AEROSPACE ENGINEERING, WESTERN – UNIVERSITY OF COLORADO BOULDER PARTNERSHIP

TheAerospace Engineering#program requires a minimum of 128 cumulative credits applied to the degree, which includes courses from Western Colorado University and the University of Colorado Boulder.

This program provides a seamless transfer#of coursework from the Gunnison residential campus for a Bachelor of Science in Aerospace Engineering awarded by CU Boulder.##A student must meet the requirements for the CU Boulder College of Engineering & Applied Science and may apply for admission when they have established a successful collegiate record as a Western student.##This is demonstrated through academic requirements outlined at https://western.edu/academics/admissions-process-and-transition-to-cu-boulder/

Students are expected to follow the Academic Policies of#the respective#University/Universities#at which they are registered.

- Western:https://catalog.western.edu/undergraduate/policies/
- CU Boulder College of Engineering & Applied Science:https://www.colorado.edu/engineering-advising/get-your-degree/academic-expectations-policies

Planned Western coursework is outlined below in red font and course numbers are all three digits, while CU Boulder coursework is outlined below in black font and course numbers are all four digits.#Students must complete 45 credits of CU Boulder coursework.

Code	Title	Credits
College Writing Requirement (total of 3 credit hours)		
ENG 302	Technical Writing	3
Mathematics & Science Courses (total of 30 credit hours)		
MATH 151	Calculus I (GT-MA1)	4
MATH 251	Calculus II	4
MATH 252	Calculus III	4
MATH 358	Introduction to Differential Equations and Linear Algebra	4
CHEM 121	General Chemistry for Engineers	3
or CHEM 111 & CHEM 112	General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1)	
PHYS 190 & PHYS 185	General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	4
PHYS 191 & PHYS 186	General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	4
Elective	Math & Science Elective	3
Basic Engineering Courses (total of 6 credit hours)		
ENGR 130	Introduction to Engineering Computing	3
or CS 191	Computer Science II	
ENGR 131	Introduction to Engineering Design	3
Aerospace Engineering Courses (total of 61 credit hours)		
ENGR 161	COMPUTER-AIDED DESIGN	3
ENGR 162	Fabrication	1
ENGR 231	Introduction to Astronautics	3
ENGR 232	Introduction to Aeronautics	3
PHYS 250	Statics	3
ENGR 251	Dynamics	3
or PHYS 251	Dynamics	
ENGR 363	Mechanics of Solids	3
ASEN 3403	Aerodynamics	3
ASEN 3404	Aerospace Dynamics & Controls	3
ASEN 3405	Astrodynamics -or- ASEN 3406 Aircraft Dynamics	3
ASEN 4013	Foundations of Propulsion	3
ASEN 4018	Senior Projects 1: Design Synthesis	4
ASEN 4028	Senior Projects 2: Design Practicum	4
ASEN 4401	Aerospace Communication Systems -or- ASEN 4402 Aerospace Materials & Structural Analysis	3
MCEN 3012	Thermodynamics 1	3
MCEN 3017	Circuits & Electronics	3
MCEN 3021	Fluid Mechanics	3
MCEN 3022	Heat Transfer	3
MCEN 3030	Computational Methods	3
MCEN 3047	Data Analysis and Experimental Methods	4
Aerospace Engineering Electives (total of 3 credit hours)		3
ASEN coursework 4000-level or higher not already in degree		
Technical Electives (total of 6 credit hours)		6
Selected engineering, science, math, computer science, or engineering management courses at 3000-level or higher not already in degree (subject to department approval).		
Humanities & Social Sciences		15
Complete 15 credits of approved humanities and social science coursework, 6 credits of which must be upper-division.		
Free Electives		4
Complete enough electives to bring the total credit hours toward the degree to 128. Normally this is 4 credit hours but could vary (for example due to transfer credits). Please consult with your academic advisor or Partnership Program Director with questions.		
Total Credits		**128**

The following plan lists all the specific course requirements for the Bachelor of Science Degree in Aerospace Engineering from the University of Colorado Boulder in partnership with Western Colorado University. 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.

Planned Western coursework is outlined below in red font and course numbers are all three digits, while CU Boulder coursework is outlined below in black font and course numbers are all four digits. Students must complete 45 credits at CU Boulder.

Sample Plan

Degree Plans are for planning purposes. They reflect a suggested plan to complete the degree in a projected timeframe per program of study.

"Western Watershed Course(s)" refers to a course from the Tributaries area of the Western Watershed program. These courses should be chosen in consultation with the student's advisor.

Course	Title	Credits
Year One		
Fall		
ENG 102	Writing and Rhetoric I (GT-CO1) (Western Watershed Fundamental Skills - Writing I)	3
ENGR 130	Introduction to Engineering Computing	3
MATH 151	Calculus I (GT-MA1)	4
PHYS 190	General Physics I (GT-SC2)	3
PHYS 185	Laboratory Physics I (GT-SC1)	1
WWGE 101/102/103/104	Headwaters (select one)	2
	Credits	**16**
Spring		
CHEM 121	General Chemistry for Engineers	3
ENGR 131	Introduction to Engineering Design	3
MATH 251	Calculus II	4
PHYS 191	General Physics II (GT-SC2)	3
PHYS 186	Laboratory Physics II (GT-SC1)	1
H&SS Elective	lower division elective course	3
	Credits	**17**
Year Two		
Fall		
ENGR 161	COMPUTER-AIDED DESIGN	3
ENGR 162	Fabrication	1
ENGR 231	Introduction to Astronautics	3
MATH 252	Calculus III	4
PHYS 250	Statics	3
H&SS Elective	lower division elective	3
	Credits	**17**
Spring		
ENGR 232	Introduction to Aeronautics	3
ENGR 251	Dynamics	3
ENGR 363	Mechanics of Solids	3
MATH 358	Introduction to Differential Equations and Linear Algebra	4
Elective	Math & Science elective	3
	Credits	**16**
Year Three		
Fall		
ASEN 3404	Aerospace Dynamics & Controls	3
ENG 302	Technical Writing	3
MCEN 3012	Thermodynamics 1	3
MCEN 3017	Circuits & Electronics for MEs	3
MCEN 3030	Computational Methods	3
	Credits	**15**
Spring		
ASEN 3403	Aerodynamics	3
ASEN 3405	Astrodynamics -or- ASEN 3406 Aircraft Dynamics	3
MCEN 3021	Fluid Mechanics	3
MCEN 3047	Data Analysis & Experimental Methods	4
H&SS Elective	lower division elective	3
	Credits	**16**
Year Four		
Fall		
ASEN 4018	Senior Projects 1: Design Synthesis	4
ASEN 4013	Foundations of Propulsion	3
MCEN 3022	Heat Transfer	3
Elective	Aerospace Engineering Elective	3
H&SS Elective	upper division elective	3
	Credits	**16**
Spring		
ASEN 4028	Senior Projects 2: Design Practicum	4
ASEN 4401	Aerospace Comm Systems -or- ASEN 4402 Aerospace Materials & Structural Analysis	3
Elective	Technical Elective	3
Elective	Technical Elective	3
H&SS Elective	upper division elective	3
	Credits	**16**
	Total Credits	**129**