B.A. in Computer Systems Technology (0714)

Academic Program Guide for **New First-Year Students** (Effective 2023) Department of Computer Science (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.
 - o An individual course can potentially satisfy one Rowan Core literacy and/or multiple Rowan Experience attributes.
 - o 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

None

Rowan Core Requirements¹

			110 Wall		9411 61	110116	•				
0	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 0112 College Composition II (3 sh) CMS 04205 Public Speaking (3 sh) or CMS 04206 Digital Presentations (3 sh)										
00000	(GLBL) Global Literacy R (HUML) Humanistic Literacy R (QNTL) Quantitative Literacy R	Recomn Recomn Recomn	nendation from n nendation from n nendation from n nendation from n nendation from n	najor: najor: INTR 0 najor:	1265 - Co	mputers	and Society				
			Rowan Ex	perience	Requ	irem	ents				
\cap	Students must satisfy all (LIT) Broad-Based Literature Attr		•						elsewhere.		
ŏ	(WI) Writing Intensive Attribute	ibacc	Required for ma	•	WA 013	02 - Intro	ŭ	echnical Writ	ing OR		
0	(RS) Rowan Seminar Attribute ²	N.1.	Recommendatio								

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
					1 40 1

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 (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 ³
				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 ³
S				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

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 $^{^{\}rm 3}$ General range, depending on which CUGS students select for the major course of study.

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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 Infor	mation 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 H	acking							
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 Fo	rensics							
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	on / 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								
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				

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	Azure Fund	amentals			
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 Security, Compliance, and Identity	UPPER LEVEL COURSE			3
	Network Fun	damentals			
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	FOUNDATIONAL COURSE			3
	Data Communications				
CST 09290	Intermediate Networking	FOUNDATIONAL COURSE			3
CST 09310	Network Support and Troubleshooting	UPPER LEVEL COURSE			3
	Advanced Netwo	ork 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 Info	rmation 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
	And any two c	ourses from:			
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 Mai	nagement			
Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
	Required Course				
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 06310	Leadership & Supervision for Managers	UPPER LEVEL COURSE			3
				Subtota	al: 60 sh

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

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