

B.A. in Computing and Informatics

Academic Program Guide for **New First-Year Students** Department of Computer Science (computerscience@rowan.edu)

Rowan University Graduation Requirements for all Majors / Degrees

- Students must complete at least 120 semester hours (sh) of coursework that apply to their Rowan University degree.
- Students must have a cumulative GPA of at least 2.0 in Rowan University coursework. (Transfer courses/credit do not count toward the RU GPA.)
- A minimum of 30 sh of coursework must be completed at/through Rowan University.
- Only grades of “D-” or above may apply to graduation/degree requirements. (Some programs may set higher minimums.)
- Students must meet the Rowan Core and Rowan Experience Requirements.
 - An individual course can potentially satisfy one Rowan Core literacy and/or multiple Rowan Experience attributes.
 - Rowan Core & Rowan Experience designations are listed in course details in Section Tally (www.rowan.edu/registrar) and may also be searched on that site under “Attributes.” A list of Rowan Core courses is here: <https://confluence.rowan.edu/display/AS/Rowan+Core+Course+List>.
- Students must apply for graduation and should do so for the term in which they will complete all program requirements.

Program-Specific Graduation Requirements for this Major / Degree

- Graduate courses may be counted as restricted electives when takes as senior privilege or part of the accelerated BS/MS degree program.

Rowan Core Requirements¹

Students must satisfy all six Rowan Core Literacies. A minimum total of 3 sh of coursework is required to satisfy each Literacy. With the exception of the 9 sh counted here for Communicative Literacy, credits attached to the courses in this section will apply elsewhere.

- (COML) Communicative Literacy: *Must be met by the following three courses or their official equivalents:*
 - COMP 01111 College Composition I (3 sh) ○ COMP 01112 College Composition II (3 sh) ○ CMS 04205 Public Speaking (3 sh)*

***CMS 04205 is required as pre-requisite for one or more major courses in this program. Therefore, CMS 04205 or its transferred equivalent must be taken to fulfill this degree**
- (ARTL) Artistic Literacy *Recommendation from major:*
- (GLBL) Global Literacy *Recommendation from major:*
- (HUML) Humanistic Literacy *Recommendation from major:* INTR 01265 (3 sh counted under non-program)
- (QNTL) Quantitative Literacy *Recommendation from major:* STAT 02260; MATH 03125 or 01130 (3 or 4 sh counted under non-program)
- (SCIL) Scientific Literacy *Recommendation from major:*

Subtotal of credits counted in this section: 9 sh

Rowan Experience Requirements

Students must satisfy all three Rowan Experience attributes. Credits attached to the courses in this section will apply elsewhere.

- (LIT) Broad-Based Literature Attribute *Recommendation from major:*
- (WI) Writing Intensive Attribute *Recommendation from major:* WA 01302 Technical Writing
- (RS) Rowan Seminar Attribute² *Recommendation from major:*

Non-Program Courses (minimum 18 sh)

Courses in this section cannot be in the major department.

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
STAT 02260, MATH 03125 or MATH 01130	Statistics I, Calculus: Techniques & Applications or Calculus I	Satisfies Quantitative Literacy			3, 3 or 4
INTR 01265	Computers and Society	Satisfies Humanistic Literacy			3
WA 01302	Technical Writing	Writing Intensive			3
					Subtotal: 18 sh

¹ The Rowan Core requirements are waived for transfer students with an earned A.A. or A.S. degree from a NJ community/county college.

² The Rowan Seminar requirement is waived for all students transferring 24 or more approved credits into Rowan University at the time of initial entry.

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Major Requirements (42 sh)

SUMMARY OF MAJOR REQUIREMENTS

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

FOUNDATIONAL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CS 00100	Computer Science Learning Community	Not required for transfer students			1
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 Scientific Programming, 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
CS 01210	Intro to Computer Networks & Data Communication				3
Subtotal: 21 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 01205	Computer Laboratory Techniques				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 differ- ent topics can be taken.			3
<input type="radio"/>	CS 02421	Big Data Tools and Techniques				3
<input type="radio"/>	CS 04350	Blockchain Programming				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 04372	Advanced Android Programming				3
<input type="radio"/>	CS 10275	Introduction to iOS Programming				3
<input type="radio"/>	CS 04376	Advanced iOS Programming				3
<input type="radio"/>	CS 04471	Topics in Mobile Programming				3
<input type="radio"/>	CS 07252	Foundations of Computer Forensics				3
<input type="radio"/>	CS 07370	Introduction to Information Visualization				3
<input type="radio"/>	CS 07430	Human Computer Interaction				3

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Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<input type="radio"/> CS 07485	Web and Text Mining				3
<input type="radio"/> CS 99300	Computer Field Experience				3
<input type="radio"/> CS 99310	Advanced Learning Assistant Exp. in CS	Requires permission of instructor			3
<input type="radio"/> CS 10200	Fundamentals of Network Security				3
<input type="radio"/> CS 10215	Penetration Testing Fundamentals				3
<input type="radio"/> CS 10218	Ethical Hacking Fundamentals				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"/> GEOG 16160	Intro to Mapping/Geographic Info Science				3
<input type="radio"/> GEOG 16260	Geographic Info Science I				3
<input type="radio"/> GEOG 16261	Cartography				3
<input type="radio"/> MIS 02302	Emerging Technologies I				3
<input type="radio"/> MIS 02303	Emerging Technologies II				3
<input type="radio"/> MIS 02336	Advanced Database Management	Only available to MIS double majors			3
<input type="radio"/> MIS 02325	Project Management				3
Subtotal: 12 sh					

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

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:

- Blockchain Technologies and Cryptocurrencies (C716)
- Cybersecurity (C705)
- Dev Ops (C713)
- Mobile Devices (C712)
- Cybersecurity Defense (C714) - only available to those students pursuing both a C&I major with a CS minor