ACADEMIC RHODE MAP
BS DATA 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. Courses with (WID) are Writing in the Discipline courses and will be writing intensive.

Academic Major Checklist	Course	Academic Major Checklist	Course
MATH 212 Calculus I*		MATH 445 Advanced Statistical Methods (Sp)*	
MATH 213 Calculus II*		MATH 460 Seminar in Data Science (Sp)* (WID)	
MATH 240 Statistical Methods I		CSCI 157 Introduction to Algorithmic Thinking in Python	
MATH 245 Principles of Data Science* (WID)		CSCI 428 Machine Learning (Sp)*	
MATH 314 Calculus III*		CSCI 455 Introduction to Database Systems* -OR- CIS 455 Database Programming (F)*	
MATH 345 Linear Models for Data Science*		CIS 470 Introduction to Data Science (F)*	
MATH 436 Discrete Mathematics*		CSCI 472 Data Visualization (Sp)*	
MATH 441 Introduction to Probability (F)*			
Cognates			
ENGL 230 Workplace Writing*		PHIL 207 Technology and the Future of Humanity	

Please note: Students must consult with their assigned advisor before they will be able to register for courses, and all MATH courses require students to have completed their College Math Competency, or have an acceptable score on the Mathematics placement exam.

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

Approved by Department of Mathematical Studies 6/1/2020
Approved by Undergraduate Curriculum Committee: Date   6/5/2020   Revised:

SEMESTER 1	CR		SEMESTER 1 CHECKPOINTS ✓
First Year Writing (FYW 100) or First Year Seminar (FYS 100).	4		☐ 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		☐ Exempt if taking COLL 101, COLL 150, or HONR 150
MATH 240 Statistical Methods I	4		☐ Prereq for Math 240 is completed College Mathematics Competency Requirement or appropriate score on the mathematics placement exam. ☐ Math 240 satisfies Gen Ed Math (M)
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		☐ Language placement test with Dept. of Modern Languages (optional) Complete Second Lang 101 (if needed)
CSCI 157 Introduction to Algorithmic Thinking in Python	4		☐ Prereq for CSCI 157 is completed College Mathematics Competency Requirement or appropriate score on the mathematics placement exam.
Requirements and GPA			☐ Aim for at least 16 earned credits (While 12 is fulltime, 16 credits are preferred to stay on track to graduate in 4 years) ☐ Mathematics Competency Requirement completed ☐ Minimum 2.0 GPA
# CREDITS EARNED	17		☐ 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		☐ Complete FYS and FYW, for FYW, grade C or better
Math 212 Calculus I*	4		☐ Prereq for MATH 212 is MATH 209 or appropriate score on the mathematics placement exam. May need to take MATH 209 here. Then push Math 213 Calculus II and Math 314 Calculus III back one semester.
MATH 245 Principles of Data Science*	4		☐ Prereq is Math 240 ☐ Math 245 satisfies Gen Ed Advanced Quantitative/ Scientific Reasoning (AQSR)
Gen Ed--Second Lang 102* (if needed), or other Gen Ed.	4		☐ Complete Second Language 102* (if needed).
Requirements and GPA			☐ Aim for minimum of 32 earned credits ☐ Minimum 2.0 GPA
# CREDITS EARNED	16		☐ Make appointment with advisor to discuss your schedule for next semester in Feb.

SEMESTER 3	CR		SEMESTER 3 CHECKPOINTS ✓
MATH 213 Calculus II*	4		☐ Prereq. is MATH 212
Gen Ed Distribution course from one of these GE categories: Arts (A); Social and Behavioral Sciences (SB); History (H); Literature (L), or Natural Sciences (NS).	4		☐ Need ONE from each category
CIS 470 Introduction to Data Science*	4		☐ Prereq. is CIS 252 or CSCI 352 or CIS 301; or CSCI 157 and Math 240 or Math 248.
ENGL 230 Writing for Professional Settings	4		☐ Prereq. is 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 major.
# CREDITS EARNED	16		☐ Make appointment with advisor to discuss your schedule for next semester and discuss possible minor or double major in Sept.

SEMESTER 4	CR		SEMESTER 4 CHECKPOINTS ✓
MATH 345 Linear Models for Data Science*	4		☐ Prereq. for Math 345 is Math 315 or both Math 245 and Math 212.
MATH 314 Calculus III*	4		☐ Prereq. for Math 314 is Math 213
Gen Ed Distribution course from **one** of these GE categories: Arts (A); Social and Behavioral Sciences (SB); History (H); Literature (L), or Natural Sciences (NS).	4		
Gen Ed Distribution course from **one** of these GE categories: Arts (A); Social and Behavioral Sciences (SB); History (H); Literature (L), or Natural Sciences (NS).	4		
Requirements and GPA			☐ Aim for minimum of 64 earned credits ☐ Minimum of 2.0 GPA overall and in major
# CREDITS EARNED	16		☐ Make appointment with advisor to discuss your schedule for next semester in Feb.

SEMESTER 5	CR		SEMESTER 5 CHECKPOINTS ✓
PHIL 207 Technology and the Future of Humanity	3		
Choose 1 Connections course (Gen Ed – C)	4		☐ Prereqs. Are 45 completed credits and FYW and FYS.
CIS 455 Database Programming* or CSCI 455 Introduction to Database Systems (F)*	3-4		☐ Prereq for CIS 455 is CIS 252 or CIS 352 and completion of 60 college credits. ☐ Prereq. for CSCI 455 is CSCI 212 or CSCI 315.
Math 436 Discrete Mathematics *	3		☐ Prereq is Math 212
Requirements and GPA			☐ Aim for minimum of 80 earned credits ☐ Minimum of 2.0 GPA overall and in major
# CREDITS EARNED	13-14		☐ Make appointment with advisor to discuss your schedule for next semester in Sept.

SEMESTER 6	CR		SEMESTER 6 CHECKPOINTS ✓
MATH 445 Advanced Statistical Methods (Sp)*	4		☐ Prereq is Math 240 and either Math 345; Math 315; or prior or concurrent enrollment in CSCI 423.
CIS 472 Data Visualization (Sp)*	4		☐ Prereq for CIS 455 is CIS 252 or CIS 352 or CIS 301; or CSCI 157 and either Math 240 or Math 248.
Gen Ed Distribution course from **one** of these GE categories: Arts (A); Social and Behavioral Sciences (SB); History (H); Literature (L), or Natural Sciences (NS), or elective, or course toward minor	4		
Other Gen Ed. if needed, or elective, or course toward minor	3-4		☐
			☐ If pursuing minor make sure you have registered for this with the relevant department prior to audit
Requirements and GPA			☐ Aim for minimum of 96 earned credits ☐ Minimum of 2.0 GPA overall and in major ☐ Apply for degree audit online through MyRIC
# CREDITS EARNED	15-16		☐ Make appointment with advisor to discuss your schedule for next semester in Feb.

SEMESTER 7	CR		SEMESTER 7 CHECKPOINTS ✓
MATH 441 Introduction to Probability (F)*	4		☐ Prereq. is MATH 314
Elective, or course toward minor/major	3-4		☐
Elective, or course toward minor/major	3-4		☐
Elective, or course toward minor/major	3-4		
Requirements and GPA			☐ Aim for minimum of 108 earned credits ☐ Minimum of 2.0 GPA ☐ Minimum GPA of 2.0 in major ☐ All ten GE courses and second lang. req. completed.
# CREDITS EARNED	13-16		☐ Make appointment with advisor to discuss your schedule for next semester in Sept.
			☐

SEMESTER 8	CR		SEMESTER 8 CHECKPOINTS ✓
CSCI 428 Machine Learning (Sp)*	4		☐ Prereqs are CSCI 212; or CIS 470 and CSCI 157
MATH 460 Seminar in Data Science (Sp)* (WID)	3		☐ Prereq. MATH 445
Elective, or course toward minor/major	3-4		
Elective, or course toward minor/major	3-4		
Requirements and GPA			☐ Need minimum of 120 earned credits ☐ Minimum of 2.0 GPA ☐ Minimum GPA of 2.0 in major
# CREDITS EARNED	13-15		Attend Gradfest and Commencement

For more information, check the Department of Mathematical Sciences website

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

NOTE: The minimum total credit count for this major is 65 credits (depending on choices), although 8 of those may be offset against Gen Ed. courses (AQSR and M), which leaves 32 more credits of Gen Ed. and possibly 9 more depending on secondary language needs and RIC 100. The minimum credit count will be 97 credits (without secondary language/RIC 100), which would leave 23 credits, that could be used toward a minor, or as electives.