

# Computer Engineering Bachelor of Science Degree

Curriculum Year 2021-2022

## FRESHMAN YEAR

Fall Semester		Cr	Term Completed	Spring Semester		Cr	Term Completed
ENGR 1020/1021	Engineering Disciplines and Skills <sup>1</sup>	2		ENGR 1410/1411	Programming and Problem Solving <sup>3</sup>	3	
CH 1010/1011	General Chemistry	4		MATH 1080	Calculus II	4	
ENGL 1030	Composition and Rhetoric	3		PHYS 1220	Physics with Calculus I	3	
MATH 1060	Calculus I	4			Humanities/Social Science Req. <sup>2</sup>	3	
	Humanities/Social Science Req. <sup>2</sup>	3			Humanities/Social Science Req. <sup>2</sup>	3	
		16				16	

## SOPHOMORE YEAR

Fall Semester		Cr	Term Completed	Spring Semester		Cr	Term Completed
CPSC 1110/1111	Intro to Programming in C	3		ECE 2120	Electrical Engineering Lab II	1	
ECE 2010	Logic and Computing Devices	3		ECE 2220	Systems Programming	3	
ECE 2020	Electric Circuits I	3		ECE 2620	Electric Circuits II	3	
ECE 2090	Logic Lab	1		ECE 2720	Computer Organization	3	
ECE 2110	Electrical Engineering Lab I	1		ECE 2730	Computer Organization Lab	1	
MATH 2060	Calculus III	4		MATH 2080	Differential Equations	4	
PHYS 2210	Physics with Calculus II	3					
		18				15	

## JUNIOR YEAR

Fall Semester		Cr	Term Completed	Spring Semester		Cr	Term Completed
ECE 2230	Computer Systems Engineering	3		ECE 3170	Random Signal Analysis	3	
ECE 3110	Electrical Engineering Lab III	1		ECE 3220	Introduction to Operating Systems	3	
ECE 3200	Electronics I	3		ECE 3270	Digital Computer Design	3	
ECE 3300	Signals, Systems & Transforms	3		ECE 3520	Programming Systems	3	
ECE 3710	Microcontroller Interfacing	3		MATH 4190	Discrete Mathematics	3	
ECE 3720	Microcontroller Interfacing Lab	1					
MATH 3110	Linear Algebra	3					
		17				15	

## SENIOR YEAR

Fall Semester		Cr	Term Completed	Spring Semester		Cr	Term Completed
ECE 4090	Intro to Linear Control Systems	3		ECE 4960	Integrated Systems Design II	2	
ECE 4950/4951	Integrated Systems Design I	2			Humanities/Social Science Req. <sup>2</sup>	3	
ENGL 3140	Technical Writing	3			CpE Technical Elective <sup>4</sup>	3	
	CpE Technical Elective <sup>4</sup>	3			CpE Technical Elective <sup>4</sup>	3	
	CpE Probability & Statistics Req. <sup>5</sup>	3			Special Requirement <sup>7</sup>	3	
	Communications Requirement <sup>6</sup>	3					
		17				14	

<sup>1</sup> Or ENGR 1050/1060.

<sup>2</sup> See General Education section of the *Undergraduate Announcements*. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements. To comply with the South Carolina REACH ACT, all undergraduate students who enter the university during summer 2021 or afterward must pass one of HIST 1010, POSC 1010, and POSC 1030. Additional courses may be approved which can satisfy this requirement. Successful completion of coursework in compliance with the REACH ACT is required for graduation.

<sup>3</sup> Or ENGR 1070/1080/1090.

<sup>4</sup> Select from approved Technical Elective listing found on ECE website [https://www.clemson.edu/cecas/departments/ece/resources/undergrad\\_resources/curriculum.html](https://www.clemson.edu/cecas/departments/ece/resources/undergrad_resources/curriculum.html).

<sup>5</sup> ECE 4270 (Communications Systems), ECE 4300 (Digital Communications) or ECE 4400 (Performance Analysis of Local Computer Networks).

<sup>6</sup> COMM 1500/1501 or COMM 2500/2501.

<sup>7</sup> Special Requirement Options:

- a. A 3-credit approved Humanities/Social Sciences course (see listing in the current Undergraduate Catalog: <http://catalog.clemson.edu/>); or
- b. An additional 3-credit, 4000-level course from the EE Technical Elective List or the CpE Technical Elective List; or
- c. An additional 3-credit MATH course from the following list: MATH 4120 (Intro to Modern Algebra), MATH 4340 (Advanced Engineering Math), MATH 4350 (Complex Variables), MATH 4400 (Linear Programming), MATH 4410 (Intro to Stochastic Models), or MATH 4530 (Advanced Calculus).