

**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

2020-2021 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.				
	<b>ENGL</b> 203 or 204	3		
	<b>HIST</b> 101, 102, 203, 204, <b>PHIL</b> 101, 210, 316, or 361	3		
Fine Arts-- (3 credit hours) Select one (1) course from the following:				
	<b>ART</b> 101, 103, 105, 106, 204, 205, 216, 303, 304, 308, <b>MUS</b> 101, *451, *453A, or <b>THEA</b> 102	3		
Social and Behavioral Sciences (9 credit hours) Select one (1) course from three different categories.				
	<b>Category 1 - Business and Professional Studies</b> BGEN 105, ECON 203, ECON 204, FIN 200, RTM 100 or SOWK 161	3		
	<b>Category 2 - Geography</b> GEOG 101 or 321	3		
	<b>Category 3 - Political Science</b> POSC 101, 104, or 202			
	<b>Category 4 - Psychology</b> PSY 101 or 200			
	<b>Category 5 - Sociology</b> SOC 101, 201, or 301			
Natural Sciences (7-8 credit hours) Select one (1) course from two different categories.				
PHYS 101/ PHYS 201	<b>Category 1-Biological Science</b> BIOL 101, 102, 121, or 122	4	See Major	
	<b>Category 2-Earth &amp; Space Science</b> GEOL 101, GEOL 140 or 150, GEOG 200, PHSC 104, or PHYS 105	3- 4		
	<b>Category 3-Physical Science</b> 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.				
	<b>H ED</b> 120, 304, <b>P ED</b> 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		
<b>Mathematic (7-13 credit hours)</b>				
MATH 103*	College Algebra	3		
MATH 104*	College Trigonometry	3		
MATH 219	Discrete Mathematics	3		
MATH 253	Calculus with Analytic Geometry I	4		
<b>Physics (10-11 credit hours)</b>				
PHYS 101	Introduction to Physics	4		
PHYS 102	Intermediate Physics	4		
PHYS 319 or PHYS 325	Digital Electronics or Computational Physics	2- 3		

\*Math 103 and/or 104 may be waived for students establishing proficiency

**Students must select ONE of the concentrations on the following page**

**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

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<b>Analysis, Simulation and Modeling (19 credit hours)</b>				
CS 283	Data Analytics	3		
CS 374	Introduction to Simulation and Modeling	3		
CS 376	Artificial Intelligence	3		
<b><u>Choose one of the following:</u></b>				
	<ul style="list-style-type: none"> <li>• 10 credit hours in BIOL</li> <li>• 10 credit hours in CHEM</li> <li>• 10 credit hours in GEOL</li> <li>• 10 additional credit hours in MATH (MATH 105 or above)</li> <li>• 10 credit hours in PHYS</li> </ul>			
<b>Cybersecurity (15 credit hours)</b>				
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		
	<b><i>Three additional hours of CS or MATH</i></b>	3		
<b>Software Development (15 credit hours)</b>				
CS 351	Web Development	3		
CS 352	Mobile Development	3		
CS 353	Game Development	3		
CS 384	DevOps	3		
	<b><i>Three additional hours of CS or Math</i></b>	3		

**PROGRAM CREDITS:** 120 Credit Hours  
**REQUIRED CREDITS:** 110-117 Credit Hours  
**ELECTIVE CREDITS:** 3-10 Credit Hours