

CURRICULUM SHEET 2025-2026
Computer Engineering - Aerospace Systems Concentration

Degree requirements - 126 credits

Fall - 15 credits		Credits	Spring - 14 credits		Credits
FIRST YEAR	ENGR 111 Fundamentals of Engineering (F,S)	3	ENGR114	Engineering for Grand Challenges (F,S; ENGR 111 or CBE104A or CIVE101A or CIVE102 or MECH103 or MECH104A)	3
	MATH160 Calculus for Physical Scientists I (F,S,SU; MATH124 with a B or higher; MATH126 with a B or higher or MATH127 with a B or higher)	4	MATH161	Calculus for Physical Scientists II (F,S,SU; MATH124 or MATH127; MATH159 or MATH160)	4
	CHEM111 and CHEM112 General Chemistry I (F,S,SU; MATH118 or MATH127 or MATH160 or MATH161 or MATH229 or MATH261) and General Chemistry Lab I (F,S,SU; CHEM111 or concurrent registration or CHEM120 or concurrent registration) Fulfils AUCC Category 3A	5	CS164 ¹	CS1 - Computational Thinking with Java (F,S; CS150B with a B or higher or CS152 with a B or higher or ENGR111 with a B or higher or ENGR123 with a B or higher or CS163)	4
	University Core AUCC Category 1C, 3B, 3C, 3D (F,S,SU) ***Recommend CS150B ¹ - Culture and Coding: Python (AUCC 3B)	3	CO150 ²	College Composition (F,S,SU; CO130 or Placement) Fulfils AUCC Category 1A	3
Fall - 17 credits		Credits	Spring - 16 credits		Credits
SECOND YEAR	ECE205 Analog Circuits I (F,S; MATH159 with a C or higher or MATH160 with a C or higher)	3	ECE206	Analog Circuits II (S,SU; ECE103 with a C or higher or ECE205 with a C or higher; MATH161 with a C or higher)	3
	ECE252 Intro to Digital Circuits (F,S)	3	ECE253	Microcontrollers and C for Internet-of-Things (F,S; ECE102 with a C or higher or ECE252 with a C or higher)	3
	CS165 CS2 - Data Structures (F,S; CS162 with a C or higher or CS163 with a C or higher or CS164 with a C or higher)	4	ECE232	Introduction to Project Practices (F,S; ECE202 or concurrent registration or ECE206 or concurrent registration or ECE395B or concurrent registration)	1
	MATH261 Calculus for Physical Scientists III (F,S,SU; MATH161)	4	MATH340	Intro to Ordinary Differential Equations (F,S,SU; MATH261)	4
	University Core AUCC Category 1C, 3B, 3C, 3D (F,S,SU)	3	PH141	Physics for Scientists and Engineers I (F,S,SU; MATH159 or concurrent registration or MATH160 or concurrent registration) Fulfils AUCC Category 3A	5
Fall - 17 credits		Credits	Spring - 14 credits		Credits
THIRD YEAR	ECE311 Linear Systems Analysis I (F; ECE202 with a C or higher or ECE206 with a C or higher; MATH340 with a C or higher; ECE451 or ECE528 or CS356 or concurrent registration)	3	ECE312	Linear Systems Analysis II (S; ECE311 with a C or higher)	3
	ECE450 and ECE451 Digital Systems Design Lab (F; concurrent registration in ECE451) and Digital Systems Design (F; ECE102 with a C or higher or ECE252 with a C or higher; ECE202 with a C or higher or ECE206 with a C or higher; concurrent registration in ECE450)	4	ECE452	Computer Organization & Architecture (S; ECE251 with a C or higher or ECE253 with a C or higher)	3
	ECE303 Introduction to Communications Principles (S; MATH261 with a C or higher; MATH340 or concurrent registration)	3	CT301	C++ Fundamentals (F,S; CS162 with a C or higher or CS163 with a C or higher or CS164 with a C or higher)	2
	CS214 Software Development (F,S; CS165 with a C or higher)	3	MATH369 or DSCI369	Linear Algebra I (F,S,SU; MATH 161) or Linear Algebra for Data Science (S; MATH159 or MATH160 or MATH161)	3-4
	CS220 Discrete Structures (F,S; CS152 with a B or higher OR CS162 or CS163 or CS164 with a C or higher; MATH159 or MATH160)	4	CO301B or JTC300 Fulfils AUCC Category 2	Writing in the Disciplines-Sciences (F,S; CO150 or HONR193) or Strategic Writing and Communication (F,S,SU; CO150 or HONR193)	3
Fall - 17 credits		Credits	Spring - 16 credits		Credits
FOURTH YEAR	ECE401 Senior Design Project I (F,S; ECE232 with a C or higher; ECE311 with a C or higher; 4 courses from ECE452, ECE456, ECE451, ECE528, CS356, ECE312 with a C or higher, ECE331 with a C or higher, ECE332 with a C or higher) Fulfils AUCC Category 4	3	ECE402 Fulfils AUCC Category 4	Senior Design Project II (F,S; ECE401)	3
	ECE528 ³ or Technical Elective ⁴ Embedded Systems and Machine Learning (F; ECE251 with a C or higher or ECE253 with a C or higher) or See Approved List (F,S)	4	ECE4563 or Technical Elective ⁴	Computer Networks (S; ECE251 with a C or higher or ECE253 with a C or higher; ECE/STAT303 with a C or higher; CS152 or CS162 or CS163 or CS164 with a C or higher; ECE311 with a C or higher) or See Approved List (F,S)	4
	Computer Engineering Electives ⁴ and Technical Electives ⁴ See Approved List (F,S)	4	Computer Engineering Electives ⁴ and Technical Electives ⁴	See Approved List (F,S)	6
	University Core AUCC Category 1C, 3B, 3C, 3D (F,S,SU)	6	University Core	AUCC Category 1C, 3B, 3C, 3D (F,S,SU)	3

¹ Students may also choose one of the following: 1) CS150B + CS164; or 2) Arts/Humanities AUCC + CS152 + CS162; or 3) Arts/Humanities AUCC + CS163

² College Composition must be completed within the first 60 (CSU and transfer) credits taken

³ Students must take either ECE528 OR ECE456 to fulfill the Group 1 Computer Engineering Electives

⁴ See list of approved courses on the ECE website: <https://www.engr.colostate.edu/ece/undergraduates/degree-programs/computer-engineering-with-aerospace-systems/>

ECE prefix courses required for the major at the 100, 200, and 300 level must be passed with a minimum grade of C; grades below a C will require the student to retake the course. ECE courses designated as an elective are exempt from the C or higher minimum grade requirement.