

# B.A. in Computer Systems Technology

## Academic Program Guide for **New First-Year Students** (Effective 2023) 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

- None

### 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) or CMS 04206 Digital Presentations (3 sh)
- (ARTL) Artistic Literacy                      *Recommendation from major:*
- (GLBL) Global Literacy                          *Recommendation from major:*
- (HUML) Humanistic Literacy                 *Recommendation from major:* INTR 01265 - Computers and Society
- (QNTL) Quantitative Literacy                 *Recommendation from major:*
- (SCIL) Scientific Literacy                       *Recommendation from major:*

### 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:* Any course with LIT designation
- (WI) Writing Intensive Attribute            *Required for major:*                      WA 01302 - Introduction to Technical Writing    OR  
WA 01322 - Writing for the Workplace
- (RS) Rowan Seminar Attribute<sup>2</sup>             *Recommendation from major:* COMP 01111 – College Composition I

### 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
<b>Subtotal: 18 sh</b>					

<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.

# B.A. in Computer Systems Technology

## Major Requirements (63 sh)

### *SUMMARY OF MAJOR REQUIREMENTS*

- 21 – 51 sh of Foundational Courses
  - 12 – 42 sh of Upper-Level and Capstone Courses
- 
- 63 sh total

### *FOUNDATIONAL COURSES*

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CS 01104	Introduction to Programming and Problem Solving	Python required			3
	Technology specific courses from CUGS (see below)				18 - 48 <sup>3</sup>
					Subtotal: 21 - 51

### *UPPER-LEVEL AND CAPSTONE COURSES*

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
	Technology specific courses from CUGS (see below)				12 - 42 <sup>3</sup>
					Subtotal: 12 - 42

### *SUMMARY OF GRADUATION REQUIREMENTS*

- 63 sh of Program Requirements
  - 24 sh of Rowan Core
  - 9 sh of Rowan Experience
  - 18 sh of Non-Program Courses
  - 6 sh of Free Electives
- 
- 120 sh total

<sup>3</sup> General range, depending on which CUGS students select for the major course of study.

# B.A. in Computer Systems Technology

## CUGS for this Major/Degree (60 sh)

*Students should select and complete any 5 CUGS in their entirety.*

*In case of overlap (i.e., a course that is part of multiple CUGS), students must select additional courses such that the total unique credits equal 60*

Database Fundamentals					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 02110	Implementations of SQL I	FOUNDATIONAL COURSE			3
CST 02210	Implementations of SQL II	FOUNDATIONAL COURSE			3
CST 02220	Database Administration I	FOUNDATIONAL COURSE			3
CST 02320	Database Administration II	UPPER LEVEL COURSE			3
Database Development					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 02230	Database Development	FOUNDATIONAL COURSE			3
CST 02250	Database Security	FOUNDATIONAL COURSE			3
CST 02330	Database Programming	UPPER LEVEL COURSE			3
CST 02400	Database Warehouse Principles	UPPER LEVEL COURSE			3
Cybersecurity in Information Technology					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 01110	Information Technology Foundations	FOUNDATIONAL COURSE			3
CST 01111	Computer Hardware and Operations	FOUNDATIONAL COURSE			3
CST 03201	Security+	FOUNDATIONAL COURSE			3
CST 03410	Cyber Defense	UPPER LEVEL COURSE			3
Ethical Hacking					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 03215	Penetration Testing Fundamentals	FOUNDATIONAL COURSE			3
CST 03218	Ethical Hacking Fundamentals	FOUNDATIONAL COURSE			3
CST 03315	Advanced Penetration Testing	UPPER LEVEL COURSE			3
CST 03418	Advanced Topics in Ethical Hacking	UPPER LEVEL COURSE			3
Digital Forensics					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 03252	Foundations of Computer Forensics	FOUNDATIONAL COURSE			3
CST 03253	Applications for Digital Forensics	FOUNDATIONAL COURSE			3
CST 03352	Digital Incident Handling	UPPER LEVEL COURSE			3
CST 03452	Advanced Digital Forensics Investigation	UPPER LEVEL COURSE			3
Intrusion Detection / Prevention					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 03270	Introduction to Intrusion Detection	FOUNDATIONAL COURSE			3
CST 03370	IDS/IPS Administration	UPPER LEVEL COURSE			3
CST 03372	Knowledge Management in IDS/IPS	UPPER LEVEL COURSE			3
CST 03472	IDS/IPS for Cloud	UPPER LEVEL COURSE			3
Operating Systems Fundamentals					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 06220	Linux/Unix Essentials	FOUNDATIONAL COURSE			3
CST 06225	Linux/Unix Administration	FOUNDATIONAL COURSE			3
CST 06230	Microcomputer Operating Systems I: Workstation	FOUNDATIONAL COURSE			3
CST 06235	Microcomputer Operating Systems II: Server Systems	FOUNDATIONAL COURSE			3
Linux Systems Administration					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 09210	Introduction to Computer Networks And Data Communications	FOUNDATIONAL COURSE			3
CST 06220	Linux/Unix Essentials	FOUNDATIONAL COURSE			3
CST 06225	Linux/Unix Administration	FOUNDATIONAL COURSE			3
CST 06240	Linux System and Services	UPPER LEVEL COURSE			3

# B.A. in Computer Systems Technology

Azure Fundamentals					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 02110	Implementations of SQL I	FOUNDATIONAL COURSE			3
CST 06340	Introduction to Azure Cloud Services	UPPER LEVEL COURSE			3
CST 06343	Azure Management Tools and Security	UPPER LEVEL COURSE			3
CST 06440	Azure Services and Lifecycles	UPPER LEVEL COURSE			3
Network Fundamentals					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 01111	Computer Hardware and Operations	FOUNDATIONAL COURSE			3
CST 09210	Introduction to Computer Networks And Data Communications	FOUNDATIONAL COURSE			3
CST 09290	Intermediate Networking	FOUNDATIONAL COURSE			3
CST 09310	Network Support and Troubleshooting	UPPER LEVEL COURSE			3
Advanced Network Technology					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CST 09320	Network Architectures, Models, and Protocols	UPPER LEVEL COURSE			3
CST 09325	Network Communication and Configuration	UPPER LEVEL COURSE			3
CST 09430	Switching, Routing, and Wireless Essentials	UPPER LEVEL COURSE			3
CST 09435	Enterprise Networking, Security, and Automation	UPPER LEVEL COURSE			3
Management Information Systems					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
BUS 01105	Business Perspectives	FOUNDATIONAL COURSE			3
MIS 02234	Management Information Systems	FOUNDATIONAL COURSE			3
<i>And any two courses from:</i>					
CS 01211 or MIS 02315	Principles of Information Security	UPPER LEVEL COURSE			3
MIS 02301	Emerging Technologies I	UPPER LEVEL COURSE			3
MIS 02302	Emerging Technologies II	UPPER LEVEL COURSE			3
MIS 02322	Principles of System Design	UPPER LEVEL COURSE			3
Project Management					
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<i>Required Courses (12 credits)</i>					
MIS 02325	Project Management	FOUNDATIONAL COURSE			3
MIS 02328	Agile Project Management	UPPER LEVEL COURSE			3
MIS 02329	Project Management Associate Exam Prep	UPPER LEVEL COURSE			3
MGT 06300	Leadership & Supervision for Managers	UPPER LEVEL COURSE			3
					<b>Subtotal: 60 sh</b>

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