

Academic Rhode Map for BS Chemistry Major at Rhode Island College

Concentration in Biochemistry

- 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
FYS 100 – Taken in first year (Cannot be used as elective)		Arts (A)
		History/Philosophy (HP)
		Literature/Language (LL)
		Natural Science (NS) - Satisfied by CHEM 103
Connections – Taken after FYW & FYS		Social & Behavioral Sciences (SB)
		Elective(s) to bring total Gen Ed credits to 40 (E)

MAJOR REQUIREMENTS CHECKLIST

CHEM 103 General Chemistry I or CHEM 103H (F)		CHEM 422 Biochemistry Laboratory (Sp)
CHEM 104 General Chemistry II or CHEM 104H (Sp)		CHEM 491-493 Research in Chemistry
CHEM 205W Organic Chemistry I (F, Sum)		Cognates:
CHEM 206W Organic Chemistry II (Sp, Sum)		BIOL 111 Introductory Biology I
CHEM 310 Biochemistry (F) (even yrs)		BIOL 112 Introductory Biology II
CHEM 403 Inorganic Chemistry I (F)		MATH 212 Calculus I
CHEM 404W Analytic Chemistry I (Sp) (even years) OR CHEM 416 Environmental Analytical Chemistry (Sp) (odd years)		MATH 213 Calculus II
CHEM 405 Physical Chemistry I (F) AND CHEM 407W Physical Chemistry Laboratory I (F)		PHYS 101 Physics for Science and Mathematics I
CHEM 419 Biochemistry Mechanisms (Sp)		PHYS 102 Physics for Science and Mathematics II
Choose One: CHEM 406 and CHEM 408 Physical Chemistry II Lec and Lab(Sp) CHEM 418 Marine Environmental Chemistry (F)	CHEM 412 and CHEM 413 Inorganic Chemistry II Lec and Lab (Sp) CHEM 425 Advanced Organic Chemistry (F) CHEM 414 Instrumental Methods of Analysis (Sp)	

Graduation Requirements:

- **Completion of General Education Requirements** – See table above
- **Completion of Major Requirements** — See table above
- **RIC 100 or Equivalent** — 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 2.0 GPA** - Need at least 2.0 for both overall and classes in major

The total credit count for the major is 67-68 credits, and 40 credits for General Education. However, 12 Gen. Ed. credits for M, NS and Elective can double count, so the program can be completed in 95-96 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
RIC 100 Introduction to Rhode Island College	1	Exempt if taking COLL 101, COLL 150, or HONR 150
CHEM 103 General Chemistry I Lecture and Lab (F, Sum) (or CHEM 103H Honors)	4	Math Milestone is a prerequisite for all science courses. If not completed, take MATH 010 this semester Satisfies Gen Ed Natural Science (NS)
MATH 212 Calculus I or prereq (if needed)	4	Dependent on Math Placement result. If prereq needed, MATH 212 can be taken later. Satisfies Gen Ed (M)
General Education course (any still needed)	3-4	
Requirements and GPA		<i>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</i>
# CREDITS EARNED	16 -17	<i>By October, make appointment with advisor to discuss your schedule for next semester.</i>

SEMESTER 2	CR	SEMESTER 2 NOTES
FYW 100 First Year Writing OR FYS 100 First Year Seminar	4	FYW Directed Self Placement exam
MATH 213 Calculus II	4	Prereq = MATH 212
CHEM 104 General Chemistry II Lecture and Lab (Sp, Sum) (or CHEM 104H Honors)	4	Prereq = CHEM 103 (C- or better) Satisfies Gen Ed (NS)
General Education course (any still needed)	3-4	
Requirements and GPA		<i>Aim for minimum of 32 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	15 -16	<i>By March, make appointment with advisor to discuss your schedule for next semester</i>

SEMESTER 3	CR	SEMESTER 3 NOTES
CHEM 205W Organic Chemistry I (F, Sum)	4	Prereq = CHEM 104 (C- or better)
BIOL 111 Introductory Biology	4	Prereq = Math Milestone completed
General Education course (any still needed)	3-4	
General Education course (any still needed)	3-4	
Requirements and GPA		<i>Aim for minimum of 48 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	14 -16	<i>By October, make appointment with advisor to discuss your schedule for next semester.</i>

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SEMESTER 4	CR	SEMESTER 4 NOTES
CHEM 206W Organic Chemistry II Lecture and Lab (Sp, Sum)	4	Prereq = CHEM 205W
BIOL 112 Introductory Biology II	4	Prereq = BIOL 111 (C- or better)
General Education course (any still needed)	3-4	
Gen Ed or elective	3-4	
Requirements and GPA		<i>Aim for minimum of 64 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	14 -16	<i>By March, make appointment with advisor to discuss your schedule for next semester. Discuss opportunities for research and Independent study with your advisor if you have not already done so.</i>

SEMESTER 5	CR	SEMESTER 5 NOTES
CHEM 310 Biochemistry (F)	4	Prereq = CHEM 206W
CHEM 403 Inorganic Chemistry I (F) OR Other elective	3-4	Prereq = CHEM 206W. May also take in Semester 7
CHEM 491-493 Research in Chemistry	1	Prereq = Consent of Dept. chair
PHYS 101 Physics for Science and Mathematics I	4	Prereq = MATH 120 or appropriate score on Mathematics Placement Exam
Gen Ed or elective	3-4	
Requirements and GPA		<i>Aim for minimum of 80 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	15 -17	<i>By October, make appointment with advisor to discuss your schedule for next semester.</i>

SEMESTER 6	CR	SEMESTER 6 NOTES
Connections (Gen Ed-C)	4	Prereqs = FYW and FYS
CHEM 404W Analytical Chemistry I (Sp) OR CHEM 416W Environmental Analytical Chemistry (Sp)	3-4	Prereq 404W & 416W = CHEM 104 Can also be taken semester 8 Only need CHEM 404W OR CHEM 416W
CHEM 422 Biochemistry Laboratory (Sp)	3	Prereq = CHEM 310 or BIOL 320 or consent of chair May also take CHEM 422 in semester 8
CHEM 491-493 Research in Chemistry (Recommended)	1	Prereq = Consent of Dept. chair
PHYS 102 Physics for Science and Mathematics II	4	Prereq = PHYS 101
Requirements and GPA		<i>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</i>
# CREDITS EARNED	15 -16	<i>By March, make appointment with advisor to discuss your schedule for next semester.</i>

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SEMESTER 7	CR	SEMESTER 7 NOTES
CHEM 403 Inorganic Chemistry I (F) OR 400 level elective	3	Prereq = CHEM 206W May also take CHEM 403 in Semester 5
CHEM 405 Physical Chemistry I (F)	3	Prereqs = CHEM 104, MATH 213, and PHYS 102
CHEM 407W Physical Chemistry Laboratory I (F)	1	Taken concurrently with CHEM 405
CHEM 491-493 Research in Chemistry (Recommended)	1	Prereq = Consent of Department chair
Elective	3-4	
Elective	3-4	
Requirements and GPA		<i>Aim for minimum of 108 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	14-16	<i>By October, make appointment with advisor to discuss your schedule for next semester.</i>

SEMESTER 8	CR	SEMESTER 8 NOTES
CHEM 419 Biochemistry Mechanisms (Sp)	3	Prereq = CHEM 310
CHEM 400 level elective OR Other elective	3-4	Prereqs vary, check catalog
CHEM 491-493 Research in Chemistry (Recommended)	1	Prereq = Consent of department chair
Elective	3-4	
Elective	3-4	
Requirements and GPA		<i>Need minimum of 120 earned credits, with minimum of 2.0 GPA overall and in the major</i>
# CREDITS EARNED	13-16	<i>Attend Gradfest and Commencement</i>

Notes:

- 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
- MATH 314 Calculus III is a prerequisite for CHEM 406.
- Prior to enrolling in any Chemistry course students must have completed the college Mathematics Milestone.
- 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: Andrea Del Vecchio

Date: 12/2/2024

Approved by Undergraduate Curriculum Committee

Date: 11/8/2024

Revised: