

B.A. in Computing and Informatics

Major Requirements (41 sh)

SUMMARY OF MAJOR REQUIREMENTS

- 20 sh of Foundational Courses
 - 9 sh of Upper-Level and Capstone Courses
 - 12 sh of Computing and Informatics Restricted Electives
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- 41 sh total

FOUNDATIONAL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
PHIL 09130, MATH 03160 or MATH 03150	Introduction to Symbolic Logic, Discrete Structures or Discrete Math				3
CS 01104, CS 04171 or CS 04110	Introduction to Programming and Problem Solving, Creating Android Apps or Introduction to Programming Using Robots				3
CS 04103	Computer Science and Programming				4
CS 04210	Advanced Programming Workshop	2 sections of course must be taken with different topics (e.g., JS, C#)			2
CS 04210	Advanced Programming Workshop				2
CS 04225	Principles of Data Structures				3
CST 09210	Intro to Computer Networks & Data Communication				3
Subtotal: 20 sh					

UPPER-LEVEL AND CAPSTONE COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
Database Coursework.					
One of the options below:					
MIS 02337 / CS 10337	Applied Database Technologies (3 credits)	Database Option 1			3
CS 10338 CS 10339	SQL In-depth (1 credit) AND Database Modeling and Design (2 credits)	Database Option 2			3
CS 10310	Introduction to Web Development				3
CS 10430	Computing & Informatics Capstone Experience				3
Subtotal: 9 sh					

COMPUTING AND INFORMATICS RESTRICTED ELECTIVES

Choose 12 credits from the courses below.

	Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<input type="radio"/>	BINF 07250	Intro to Bioinformatics				3
<input type="radio"/>	CS 01211	Principles of Information Security				3
<input type="radio"/>	CS 01295	Special Topics in Computer Science	multiple sections of this course with different topics can be taken.			3
<input type="radio"/>	CS 01395	Topics in Computer Science	multiple sections of course with different topics can be taken.			3
<input type="radio"/>	CS 02370	Introduction to Information Visualization				3
<input type="radio"/>	CS 02421	Big Data Tools and Techniques				3
<input type="radio"/>	CS 02485	Web and Text Mining				3
<input type="radio"/>	CS 03355	Cybersecurity, Management, Policy, and Risk				3
<input type="radio"/>	CS 04215	Computer Laboratory Techniques				3
<input type="radio"/>	CS 04350	Blockchain Programming				3
<input type="radio"/>	CS 04372	Advanced Android Programming				3
<input type="radio"/>	CS 04376	Advanced iOS Programming				3
<input type="radio"/>	CS 04444	Human Computer Interaction				3
<input type="radio"/>	CS 04471	Topics in Mobile Programming				3
<input type="radio"/>	CS 06205	Computer Organization				3
<input type="radio"/>	CS 06447	Introduction to IoT Upper Stack				3
<input type="radio"/>	CS 99300	Computer Field Experience				3

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Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<input type="radio"/> CS 99310	Advanced Learning Assistant Exp. in CS	Requires permission of instructor			3
<input type="radio"/> CS 99490	Computer Science Research II				3
<input type="radio"/> CS 10200	Fundamentals of Network Security				3
<input type="radio"/> CS 10250	Cryptography and Blockchain Essentials				3
<input type="radio"/> CS 10271	Introduction to Android Programming				3
<input type="radio"/> CS 10275	Introduction to iOS Programming				3
<input type="radio"/> CS 10340	Systems Administration				3
<input type="radio"/> CS 10342	Web Server Platforms				3
<input type="radio"/> CS 10344	Concepts of Computing Technologies				3
<input type="radio"/> CST 02220	Database Administration I				3
<input type="radio"/> CST 02230	Database Development				3
<input type="radio"/> CST 02250	Database Security				3
<input type="radio"/> CST 02320	Database Administration II				3
<input type="radio"/> CST 02330	Database Programming				3
<input type="radio"/> CST 02400	Database Warehouse Principles				3
<input type="radio"/> CST 03201	Security +				3
<input type="radio"/> CST 03215	Penetration Testing Fundamentals				3
<input type="radio"/> CST 03218	Ethical Hacking Fundamentals				3
<input type="radio"/> CST 03252	Foundations of Computer Forensics				
<input type="radio"/> CST 03253	Applications for Digital Forensics				3
<input type="radio"/> CST 03270	Introduction to Intrusion Detection				3
<input type="radio"/> CST 03315	Advanced Penetration Testing				3
<input type="radio"/> CST 03352	Digital Incident Handling				3
<input type="radio"/> CST 03370	IDS/IPS Administration				3
<input type="radio"/> CST 03372	Knowledge Management of IDS/IPS				3
<input type="radio"/> CST 03410	Cyber Defense				3
<input type="radio"/> CST 03418	Advanced Topics in Ethical Hacking				3
<input type="radio"/> CST 03452	Advanced Digital Forensics Investigation				3
<input type="radio"/> CST 03472	IDS/IPS for Cloud				3
<input type="radio"/> CST 06220	Linux/Unix Essentials				3
<input type="radio"/> CST 06225	Linux/Unix Administration				3
<input type="radio"/> CST 06230	Microcomputer Operating Systems I: Workstation				3
<input type="radio"/> CST 06235	Microcomputer Operating Systems II: Server				3
<input type="radio"/> CST 06240	Linux Systems and Services				3
<input type="radio"/> CST 06340	Introduction to Azure Cloud Services				3
<input type="radio"/> CST 06343	Azure Management Tools and Security				3
<input type="radio"/> CST 06440	Azure Security, Compliance, and Identity				3
<input type="radio"/> CST 09290	Intermediate Networking				3
<input type="radio"/> CST 09310	Network Support and Troubleshooting				3
<input type="radio"/> CST 09320	Network Architectures, Models, and Protocols				3
<input type="radio"/> CST 09325	Network Communication and Configuration				3
<input type="radio"/> CST 09430	Switching, Routing, and Wireless Essentials				3
<input type="radio"/> CST 09435	Enterprise Networking, Security, and Automation				3
<input type="radio"/> BIOL 01301	Data Science for Biologists				3
<input type="radio"/> ENT 06450	Technology Entrepreneurship				3
<input type="radio"/> GEOG 16160	Digital Earth: Mapping & Geographic Info Science				3
<input type="radio"/> GEOG 16260	Fundamentals of Geographic Information Systems				3
<input type="radio"/> GEOG 16261	Cartography				3
<input type="radio"/> GEOG 16360	Applications of Geographic Information Systems				3
<input type="radio"/> GEOG 16462	Web-based GIS Mapping				3
<input type="radio"/> HIST 05399	Digital History				3
<input type="radio"/> MIS 02302	Emerging Technologies I				3
<input type="radio"/> MIS 02303	Emerging Technologies II				3
<input type="radio"/> MIS 02325	Project Management				3
Subtotal: 12 sh					

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Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
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Free Electives for this Major/Degree (51 sh)

Students should choose Free Electives that satisfy any Rowan Core or Rowan Experience requirements that are not fulfilled by Major or Non-Program courses.

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
Subtotal: 51 sh					

Total Program Credits Required for this Major / Degree: 120 SH

SUMMARY OF GRADUATION REQUIREMENTS

- 41 sh of Program Requirements
 - 28 sh of Rowan Core and Rowan Experience
 - 51 sh of Free Electives
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- 120 sh total

Computing and Informatics Concentrations

If you declare a Concentration and choose the correct restricted electives from the list below, that designation will appear on your transcript.

Specific guidelines for these optional Concentrations can be found here: https://academics.rowan.edu/csm/departments/cs/advising/ba_ci/concentrations.html

The following Concentrations are available for the Computing and Informatics major:

- Cybersecurity (C705)
- Dev Ops (C713)
- Cybersecurity Defense (C714) - *only available to those students pursuing both a C&I major with a CS minor*