

# Academic Rhode Map for BS Chemistry Major at Rhode Island College

## Concentration in Environmental Chemistry

GENERAL EDUCATION: A complete listing of General Education courses can be found at the Office of Academic Support (OASIS) 401 456-8083 or in the online catalog; 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. For information about Math Placement exam visit the orientation webpage. Any courses marked (F) offered Fall only; (Sp) Spring only. Courses marked with an asterisk\* have prerequisites. Courses with a "W" in the prefix are Writing in the Discipline (WID) courses and will be writing intensive.

Academic Major Checklist	Course	Academic Major Checklist	Course
CHEM 103 General Chemistry I*		CHEM 418 Marine Environmental Chemistry (F even)*	
CHEM 104 General Chemistry II*		CHEM 491-493 Research in Chemistry* (1 credit req.)	
CHEM 205W Organic Chemistry I (F, SuI)* (WID)		Choose ONE of these options: CHEM 406 and 408 Physical Chem. II (Sp)*; CHEM 412 and 413 Inorganic Chem. II (Sp)*; or CHEM 425 Advanced Organic Chem.(F)*	
CHEM 206W Organic Chemistry II (Sp, SuII)* (WID)		BIOL 111 Introductory Biology I*	
CHEM 310 Biochemistry (F)*		MATH 212 Calculus I*	
CHEM 403 Inorganic Chemistry I (F)*		MATH 213 Calculus II*	
CHEM 405 Physical Chemistry I (F)* and CHEM 407W Physical Chemistry Laboratory I (F)* (WID)		PHYS 101 Physics for Science and Mathematics I*	
CHEM 414 Instrumental Methods of Analysis (Sp odd)*		PHYS 102 Physics for Science and Mathematics II*	
CHEM 416W Environmental Analytical Chemistry (Sp odd)* (WID)		PSCI 212 Introduction to Geology (F, Su)*	

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 you will need to take in a special order, there is some flexibility in this 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. Writing in the Discipline requirement is satisfied through major courses
- 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 Chair: Sarah Knowlton Date 6/6/2022

Approved by Undergraduate Curriculum Committee: Date 6/6/2022

Revised:

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<b>SEMESTER 1</b>	<b>CR</b>	<b>SEMESTER 1 CHECKPOINTS</b>
First Year Writing (FYW 100) or First Year Seminar (FYS 100)	<b>4</b>	FYW 100P is a 6-credit option. There is a Directed Self-Placement questionnaire you can take to aid in this decision; check the RIC First Year Writing website
RIC 100 Introduction to Rhode Island College	<b>1</b>	Exempt if taking COLL 101, COLL 150, or HONR 150
CHEM 103 General Chemistry I (F, Su)* satisfies Gen Ed Natural Science (NS) Lecture and Lab.	<b>4</b>	Math competency or placement on Math exam <b>MUST</b> be completed in order to take ALL science courses. If not, will need to take MATH 010 this semester
Gen Ed Distribution course from <b>one</b> of these GE categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB)	<b>4</b>	You may need to take MATH 209 here—see “NOTE” at end of the map
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	<b>4</b>	Language placement test with Dept. of Modern Languages (optional). Complete Second Lang 101 (if needed)
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). Minimum 2.0 GPA
# CREDITS EARNED	<b>17</b>	Make appointment with advisor to discuss your schedule for next semester in Sept.

<b>SEMESTER 2</b>	<b>CR</b>	<b>SEMESTER 2 CHECKPOINTS</b>
FYW 100 or FYS 100	<b>4</b>	Complete FYS and FYW, for FYW, grade C or better
MATH 212 Calculus I*	<b>4</b>	Prereq MATH 209 or appropriate score on mathematics placement exam; satisfies Gen Ed Math (M)
CHEM 104 General Chemistry II (Sp, Su)* Lecture and Lab (Gen Ed ASQR) OR CHEM 104H Honors.	<b>4</b>	Prereq CHEM 103 with C- or better Gen Ed- Advanced Quantitative/ Scientific Reasoning completed
Gen Ed--Second Lang 102* (if needed), or Gen Ed	<b>4</b>	Complete Second Language 102* (if needed)
Requirements and GPA		Aim for minimum of 32 earned credits, with minimum of 2.0 GPA overall and in the major
# CREDITS EARNED	<b>16</b>	Make appointment with advisor to discuss your schedule for next semester in Feb.

<b>SEMESTER 3</b>	<b>CR</b>	<b>SEMESTER 3 CHECKPOINTS</b>
CHEM 205W Organic Chemistry I*(F,Su) (WID)	<b>4</b>	Prereq CHEM 104 with C- or better
MATH 213 Calculus II*	<b>4</b>	Prereq MATH 212
PHYS 101 Physics for Science and Mathematics I* (Lecture and Lab)	<b>4</b>	Prereq. MATH 120 or appropriate score on mathematics placement exam
Gen Ed Distribution course from <b>one</b> of these GE categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB)	<b>4</b>	
Requirements and GPA		Aim for minimum of 48 earned credits, with minimum of 2.0 GPA overall and in the major
# CREDITS EARNED	<b>16</b>	Make appointment with advisor to discuss your schedule for next semester and discuss possible minor in Sept. Also discuss opportunities for research and Independent study

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<b>SEMESTER 4</b>	<b>CR</b>	<b>SEMESTER 4 CHECKPOINTS</b>
PHYS 102 Physics for Science and Mathematics II* (Lecture and Lab)	4	Prereq. is PHYS 101
CHEM 206W Organic Chemistry II* (Sp, Sull) Lecture and Lab (WID)	4	Prereq. is CHEM 205 or CHEM 205W
CHEM 416W Environmental Analytical Chemistry (Sp)* (WID)	4	Prereq. is CHEM 104
BIOL 111 Introductory Biology*	4	Prereq. is completed math competency
Requirements and GPA		Aim for minimum of 64 earned credits, with minimum of 2.0 GPA overall and in the major
# CREDITS EARNED	16	Make appointment with advisor to discuss your schedule for next semester in Feb. Discuss opportunities for research and Independent study with your advisor if you have not already done so. You will need a minimum of 1 credit from CHEM 491-493 Research in Chemistry* but we recommend three.

<b>SEMESTER 5</b>	<b>CR</b>	<b>SEMESTER 5 CHECKPOINTS</b>
CHEM 310 Biochemistry (F)*	4	Prereq CHEM 206 or CHEM 206W
CHEM 403 Inorganic Chemistry I (F)*	3	Prereq. CHEM 206 or CHEM 206W
CHEM 418 Marine Environmental Chemistry (F)* or elective	3-4	Prereq for CHEM 418 is CHEM 206 or CHEM 206W. CHEM 418 might also be taken in semester 7
PSCI 212 Introduction to Geology (F, Su)*, or elective	3-4	Prereq. for PSCI 212 is completed mathematics competency or appropriate level on the math placement test
Requirements and GPA		Aim for minimum of 80 earned credits, with minimum of 2.0 GPA overall and in the major
# CREDITS EARNED	13-15	Make appointment with advisor to discuss your schedule for next semester in Sept.

<b>SEMESTER 6</b>	<b>CR</b>	<b>SEMESTER 6 CHECKPOINTS</b>
Choose 1 Connections course (Gen Ed-C)	4	Prereqs are 45 completed credits and FYW and FYS.
Choose ONE of these options: CHEM 406 and 408 Physical Chem. II (Sp)*; CHEM 412 and 413 Inorganic Chem. II (Sp)*; or CHEM 425 Advanced Organic Chem.(F)*, or other needed course.	3-4	See advisor for prereqs. Recommend CHEM 412 and 413 sequence.
CHEM 491-493 Research in Chemistry*	1	Prereq. consent of department chair. You need ONE credit from any of these (491, 492 or 493) but we recommend you do at least three (any combination)
Gen Ed Distribution course from <b>one</b> of these GE categories: Arts (A); Literature (L); History (H), or Social and Behavioral Sciences (SB)	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, with minimum of 2.0 GPA overall and in the major. Apply for degree audit online through MyRIC
# CREDITS EARNED	12-13	Make appointment with advisor to discuss your schedule for next semester in Feb.

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<b>SEMESTER 7</b>	<b>CR</b>	<b>SEMESTER 7 CHECKPOINTS</b>
CHEM 405 Physical Chemistry I (F)*	3	Prereqs. are CHEM 104, MATH 213 and PHYS 102
CHEM 407W Physical Chemistry Laboratory I (F)* (WID)	1	Concurrent with CHEM 405
Choose ONE of these options: CHEM 406 and 408 Physical Chem. II (Sp)*; CHEM 412 and 413 Inorganic Chem. II (Sp)*; or CHEM 425 Advanced Organic Chem.(F)*, or other needed course	3-4	See advisor for prereqs. Have CHEM 418 completed, and ONE option completed from the 400-level set.
CHEM 491-493 Research in Chemistry*	1	Prereq. consent of department chair (optional)
Gen Ed., 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 108 earned credits, with minimum of 2.0 GPA overall and in the major. All ten GE courses and second lang. req. completed
# CREDITS EARNED	12-13	Make appointment with advisor to discuss your schedule for next semester in Sept.

<b>SEMESTER 8</b>	<b>CR</b>	<b>SEMESTER 8 CHECKPOINTS</b>
CHEM 414 Instrumental Methods of Analysis*	4	Prereq. CHEM 416W
Choose ONE of these options: CHEM 406 and 408 Physical Chem. II (Sp)*; CHEM 412 and 413 Inorganic Chem. II (Sp)*; or CHEM 425 Advanced Organic Chem.(F)*, or other needed course or elective	3-4	See advisor for prereqs. ONE option completed from the 400-level set. PSCI 212 completed
Gen Ed., elective, or course toward minor	3-4	
CHEM 491-493 Research in Chemistry*	1	Prereq. consent of department chair (optional)
Elective, or course toward minor	3-4	
Requirements and GPA		All ten GE courses and second lang. req. completed. Need minimum of 120 earned credits, with minimum of 2.0 GPA overall and in the major
# CREDITS EARNED	14-17	Attend Gradfest and Commencement

**For more information, check the Physical Sciences Department website:**

<https://www.ric.edu/department-directory/department-physical-sciences>

Note: MATH 209 Pre-Calculus Mathematics is a prerequisite for MATH 212, Mathematics Department can test to see if this can be waived or if you need to take this, in which case you should take it in your first semester in place of a Gen Ed. option

**Note:** Prior to enrolling in any Chemistry course students must have completed the college mathematics competency.

The minimum total credit count for the major is 69 credits depending on choices, and 40 credits for General Education. However, 12 Gen Ed. credits for M, NS and AQSR will double-count, making the total 97 credits leaving room for 23 credits that may need to include two secondary language courses and RIC 100, but could go toward a minor or electives.