Academic Rhode Map for BS Computer Science Major at Rhode Island College

- This Rhode Map is a suggested pathway to graduation in 8 semesters
  - There are other valid pathways available to graduation - part time, summer/early spring classes, etc.
- The left column contains the suggested courses for each semester, the right column contains notes for the course and about progress towards graduation
- Some courses might not be offered during the semester shown on the map
  - In these cases, courses listed in future semesters can be substituted if their prerequisites have been satisfied
  - Your advisor can help you determine which courses can be used during your appointment each semester
- This Rhode Map is designed primarily with incoming freshmen in mind and assumes a Fall start
  - Transfer students can also use it as a guide, knowing that their transfer credits may have satisfied some requirements. Academic advisors are available to answer questions about how these will affect the program
  - Students starting in the spring may need to adjust based on class offerings and availability

GENERAL EDUCATION REQUIREMENTS CHECKLIST

	FYW 100 – Taken in first year (Cannot be used as elective)		**Distribution Courses -** One from each category		**Math (M)** - Suggested in first year Satisfied by MATH 212
					Arts (A)
	FYS 100 – Taken in first year (Cannot be used as elective)				**History/Philosophy (HP)**
					Literature/Language (LL)
					Natural Science (NS)
	Connections – Taken after FYW & FYS				**Social & Behavioral Sciences (SB)**
					Elective(s) for 40 total Gen Ed credits (E)

MAJOR REQUIREMENTS CHECKLIST

	BUSI 100 Introduction to Business at RIC			ENGL 230W Workplace Writing **OR** ENGL 231W Multimodal Writing
	CSCI 209 Programming Implementations Using Discrete Structures			MATH 212 Calculus I
	CSCI 211 Computer Programming and Design			MATH 213 Calculus II
	CSCI 212W Data Structures			PHIL 206 Ethics **OR** PHIL 207 Technology and the Future of Humanity
	CSCI 313 Computer Organization and Architecture			
	CSCI 325 Organization of Programming Language			**TWO courses from:** MATH 240, MATH 300W, MATH 314, MATH 324, MATH 417 (Sp), MATH 418 (Sp), MATH 431, MATH 436, DATA 445
	CSCI 401W Software Engineering			
	CSCI 423 Analysis of Algorithms			
	CSCI 435 Operating Systems			
	Elective - THREE courses from: CIS 416 Web Design, CIS 421 Software Testing, CIS 455W Database Programming, CSCI 309 Object-Oriented Design, CSCI 415 Software Testing, CSCI 427 Introduction to Artificial Intelligence, CSCI 428 Machine Learning, CSCI 432 Network and Systems Security, CSCI 467 Computer Science Internship, CSCI 476 Advanced Topics in Computer Science			**Choose a two course sequence from:** BIOL 111 Introductory Biology I, BIOL 112 Introductory Biology II; CHEM 103 General Chemistry I, CHEM 104 General Chemistry II; PHYS 101 Physics for Science or Mathematics I, PHYS 102 Physics for Science or Mathematics II

Graduation Requirements:

- **Completion of General Education Requirements –** See table above
- **Completion of Major Requirements —** See table above
- **BUSI 100 or Equivalent (eg RIC 100) —** Taken in first year
- **College Math Milestone —** Satisfied by placement exam or completion of MATH 010
- **College Writing Competency —** Satisfied by FYW 100 with a minimum grade of C
- **Minimum 120 Credit Hours —** At least 30 credits at RIC (of which 15 from major, including 12 at 300 or 400 level)
- **Minimum GPA -** 2.0 overall

The total credit count for the major is 77-79 credits, and 40 credits for General Education. 16 Gen. Ed. credits for HP, M, NS and Elective can double count, so the program could be completed in 103-105 credits.

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SEMESTER 1	CR		SEMESTER 1 NOTES
FYW 100 First Year Writing **OR** FYS 100 First Year Seminar	**4**		FYW Directed Self Placement exam
BUSI 100 Introduction to Business at RIC	**2**		Exempt if taking/taken COLL 101, COLL 150, HONR 150, or RIC 100
CSCI 211 Computer Programming and Design	**4**		Prereq = Completed Math Milestone
MATH 209 Precalculus Math (if needed) **OR** MATH 212 Calculus I [either one satisfies Gen Ed Mathematics (M)]	**4**		MATH 209 prereq = MATH 120 or appropriate score on Mathematics Placement Exam MATH 212 prereq = is MATH 209 or appropriate score on Mathematics Placement Exam
General Education Course (Any still needed)	**3-4**		
Requirements and GPA			*Aim for 16 earned credits (While 12 is fulltime, 16 credits are preferred to stay on track to graduate in 4 years). Math Milestone completed. Minimum 2.0 GPA*
# CREDITS EARNED	**17** **-18**		*By October, make appointment with advisor to discuss your schedule for next semester*

SEMESTER 2	CR		SEMESTER 2 NOTES
FYW 100 First Year Writing **OR** FYS 100 First Year Seminar	**4**		
MATH 212 Calculus I (if not yet taken)	**4**		MATH 212 prereq = MATH 209 or appropriate score on Mathematics Placement Exam. Satisfies Gen Ed. Math (M)
CSCI 211 if not yet taken, or any needed Gen Ed.	**3-4**		
General Education Course (Any still needed)	**3-4**		
Requirements and GPA			*Aim for minimum of 32 earned credits; minimum of 2.0 GPA overall and in the major*
# CREDITS EARNED	**15** **-16**		*By March, make appointment with advisor to discuss your schedule for next semester*

SEMESTER 3	CR		SEMESTER 3 NOTES
MATH 213 Calculus II	**4**		Prereq = MATH 212
CSCI 209 Programming Implementations Using Discrete Structures	**4**		Prereq = CSCI 157; MATH 120 or appropriate score on Math Placement Exam
CSCI 212W Data Structures	**4**		Prereq = CSCI 211
ENGL 230W Workplace Writing **OR** ENGL 231W Multimodal Writing	**4**		Prereq for both = FYW 100 or completion of College Writing Requirement
Requirements and GPA			*Aim for minimum of 48 earned credits; minimum of 2.0 GPA overall and in the major*
# CREDITS EARNED	**16**		*By October, make appointment with advisor to discuss your schedule for next semester and possible minor*

SEMESTER 4	CR		SEMESTER 4 NOTES
CSCI 402 Cyber Security Principles	**4**		Prereq = CSCI 102 and CSCI 157 or CIS 301; or CSCI 211; and 45 credits
CSCI 325 Organization of Programming Language	**3**		Prereq = CSCI 212 or CSCI 212W, or CSCI 315
Choose ONE from BIOL 111 Introductory Biology I CHEM 103 General Chemistry I OR PHYS 101 Physics for Science or Mathematics I	**4**		BIOL 111 or CHEM 103 prereqs = Math Milestone PHYS 101 prereq = MATH 120 or appropriate score on Mathematics Placement Exam All satisfy Gen Ed Natural Science (NS)
Gen Ed or elective	**3-4**		
Requirements and GPA			*Aim for minimum of 64 earned credits; minimum of 2.0 GPA overall and in the major*
# CREDITS EARNED	**14** **-15**		*By March, make appointment with advisor to discuss your schedule for next semester*

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SEMESTER 5	CR		SEMESTER 5 NOTES
CSCI 313 Computer Organization and Architecture	4		Prereqs = CSCI 211 and prior or concurrent enrollment in CSCI 209 or CSCI 312
ONE course from: CIS 416 Web Design; CIS 421 Networks and Infrastructure; CIS 455W Database Programming; CSCI 309 Object-Oriented Design; CSCI 415 Software Testing; CSCI 427 Introduction to Artificial Intelligence; CSCI 428 Machine Learning; CSCI 432 Network and Systems Security; CSCI 467 Computer Science Internship; CSCI 476 Advanced Topics in Computer Science	3-4		Prereqs vary—see catalog. Need a minimum of THREE CSCI electives (not all are offered every semester, see catalog for which semester is likely).
ONE from: BIOL 112 Introductory Biology II CHEM 104 General Chemistry II OR PHYS 103 Physics for Science or Mathematics II	4		Prereq for each = the first in its sequence, so take the same subject
ONE from: MATH 240 MATH 300W MATH 314 MATH 324 MATH 417 (Sp) MATH 418 (Sp) MATH 431 MATH 436 DATA 445	3-4		Prereqs vary—see catalog. Not all are offered every semester, see catalog for which semester is likely. Need to complete TWO from this list
Requirements and GPA			*Aim for minimum of 80 earned credits; Minimum of 2.0 GPA overall and in major*
# CREDITS EARNED	14-16		*By October, make appointment with advisor to discuss your schedule for next semester*

SEMESTER 6	CR		SEMESTER 6 NOTES
Gen Ed - Connections	4		Prereqs = FYW and FYS
PHIL 206 Ethics **OR** PHIL 207 Technology and the Future of Humanity	3		PHIL 206 satisfies Gen. Ed. HP
Gen Ed or elective	3-4		
CSCI 423 Analysis of Algorithms	4		Prereqs = MATH 212, MATH 436 and either CSCI 212 or CSCI 212W or CSCI 315. This course could be taken in Semester 8, and an elective or other course could be taken here
Requirements and GPA			*Aim for minimum of 96 earned credits. If pursuing minor or second major make sure you have registered for this with the relevant department prior to audit. Minimum of 2.0 GPA overall and in major. Apply for degree audit online through MyRIC*
# CREDITS EARNED	15		*By March, make appointment with advisor to discuss your schedule for next semester*

SEMESTER 7	CR		SEMESTER 7 NOTES
ONE course from: CIS 416 Web Design; CIS 421 Networks and Infrastructure; CIS 455W Database Programming; CSCI 309 Object-Oriented Design; CSCI 415 Software Testing; CSCI 427 Introduction to Artificial Intelligence; CSCI 428 Machine Learning; CSCI 432 Network and Systems Security; CSCI 467 Computer Science Internship; CSCI 476 Advanced Topics in Computer Science	**3-4**		Prereqs vary—see catalog. Need a minimum of THREE CSCI electives (not all are offered every semester, see catalog for which semester is likely).
CSCI 435 Operating Systems	**4**		Prereqs = CSCI 313 and either CSCI 212 or CSCI 212W or CSCI 315
ONE from: MATH 240**,** MATH 300W, MATH 314, MATH 324**,** MATH 417 (Sp)**,** MATH 418 (Sp)**,** MATH 431**,** MATH 436**, or** DATA 445	**3-4**		Prereqs vary—see catalog. Not all are offered every semester, see catalog for which semester is likely. Need to complete TWO from this list
Gen Ed or elective	**3-4**		
Requirements and GPA			*Aim for minimum of 108 earned credits. Minimum of 2.0 GPA overall and in the major. All ten GE courses and second lang. req. completed*
# CREDITS EARNED	**13-16**		*By October, make appointment with advisor to discuss your schedule for next semester*

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SEMESTER 8		CR		***SEMESTER 8 NOTES***
CSCI 401W Software Engineering		**3**		Prereqs = CSCI 212 or CSCI 212W or CSCI 315, and at least three additional CSCI or CIS courses at the 300-level or above, or consent of department chair.
ONE From: CIS 416 Web Design CIS 421 Software Testing CIS 455W Database Programming CSCI 309 Object-Oriented Design CSCI 415 Software Testing	CSCI 427 Introduction to Artificial Intelligence CSCI 428 Machine Learning CSCI 432 Network and Systems Security CSCI 467 Computer Science Internship CSCI 476 Advanced Topics in Computer Science	**3-4**		Prereqs vary—see catalog. Need a minimum of THREE CSCI electives (not all are offered every semester, see catalog for which semester is likely).
ONE from: MATH 240 MATH 300W MATH 314 MATH 324	MATH 417 (Sp) MATH 418 (Sp) MATH 431 MATH 436 DATA 445	**3-4**		Prereqs vary—see catalog. Not all are offered every semester, see catalog for which semester is likely. Need to complete TWO from this list
Gen Ed or elective		**3-4**		
	Requirements and GPA			*Need minimum of 120 earned credits. Minimum of 2.0 GPA overall and in the major*
	# CREDITS EARNED	**12** **-15**		*Attend Gradfest and Commencement*

NOTES:

- **Students cannot count toward the major more than TWO courses with grades below C-**
- **The total number of credits needed for the major, general education, and other requirements may be less than the 120 required for graduation. Those remaining credits can be satisfied with electives, or they can be used toward a second major or minor which could be very useful.**
    - **Along with your advisor, this Rhode Map can help you determine if a second major or minor could fit into your plan**

Approved by Department Chair: Suzanne Mello-Stark Date: 12/2/2024

Approved by Undergraduate Curriculum Committee Date: 11/7/2024

Revised: