

Concord University
Bachelor of Science - Computer Science
Registrar's Office Official Document

Name _____
 120 Semester hours minimum for graduation with a 2.00 average
 overall 56 hours from a four-year institution

2021-2022 Catalog

Course	Title	HRS	GR	QP
Written and Oral Communications (9 credit hours) Select one course from BGEN 205 or COMM 101				
ENGL 101	Composition & Rhetoric I	3		
ENGL 102	Composition & Rhetoric II	3		
COMM 101 Or BGEN 205	Fundamentals of Speech Or Fundamentals of Business Communication	3		
Literature and Humanities (6 credit hours) Select one (1) course from Literature and one (1) course from History and Philosophy. *May be repeated for 3 credit hours.				
	ENGL 203 or 204	3		
	HIST 101, 102, 203, 204, PHIL 101, 308, 316, or 361	3		
Fine Arts – (3 credit hours) Select one (1) course from the following:				
	ART 101, 103, 105, 106, 204, 205, 216, 303, 304, 308, MUS 101, *451, *453A, or THEA 102	3		
Social and Behavioral Sciences (9 credit hours) Select one (1) course from three different categories.				
	Category 1 - Business and Professional Studies BGEN 105, ECON 203, ECON 204, FIN 200, HSP 100 or SOWK 161	3		
	Category 2 - Geography GEOG 101 or 321	3		
	Category 3 - Political Science POSC 101, 104, or 202			
	Category 4 - Psychology PSY 101 or 200			
	Category 5 - Sociology SOC 101, 201, or 301			
Natural Sciences (7-8 credit hours) Select one (1) course from two different categories.				
PHYS 101/ PHYS 201	Category 1-Biological Science BIOL 101, 102, 121, or 122	4	See Major	
	Category 2-Earth & Space Science GEOG 101, GEOG 140 or 150, GEOG 200, PHSC 104, or PHYS 105	3- 4		
	Category 3-Physical Science CHEM 100, CHEM 101/111, PHSC 103, PHYS 101, or PHYS 201			
Mathematics (3 credit hours) Select one (1) Mathematics course numbered 100 or higher.				
MATH ---		3	See Major	
Physical Wellness (2 credit hours) Select one or more courses listed below for a total of at least two hours.				
	H ED 120, 304, P ED 101M, 117 or 118	2- 3		
Modern/Classical Language – (Optional 6 credit hours) Select two courses within the same Modern/Classical Language for substitution purposes.				
	May not substitute Modern Language for ENGL 101, ENGL 102, the 3 hour Mathematics requirement or the 4-hour lab science requirement.			

Computer Science Core (2.00 GPA required) (40 credit hours)				
CS 151	Introduction to Computer Science	3		
CS 221	Computer Networking	3		
CS 232	Introduction of Computer Security	3		
CS 252	Data Structures and Object-Oriented Programming	3		
CS 253	Software Engineering	3		
CS 261	Introduction to Intelligent Systems	3		
CS 272	Human Centered Design	3		
CS 282	Database and Information Management	3		
CS 325	Computer Organization and Hardware	3		
CS 357	Parallel and Distributed Computing	3		
CS 421	Operating Systems	3		
CS 442	Analysis of Algorithms	3		
CS 456 and CS 457	Capstone Project (4 credit hours total)	2 2		
Mathematic (7-13 credit hours)				
MATH 103/MATH 103C*	College Algebra	3		
MATH 104*	College Trigonometry	3		
MATH 219	Discrete Mathematics	3		
MATH 253	Calculus with Analytic Geometry I	4		
MATH 254 or MATH 321	Calculus with Analytic Geometry II (4) or Applied Linear Algebra (3)	3-4		
Physics (10-11 credit hours)				
PHYS 101 and PHYS 102 or PHYS 201 and PHYS 202	Introduction to Physics and Intermediate Physics or University Physics w. Calculus, Part I (<i>Strongly Recommended</i>) and University Physics w/ Calculus, Part II (<i>Strongly Recommended</i>)	4 4		
PHYS 319 or PHYS 325	Digital Electronics or Computational Physics	2-3		

*Math 103 and/or 104 may be waived for students establishing "equivalent proficiency" as defined by the Department of Mathematics and Computer Science.

Students must select ONE of the concentrations on the following page

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Analysis, Simulation and Modeling (19 credit hours)				
CS 283	Data Analytics	3		
CS 374	Introduction to Simulation and Modeling	3		
<u>Choose one of the following:</u>				
	<ul style="list-style-type: none"> • 10 credit hours in BIOL • 10 credit hours in CHEM • 10 credit hours in GEOL • 10 additional credit hours in MATH (MATH 105 or above) • 10 credit hours in PHYS 			
Cybersecurity (15 credit hours)				
CS 331	Digital Forensics & Incident Response	3		
CS 332	Network Security	3		
CS 333	Secure Coding	3		
CS 281 or CS 381	Linux System Administration or System Analysis & Design	3		
Software Development (15 credit hours)				
CS 351	Web Development	3		
CS 352	Mobile Development	3		
CS 353	Game Development	3		
CS 384	DevOps	3		

RESIDENCE CREDIT:

36 hours at Concord

16 of last 32 hours at Concord

Note: In some degree programs, this is prior to entering professional training.

9 hours in Major, Teaching Fields

TOTAL MINIMUM REQUIRED CREDITS: 120

GENERAL EDUCATION CREDITS: 39-41

ELECTIVE CREDITS: 18-22