

**ACADEMIC RHODE MAP
BS COMPUTER SCIENCE MAJOR**



RHODE ISLAND COLLEGE

GENERAL EDUCATION: A complete listing of General Education courses can be found at the Office of Academic Support (OASIS) 401 456-8083 or online at <http://www.ric.edu/recordsoffice/Pages/College-Catalog.aspx>; look at catalog for year you enrolled. For Gen Ed courses, aside from Second Language requirement, which varies depending on where you are placed, you need ONE course from each category. Second Language 101/102 options are: American Sign, Arabic, French, German, Italian, Japanese, Korean, Latin, Portuguese, or Spanish. For other ways to satisfy the second language requirement look under the Gen Ed. section of the catalog. Any courses marked (F) offered Fall only; (Sp) Spring; (Su) Summer. All courses marked with an asterisk * have a prerequisite. For info. about Math Placement exam visit: <http://www.ric.edu/orientation/Pages/Math-Placement.aspx>

Academic Major Checklist	Course	Cognates	Course
CSCI 211 Computer Programming and Design*		ENGL 230 Writing for Professional Settings* or ENGL 231 Writing for Digital and Multimedia Environments*	
CSCI 212 Data Structures*			
CSCI 312 Computer Organization and Architecture I*		MATH 212 Calculus I*	
CSCI 313 Computer Organization and Architecture II*		MATH 213 Calculus II*	
CSCI 325 Organization of Programming Language (Sp)*		MATH 240 Statistical Methods I* or MATH 248 Business Statistics*	
CSCI 401 Software Engineering (Sp)*		MATH 436 Discrete Mathematics (Sp)*	
CSCI 423 Analysis of Algorithms (Sp)*		PHIL 206 Ethics	
CSCI 435 Operating Systems and Computer Architecture (F)*		ONE course from: MATH 300 (Sp)*; MATH 314 Calculus III*; MATH 324 College Geometry*; MATH 417 Intro. to Numerical Analysis (Sp)*; MATH 418 Intro. to Operational Research (Sp)*; MATH 431 Number Theory*; or MATH 445 Advanced Statistical Methods (Sp)*	
THREE courses from: CSCI 305 Functional Programming (F)*; CSCI 415 Software Testing (Sp)*; CSCI 416 Human-Computer Interaction Design*; CSCI 422 Introduction to Computation Theory*; CSCI 427 Introduction to Artificial Intelligence*; CSCI 437 Networks and Programming * CSCI 455 Introduction to Database Systems (F odd yrs)*; CSCI 467 Computer Science Internship*; CSCI 476 Advanced Topics in Computer Science (Sp)*		ONE from these two course sequences: BIOL 111 Introductory Biology I* and BIOL 112 Introductory Biology II*; CHEM 103 General Chemistry I* and CHEM 104 General Chemistry II*; or PHYS 101 Physics for Science or Mathematics I* and PHYS 102 Physics for Science or Mathematics II*	
		FOUR additional credit hours in BIOL, CHEM, PSCI, or PHYS at 200-level or above	

Please note: Students must consult with their assigned advisor before they will be able to register for courses

This map is a semester-by-semester plan to help you toward graduation in four years. Not everyone graduates in four years as it depends on how many courses you can take, and how you do in those courses. This map is not your only route; it is a suggestion. While there are many courses in your major that have prerequisites that will need you to take them in a special order, there is some flexibility in this map. All courses that have prerequisites are marked with an asterisk* in the checklists above and in the map.

The column to the left on the other side of this page suggests the ideal courses for you to take each semester. There are times when those courses may be full or unavailable the semester you plan to take them, in which case consider another course from a different semester with which you can switch. The column on the right has "Checkpoints" for each semester that show where you should be by the end of that semester. You should work from this map as you plan each semester's schedule with your advisor. You should plan to see your advisor in late September for the Spring Semester and in February for the Fall. The Map is designed primarily for freshmen coming to college for the first time, but transfer students may also use the Rhode Map with the understanding that they have most likely completed several requirements through transfer of credit, and will be starting further into the program. Maps assume a Fall start.

GRADUATION REQUIREMENTS: The following requirements must be completed by undergraduate degree candidates at Rhode Island College in order to graduate:

- General Education program, including a second language requirement and RIC 100 or equivalent
- College Math Competency (which is separate from the Gen Ed math requirement)
- College Writing Competency (satisfied by FYW with a minimum grade of C)
- Academic Major—see check chart below.
- A minimum of 120 credit hours, with a minimum of 45 credit hours taken at RIC. Of the 45 credit hours, a minimum of 15 credit hours must be in the major (12 of which must be at the 300- or 400-level).
- A minimum overall grade point average of 2.0
- A minimum grade point average of 2.0 in your major

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SEMESTER 1	CR	SEMESTER 1 CHECKPOINTS ✓
First Year Writing (FYW 100) or First Year Seminar (FYS 100).	4	<input type="checkbox"/> FYW 100P is a 6 credit option. To decide which FYW to take, see Directed Self-Placement test at www.ric.edu/firstyearwriting
RIC 100 Introduction to Rhode Island College	1	<input type="checkbox"/> Exempt if taking COLL 101, COLL 150, or HONR 150
CSCI 157 Introduction to Algorithmic Thinking, or Gen Ed.	4	<input type="checkbox"/> Recommended as the prerequisite for CSCI 211 <input type="checkbox"/> Prereq. college math competency completed
MATH 209 Precalculus Math* (if needed to be ready for calculus) or MATH 212 Calculus I* [either one satisfies Gen Ed Mathematics (M)]	4	<input type="checkbox"/> Prereq. for MATH 209 is MATH 120 or appropriate score on mathematics placement exam <input type="checkbox"/> Prereq for MATH 212 is MATH 209 or appropriate score on mathematics placement exam
Gen Ed--Second Lang 101 (based on placement, a course higher than 101/102 may be taken). If language requirement already satisfied: Any Gen Ed Distribution course.	4	<input type="checkbox"/> Language placement test with Dept. of Modern Languages (optional) <input type="checkbox"/> Complete Second Lang 101 (if needed)
Requirements and GPA		<input type="checkbox"/> Aim for at least 16 earned credits (While 12 is fulltime, 16 credits are preferred to stay on track to graduate in 4 years) <input type="checkbox"/> Math Competency completed <input type="checkbox"/> Minimum 2.0 GPA
# CREDITS EARNED	17	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Sept.

SEMESTER 2	CR	SEMESTER 2 CHECKPOINTS ✓
FYW 100 or FYS 100	4	<input type="checkbox"/> Complete FYS and FYW, for FYW, grade C or better
MATH 212 Calculus I* (if not yet taken), or Gen Ed.	4	<input type="checkbox"/> Prereq for MATH 212 is MATH 209 or appropriate score on mathematics placement exam
CSCI 211 Computer Programming and Design*	4	<input type="checkbox"/> Prereq. is CSCI 157 or consent
Gen Ed--Second Lang 102* (if needed), Gen Ed, elective, or course toward major	3-4	<input type="checkbox"/> Complete Second Language 102*, grade C or better (if needed)
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 32 earned credits <input type="checkbox"/> Minimum 2.0 GPA
# CREDITS EARNED	15-16	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Feb.

SEMESTER 3	CR	SEMESTER 3 CHECKPOINTS ✓
ENGL 230 Writing for Professional Settings* or ENGL 231 Writing for Digital and Multimedia Environments*	4	<input type="checkbox"/> Prereq, is FYW 100 or completion of College Writing Requirement
MATH 213 Calculus II*	4	<input type="checkbox"/> Prereq. is MATH 212 <input type="checkbox"/> MATH 213 satisfies Gen Ed Advanced Quantitative/Scientific Reasoning (AQSR)
CSCI 212 Data Structures*	4	<input type="checkbox"/> Prereq. is CSCI 211
Choose ONE from BIOL 111 Introductory Biology I* CHEM 103 General Chemistry I* or PHYS 101 Physics for Science or Mathematics I* [Any will satisfy Gen Ed Natural Science (NS)]	4	<input type="checkbox"/> Prereqs. for BIOL 111 or CHEM 103 are Math competency; for PHYS 101 MATH 120 or appropriate score on mathematics placement exam
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 48 earned credits, <input type="checkbox"/> Minimum of 2.0 GPA overall and in major
# CREDITS EARNED	16	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester and discuss possible minor or double major in Sept.

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SEMESTER 4	CR	SEMESTER 4 CHECKPOINTS ✓
CSCI 312 Computer Organization and Architecture I*	4	<input type="checkbox"/> Prereq. is CSCI 201 or 211
CSCI 325 Organization of Programming Language (Sp)*	3	<input type="checkbox"/> Prereq. is CSCI 212 or 315
MATH 436 Discrete Mathematics (Sp)*	4	<input type="checkbox"/> Prereq. is MATH 212
ONE to complete two course NS sequence: BIOL 112 Introductory Biology II*; CHEM 104 General Chemistry II*; or PHYS 102 Physics for Science or Mathematics II*	4	<input type="checkbox"/> Prereq. for each is the first in its sequence, so take the same subject.
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 64 earned credits <input type="checkbox"/> Minimum of 2.0 GPA overall and in major
# CREDITS EARNED	15	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Feb.

SEMESTER 5	CR	SEMESTER 5 CHECKPOINTS ✓
CSCI 313 Computer Organization and Architecture II*	3	<input type="checkbox"/> Prereqs are CSCI 312 and either CSCI 211 or 221
ONE from CSCI 422 Introduction to Computation Theory*; CSCI 427 Introduction to Artificial Intelligence*; or CSCI 437 Introduction to Data and Computer*	3	<input type="checkbox"/> Prereqs. vary—see catalog <input type="checkbox"/>
MATH 315 Linear Algebra (F)*	4	<input type="checkbox"/> Prereq. is MATH 300 with a minimum grade of C, or consent
PHIL 206 Ethics	4	
MATH 240 Statistical Methods I* or MATH 248 Business Statistics 1*	4	<input type="checkbox"/> Prereq. for MATH 240 is MATH 120 or consent; Prereq. for MATH 248 is MATH 177 or consent
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 80 earned credits <input type="checkbox"/> Minimum of 2.0 GPA overall and in major
# CREDITS EARNED	18	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Sept.

SEMESTER 6	CR	SEMESTER 6 CHECKPOINTS ✓
Choose 1 Connections course (Gen Ed-C)	4	<input type="checkbox"/> Prereqs are 45 completed credits and FYW and FYS.
Gen Ed Distribution course from one of these categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB).	4	
CSCI 423 Analysis of Algorithms (Sp)*	4	<input type="checkbox"/> Prereqs are MATH 212, MATH 436 and either CSCI 212 or CSCI 315 <input type="checkbox"/> This course could be taken in Semester 8, and an elective or other course could be taken here
CSCI 401 Software Engineering (Sp)*	3	<input type="checkbox"/> Prereqs are CSCI 212 or 315 or consent <input type="checkbox"/> This course, also, could be taken in Semester 8
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 96 earned credits <input type="checkbox"/> Minimum of 2.0 GPA overall and in major <input type="checkbox"/> Apply for degree audit online through MyRIC
# CREDITS EARNED	15	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Feb.

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SEMESTER 7	CR	SEMESTER 7 CHECKPOINTS ✓
ONE from CSCI 305 Functional Programming (F)*; CSCI416 Human-Computer Interaction Design*; CSCI 422 Introduction to Computation Theory *; CSCI 427 Introduction to Artificial Intelligence*; CSCI 437 Introduction to Data and Computer* CSCI 455 Introduction to Database Systems (F odd yrs)*; or CSCI 467 Computer Science Internship*	3-4	<input type="checkbox"/> Prereqs. vary—see catalog
CSCI 435 Operating Systems and Computer Architecture (F)*	3	<input type="checkbox"/> Prereqs are CSCI 313 and either CSCI 212 or 315
ONE from the upper level MATH options	3-4	<input type="checkbox"/> Prereqs. vary—see catalog
Gen Ed Distribution course from one of these categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB if needed, or elective	3-4	
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 108 earned credits <input type="checkbox"/> Minimum of 2.0 GPA <input type="checkbox"/> Minimum GPA of 2.0 in major <input type="checkbox"/> All ten GE courses and second lang. req. completed
# CREDITS EARNED	12-15	<input type="checkbox"/> Make appointment with advisor to discuss your schedule for next semester in Sept.

SEMESTER 8	CR	SEMESTER 8 CHECKPOINTS ✓
ONE from CSCI 415 Software Testing (Sp)*; CSCI 422 Introduction to Computation Theory *; CSCI 427 Introduction to Artificial Intelligence*; CSCI 437 Introduction to Data and Computer*; CSCI 467 Computer Science Internship*; or CSCI 476 Advanced Topics in Computer Science (Sp)*	3-4	<input type="checkbox"/> Prereqs. vary—see catalog <input type="checkbox"/> Completed THREE courses from : CSCI 305 , 415, 422, 427, 437, 455, 467 or 476.
FOUR additional credits in BIOL, CHEM, PSCI, or PHYS at the 200 level or above	4	<input type="checkbox"/> Prereqs. vary—see catalog <input type="checkbox"/> Gen Ed Connections courses may not be used to fulfill this requirement
Gen Ed Distribution course from one of these categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB if needed, or elective	3-4	<input type="checkbox"/> Completed CSCI 423 and CSCI 401
Gen Ed Distribution course from one of these categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB if needed, or elective	3-4	
Requirements and GPA		<input type="checkbox"/> Need minimum of 120 earned credits <input type="checkbox"/> Minimum of 2.0 GPA <input type="checkbox"/> Minimum GPA of 2.0 in major
# CREDITS EARNED	13-16	Attend Gradfest and Commencement

For more information, check the COMPUTER SCIENCE Department website:

<http://www.ric.edu/mathComputerScience/Pages/default.aspx>

Also note: Students cannot count toward the major more than TWO courses with grades below C-

NOTE: The minimum total credit count for the BS Computer Science major is 74 credits (depending on choices), and there are 40 credits of Gen Ed. with possibly 9 more depending on secondary language needs and RIC 100. However, 12 Gen Ed. credits for AQSR, M, NS could double-count, making the total 102 credits, leaving room for 18 credits that may need to include two secondary language courses and RIC 100, but could go toward a minor or electives.