CURRICULUM SHEET 2025-2026

Computer Engineering - Networks and Data 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 Fulfills AUCC Category 3A	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)***	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] Fulfills AUCC Category 1A	College Composition ***(F,S,SU; CO130 or Placement)***	3

	Fall - 16 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)***	2	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 Fulfills AUCC Category 3A	Physics for Scientists and Engineers I ***(F,S,SU; MATH159 or concurrent registration or MATH160 or concurrent registration)***	5

	Fall - 17 credits		Credits	Spring - 15 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	ECE456	Computer Networks ***(S; ECE251 with a C or higher or ECE253 with a C or higher; ECE303 with a C or higher; CS152 or CS162 or CS163 or CS164 with a C or higher; ECE311 with a C or higher)***	4
	CS214	Software Development ***(F,S; CS165 with a C or higher)***	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
	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	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

	Fall - 18 credits		Credits	Spring - 15 credits		Credits
FOURTH YEAR	ECE401 Fulfills AUCC Category 4	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)***	3	ECE402 Fulfills AUCC Category 4	Senior Design Project II ***(F,S; ECE401)***	3
	ECE421	Telecommunications ***(F; ECE303 with a C or higher; ECE312 with a C or higher)***	3	University Core	AUCC Category 1C, 3B, 3C, 3D ***(F,S,SU)***	9
	Computer Engineering Electives[3] and Technical Electives[3]	See Approved List ***(F,S)***	6	Computer Engineering Electives[3] and Technical Electives[3]	See Approved List ***(F,S)***	3
	CS320	Algorithms - Theory and Practice ***(F,S; CS165 with a C or higher; CS220 with a C or higher; MATH160 with a C or higher; MATH369 or DSCI369 with a C or higher)***	3			
	CO301B **or** JTC300 Fulfills 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			

[1] Students may also choose one of the following: 1) CS150B + CS164; or 2) CS152 + CS162; or 3) CS163

[2] College Composition (CO150) must be completed within the first 60 (CSU and transfer) credits taken

[3] See list of approved courses on the ECE website: https://www.engr.colostate.edu/ece/undergraduates/degree-programs/computer-engineering-with-networks-and-data/

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.