i>	3
			Total

ELECTRICAL ENGINEERING				
Department Website: www.uccs.edu/ece				
The minor in Electrical Engineering requires at least 22 credit hours of course work. All courses in the minor must be completed with a grade of C or better. The student will be responsible for any prerequisites to required courses. A maximum of 9 credit hours of transfer work may be applied to the minor.	ECE 1001	Intro to Robotics	3	
	ECE 1021	Computer Based Modeling & Methods in Engineering	3	
	ECE 2610	Intro to Signals & Systems	4	
	<i>Complete remaining coursework in ONE of the following specialization areas:</i>			
	Computers	ECE 1411, 2411, 3420, 3430, 3440 and 4480	12	
	Electronics	ECE 2050, 2205, 3210, 3220, 3230 and 3240	15	
	Electromagnetics	ECE 2205, 3110, 3120 and 4110	13	
	Systems	ECE 2205, 3205, 3610 and 4510 or 4625	14	
			Total	22-25