

# ACADEMIC RHODE MAP

## BA PHYSICS SECONDARY EDUCATION MAJOR



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 only. All courses marked with an asterisk \* have a prerequisite. For information 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	MORE MAJOR AND EDUCATION COURSES	COURSE
BIOL 111 Introductory Biology*		PHYS 313 Junior Laboratory*	
CHEM 103 General Chemistry I*		PHYS 413 Senior Laboratory*	
CHEM 104 General Chemistry II*		PHYS 491 Research in Physics*	
PSCI 212 Introduction to Geology (F, Su)		ONE from PHYS 309 Nanoscience and Nanotechnology (Sp even)*, PHYS 315 Optics (F odd)*, PHYS 320 Analog Electronics (F even), or PHYS 321 Digital Electronics (Sp odd)*	
PSCI 357 Historical & Contemporary Contexts of Science*			
MATH 212 Calculus I*		CEP 315 Educational Psychology*	
MATH 213 Calculus II*		FNED 246 Schooling for Social Justice*	
MATH 314 Calculus III*		SED 406 Instructional Methods, Design, and Tech. (F)*	
PHYS 101 Physics for Science and Mathematics I*		SED 407 Instructional Methods, Design, and Literacy (Sp)*	
PHYS 102 Physics for Science and Mathematics II*		SED 411 Content and Pedagogy in Secondary Ed. (F)*	
PHYS 307 Quantum Mechanics I*		SED 412 Field Practicum (F)*	
PHYS 311 Thermodynamics*		SED 421 and SED 422 Student Teaching*	
PHYS 312 Mathematical Methods in Physics*		SPED 433 Special Education: Best Practices and Applications*	

**NOTE: Will also need BIOL 112 Introductory Biology II\* for General Science certification**

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. You might take additional courses over the summer (or early spring/winter) to catch up or get ahead if the courses you need are offered at these times. While many courses in your major will have prerequisites that will need you to take them in a special order, there is some flexibility in this map, but always double check you have the correct prerequisites for a course you plan to take.

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, before checking in with your advisor. 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 its 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). **NOTE: Education students need a minimum of B**
- Academic Major--includes Education courses and Physics courses—see check chart above.
- 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 cumulative grade point average of 2.75 each semester, with minimum of B- in Education courses
- A minimum grade point average of 2.50 in your Physics major.

**ACADEMIC RHODE MAP**  
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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).	4	<input type="checkbox"/> FYW 100P is a 6 credit option. To decide which FYW to take, see Directed Self-Placement test at <a href="http://www.ric.edu/firstyearwriting">www.ric.edu/firstyearwriting</a>
RIC 100 Introduction to Rhode Island College	1	<input type="checkbox"/> Exempt if taking COLL 101, COLL 150, or HONR 150
MATH 212 Calculus I*	4	<input type="checkbox"/> Prereq is MATH 209, or consent; minimum grade of C <input type="checkbox"/> Satisfies Gen Ed Mathematics (M)
General Biology I		
PHYS 101 Physics for Science and Mathematics I*	4	<input type="checkbox"/> Prereq. MATH 120 or placement; minimum grade of C
Gen Ed--Second Lang 101 (based on placement, a course higher than 101/102 may be taken). If language requirement already satisfied: Gen Ed Distribution course from Arts (A); History (H); Literature (L), or Social and Behavioral Sciences (SB)	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 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 2.75 overall GPA; 2.50 in the Major
# CREDITS EARNED	17	<input type="checkbox"/> Make appointment in Sept. with <b>Physics advisor</b> to discuss your schedule for next semester

<b>SEMESTER 2</b>	<b>CR</b>	<b>SEMESTER 2 CHECKPOINTS ✓</b>
FYW 100 or FYS 100	4	<input type="checkbox"/> Complete FYS and FYW, for FYW, grade B or better
PHYS 102 Physics for Science and Mathematics II*	4	<input type="checkbox"/> Prereq. is PHYS 101; minimum grade of C
MATH 213 Calculus II*	4	<input type="checkbox"/> Prereqs MATH 212; minimum grade of C <input type="checkbox"/> Satisfies Gen Ed AQSR
Gen Ed--Second Lang 102* (if needed), or other needed Gen Ed course from Arts (A); History (H); Literature (L), or Social and Behavioral Sciences (SB)	4	<input type="checkbox"/> Complete Second Lang 102* (if needed)
Requirements and GPA		<input type="checkbox"/> Aim for minimum of 32 earned credits <input type="checkbox"/> Minimum 2.75 overall GPA; 2.50 in the Major
# CREDITS EARNED	16	<input type="checkbox"/> Make appointments with Physics and Secondary Education advisors in Feb. to discuss your schedule for next semester

<b>SEMESTER 3</b>	<b>CR</b>	<b>SEMESTER 3 CHECKPOINTS ✓</b>
PHYS 307 Quantum Mechanics I (Even Years)* OR PHYS 311 Thermodynamics (Odd Years)*	4	<input type="checkbox"/> Prereq for 307 is PHY 102; minimum grade of C <input type="checkbox"/> Prereq for 311 are PHYS 101, MATH 213; minimum grade of C
CHEM 103 General Chemistry I*	4	<input type="checkbox"/> Prereq. Math competency/placement; min. grade of C <input type="checkbox"/> Satisfies Gen Ed Natural Science (NS)
MATH 314 Calculus III*	4	<input type="checkbox"/> Prereq MATH 213; minimum grade of C
Gen Ed Distribution course from Arts (A); History (H); Literature (L), or Social and Behavioral Sciences (SB)	4	
Requirements and GPA		<input type="checkbox"/> Minimum of 2.75 GPA overall; minimum of B- in Education courses <input type="checkbox"/> Minimum GPA of 2.50 in Physics major
# CREDITS EARNED	16	<input type="checkbox"/> Make appointments with Physics and Secondary Education advisors in Sept. to discuss your schedule for next semester.

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<b>SEMESTER 4</b>	<b>CR</b>	<b>SEMESTER 4 CHECKPOINTS ✓</b>
PHYS 312 Math Methods*	3	<input type="checkbox"/> Prereq is MATH 314; minimum grade of C
PHYS 313 Junior Laboratory*	3	<input type="checkbox"/> Prereqs are PHYS 102 and PHYS 307; minimum grade of C
CHEM 104 General Chemistry II*	4	<input type="checkbox"/> Prereq CHEM 103; minimum grade of C-
FNED 246 Schooling for Social Justice*	4	<input type="checkbox"/> Prereq. FYW with minimum grade of B; minimum grade of B- in FNED 246.
Gen Ed Connections (C)* OR PSCI 357 Historical & Contemporary Contexts of Science* if being offered	3-4	<input type="checkbox"/> Prereq. for (C) is 45 credits, FYW and FYS <input type="checkbox"/> Prereq. for PSCI 357 is any Gen Ed NS
SUMMER SESSION: BIOL 111 General Biology I and BIOL 112 General Biology II* (See note)	(8) Su	<input type="checkbox"/> Strongly recommend to be able to complete in 4 years <input type="checkbox"/> BIOL 111 with minimum of C- is prereq for BIOL 112
Requirements and GPA		<input type="checkbox"/> Core Academic Skills for Educators (ETS# 5751) <input type="checkbox"/> Apply to Feinstein School of Education (FSEHD) <input type="checkbox"/> Minimum of 2.75 GPA overall; minimum of B- in Education courses <input type="checkbox"/> Minimum GPA of 2.50 in Physics major
# CREDITS EARNED	17-18	<input type="checkbox"/> Make appointment in Feb. with both advisors to discuss your schedule for next semester

<b>SEMESTER 5</b>	<b>CR</b>	<b>SEMESTER 5 CHECKPOINTS ✓</b>
PHYS 307 Quantum Mechanics I (Even Years)* OR PHYS 311 Thermodynamics (Odd Years)*	4	<input type="checkbox"/> Prereq for 307 is PHY 102; minimum grade of C <input type="checkbox"/> Prereq for 311 are PHYS 101, MATH 213; minimum grade of C
PSCI 212 Introduction to Geology (F, Su) or CHEM 310 Biochemistry (F even)	4	<input type="checkbox"/> Minimum grade of C <input type="checkbox"/> Prereq. for CHEM 310 is CHEM 206; minimum grade of C
CEP 315 Educational Psychology*	3	<input type="checkbox"/> Prereq. Admission to FSEHD; minimum grade of B-
SED 406 Instructional Methods, Design, and Tech. (F)*	3	<input type="checkbox"/> Prereq. Admission to FSEHD; minimum grade of B-
Requirements and GPA		<input type="checkbox"/> Minimum of 2.75 GPA overall; minimum of B- in Education courses <input type="checkbox"/> Minimum GPA of 2.50 in Physics major
# CREDITS EARNED	14	<input type="checkbox"/> Make appointment in Sept. with both advisors to discuss your schedule for next semester

<b>SEMESTER 6</b>	<b>CR</b>	<b>SEMESTER 6 CHECKPOINTS ✓</b>
Gen Ed Connections (C)* OR PSCI 357 Historical & Contemporary Contexts of Science* if being offered	3-4	<input type="checkbox"/> Prereq. for (C) is 45 credits, FYW and FYS <input type="checkbox"/> Prereq. for PSCI 357 is any Gen Ed NS. Both completed
PHYS 413 Senior Laboratory*	3	<input type="checkbox"/> Prereq are PHYS 102 and PHYS 313; minimum grade of C
ONE from PHYS 309 Nanoscience and Nanotechnology (Sp even)*, PHYS 315 Optics (F odd)*, PHYS 320 Analog Electronics (F even), or PHYS 321 Digital Electronics (Sp odd)*, or Gen Ed.	4	<input type="checkbox"/> Prereqs. vary—see catalog
SPED 433 Special Education: Best Practices and Applications*	3	<input type="checkbox"/> Prereq. SED 406; minimum grade of B-
SED 407 Instructional Methods, Design, and Literacy (Sp)*	3	<input type="checkbox"/> Prereq. SED 406; minimum grade of B-
Requirements and GPA		<input type="checkbox"/> Minimum of 2.75 GPA overall; minimum of B- in Education courses <input type="checkbox"/> Minimum GPA of 2.50 in Physics major <input type="checkbox"/> Attend Office of Partnerships and Placements orientation for student teachers; apply for student teaching <input type="checkbox"/> Meet with research advisor <input type="checkbox"/> Praxis II Principles of Learning and Teaching Exam (ETS# 5624 – Passing Score: 157) <input type="checkbox"/> Praxis II Physics Content Knowledge Exam (ETS# 5265 – Passing Score: 146) <input type="checkbox"/> Apply for degree audit online through MyRIC
# CREDITS EARNED	16-17	<input type="checkbox"/> Make appointment in Feb. with both advisors to discuss your schedule for next semester

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<b>SEMESTER 7</b>	<b>CR</b>	<b>SEMESTER 7 CHECKPOINTS ✓</b>
SED 411 Content and Pedagogy in Secondary Ed. (F)*	4	<input type="checkbox"/> Prereq. SED 407, concurrent with SED 412, minimum grade of B- <input type="checkbox"/> Mini-Teacher Candidate Work Sample
SED 412 Field Practicum in Secondary Ed.(F)*	2	<input type="checkbox"/> Prereq. SED 407, concurrent with SED 411, minimum grade of B-
ONE from PHYS 309 Nanoscience and Nanotechnology (Sp even)*, PHYS 315 Optics (F odd)*, PHYS 320 Analog Electronics (F even), or PHYS 321 Digital Electronics (Sp odd)*, or Gen Ed.	4	<input type="checkbox"/> Prereqs vary, see catalog <input type="checkbox"/> Complete ONE from PHYS 309, 315, 320 or 321.
PHYS 491 Research in Physics	1	<input type="checkbox"/> Prereq. consent; minimum grade of C
Gen Ed Distribution course from Arts (A); History (H); Literature (L), or Social and Behavioral Sciences (SB), if needed, or elective	3-4	
Requirements and GPA		<input type="checkbox"/> Minimum of 2.75 GPA overall; minimum of B- in Education courses <input type="checkbox"/> Minimum GPA of 2.50 in Physics major
# CREDITS EARNED	14-15	<input type="checkbox"/> Make appointment in Sept. with Education advisor to discuss your schedule for next semester

<b>SEMESTER 8</b>	<b>CR</b>	<b>SEMESTER 8 CHECKPOINTS ✓</b>
SED 421 Student Teaching*	10	<input type="checkbox"/> Satisfactory Recommendation
SED 422 Student Teaching Seminar*	2	<input type="checkbox"/> Minimum grade of B- <input type="checkbox"/> Teacher Candidate Work Sample
Requirements and GPA		<input type="checkbox"/> Need minimum of 120 earned credits (you will have more) <input type="checkbox"/> Completion of all Physics content coursework <input type="checkbox"/> Minimum of 2.75 GPA overall <input type="checkbox"/> Minimum GPA of 2.50 in Physics major; <input type="checkbox"/> Minimum of B- in Education courses
# CREDITS EARNED	12	Attend Gradfest and Commencement

For more information, check the Education Studies Department website:

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

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 as soon as possible in place of a Gen Ed. option

**NOTE: The total credit count for the SED/Physic major is 95 credits, although 12 of those may be offset against Gen Ed. courses (AQSR, M, NS), which leaves 28 more credits of Gen Ed. and possibly 9 more depending on secondary language needs and RIC 100. The minimum credit count will be 123 credits (without secondary language and RIC 100).**