

# B.A. in Computing and Informatics

## Academic Program Guide for New First-Year Students (Effective Fall 2018)

Department of Computer Science ([computerscience@rowan.edu](mailto:computerscience@rowan.edu))

Students who entered Rowan University prior to Fall 2018 should follow the guide for their program and start year in consultation with their advisor.

### 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](http://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

- A grade of C- or better in Calculus I, Discrete Structures, Introduction to Object Oriented Programming, Object Oriented Programming/Data Abstraction, Computer Organization, and Data Structures and Algorithms is required for graduation and to take any course that have the above courses as a prerequisite. This policy applies whether these courses are taken locally or transferred.
- Graduate courses may be counted as restricted electives when takes as senior privilege or part of the accelerated BS/MS degree program.

### Rowan Core Requirements<sup>1</sup>

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)
- (ARTL) Artistic Literacy                      *Recommendation from major:*
- (GLBL) Global Literacy                        *Recommendation from major:*
- (HUML) Humanistic Literacy                *Recommendation from major:* INTR 01266 (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:* INTR 01266 (3 sh counted under major)
- (RS) Rowan Seminar Attribute<sup>2</sup>            *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 01266	Computers and Society (WI)	Satisfies Humanistic Literacy			3
					Subtotal: 18 sh

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

<sup>2</sup> 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 (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
- 
- 41 sh total

### FOUNDATIONAL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CS 01000	Computer Science Learning Community	Not required for transfer students			0
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	prereq CS 04103 or CS 04113; 2 sec- tions of course must be taken with dif- ferent topics (e.g., Ruby, C#)			2
CS 04210	Advanced Programming Workshop				2
CS 04225	Principles of Data Structures	prereq CS04103			3
CS 01210	Intro to Computer Networks & Data Communication				3
<b>Subtotal: 20 sh</b>					

### UPPER-LEVEL AND CAPSTONE COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
MIS 02334 / CS 10334	Applied Database Technologies	prereq Junior standing			3
CS 10310	Introduction to Web Development	prereq (CS 04210 or CS 04114) & (MIS 02334 or CS 10334 or CS 04430) & (CS 04225 or CS 04222)			3
CS 10430	Computing & Informatics Capstone Experience	prereq CS 10310 and CMS 04205			3
<b>Subtotal: 9 sh</b>					

### 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	prereq CHEM 06101 & BIOL 01106 & CS 04103			3
<input type="radio"/>	CS 01205	Computer Laboratory Techniques	prereq CS 04.113 or CS 04103			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	prereq CS 04222 or CS 04225; multiple sections of course with different topics can be taken.			3
<input type="radio"/>	CS 10271	Introduction to Android Programming	prereq CS 04113 or CS 04171 or CS 04103 or CS 01104 or CS 01102			3
<input type="radio"/>	CS 04372	Advanced Android Programming	prereq CS 10271 or CS 04222 or CS 04225			3
<input type="radio"/>	CS 10275	Introduction to IOS Programming	prereq CS 04113 or CS 04171 or CS 04103 or CS 01104 or CS 01102			3
<input type="radio"/>	CS 04376	Advanced IOS Programming	prereq CS 10275			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	prereq CS 04222 or CS 04225			3
<input type="radio"/>	CS 07430	Human Computer Interaction	prereq CS 04222 or CS 04225			3
<input type="radio"/>	CS 07485	Web and Text Mining	prereq CS 04222 or CS 04225			3

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Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<input type="radio"/> CS 99300	Computer Field Experience	prereq permission of instructor and (CS 04222 or CS 04225). Field experience may be from 3 to 12 credits; however only 3 credits can apply to the program requirements.			3
<input type="radio"/> CS 99310	Advanced Learning Assistant Exp. in CS	prereq permission of instructor			3
<input type="radio"/> CS 10200	Fundamentals of Network Security	prereq CS 01210			3
<input type="radio"/> CS 10215	Penetration Testing Fundamentals	prereq CS 10200			3
<input type="radio"/> CS 10218	Ethical Hacking Fundamentals	prereq CS 10215			3
<input type="radio"/> CS 10340	Systems Administration	prereq CS 01210 and CS 01211			3
<input type="radio"/> CS 10342	Web Server Platforms	prereq CS 10310			3
<input type="radio"/> CS 10344	Concepts of Computing Technologies	prereq (CS 01210 or CS 06410) and (CS 01211 or CS 07351)			3
<input type="radio"/> GEOG 16160	Intro to Mapping/Geographic Info Science				3
<input type="radio"/> GEOG 16260	Geographic Info Science I	prereq GEOG 16160			3
<input type="radio"/> GEOG 16261	Cartography	prereq GEOG 16260			3
<input type="radio"/> MIS 02336	Advanced Database Management	prereq MIS 02338; only available to MIS double majors			3
<input type="radio"/> MIS 02325	Project Management	prereq 57 or more sh			3
					Subtotal: 12 sh

## Free Electives for this Major/Degree (52 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: 52 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](https://academics.rowan.edu/csm/departments/cs/advising/ba_ci/concentrations.html)*

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

- Cyber Security (C705)
- Dev Ops (P713)
- Mobile Devices (P712)