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

Name_____

2022-2023 Catalog

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

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	3		
	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 GEOL 101, GEOL 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 (10-17 credit hours)				
MATH 103/103C* and MATH 104* or MATH 107*	College Algebra and College Trigonometry or Precalculus	3 3 or 4		
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 (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 *(Strongly Recommended)* and University Physics w/ Calculus, Part II *(Strongly Recommended)*	4 4		
PHYS 319 or PHYS 325	Digital Electronics or Computational Physics	2-3		

*Math 103 and/or 104 and/or MATH 107 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

Analysis, Simulation and Modeling (16 credit hours)				
CS 283	Data Analytics	3		
CS 374	Introduction to Simulation and Modeling	3		
	Choose one of the following:			
	• 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 (12 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 (12 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

Revised: 04/01/2022