

## Undergraduate Major Map

**Catalog Year** 2023  
**College / School** Arts, Sciences & Education  
**Major** Biological Sciences - BS  
**Track / Concentration** Biology Education Major  
**Career Path** Four Year Freshman

<p><b>Fall Term 2023</b></p> <p>The major map should be used as a general guide. Please make sure to meet regularly with your academic advisor and use your Panther Degree Audit to track your requirements. Also make sure to refer to the Major Map Endnotes for more specific information.</p> <p>Math placement is based on your Math Placement Score and classes are to be selected in consultation with an advisor. If student cannot be placed into MAC 2311, student should be placed into MAC 1147 if possible.</p> <p>Minimum cumulative FIU GPA of 2.5 required for admission into and graduation from Secondary Education Teacher Preparation Programs.</p> <p>Students should begin preparations to take all four parts (English Language Skills, Essay, Reading Comprehension, &amp; Mathematics) of the FTCE General Knowledge Test prior to earning 30 credits.</p>				<p><b>Term GPA:</b> 2.5  <b>Term Hours:</b> 16  <b>Cum GPA:</b> 2.5</p>	
Course Group	Course Required	Course Description	Credit Hours	Course Notes	
UCC Communication	ENC 1101	Writing and Rhetoric I	3	Satisfies UCC Communication requirement	
	MAC 2311	Calculus I	4	Satisfies UCC Mathematics Group One course	
UCC First Year Experience	SLS 1501	First Year Exper	1		
	CHM 1045	Gen Chemistry I	3	Satisfies UCC Natural Science Group One course	
	CHM 1045L	Gen Chem Lab I	1	Satisfies UCC Natural Science Group One lab. Co-requisite: CHM1045	
Additional Lower Division Cour	SMT 2661	STEP 1 Teach Math and Sci	1	Field hours. Fingerprint clearance required	
UCC Social Science Group One			3	May satisfy Gordon Rule with Writing (GRW) and/or Global Learning (GL) requirement. Please speak with your Academic Advisor. POS 2041 or AMH 2020 recommended if Civic Literacy requirement is not met	

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<p><b>Spring Term 2024</b> Students in the major must pass all four parts (English Language Skills, Essay, Reading Comprehension, &amp; Mathematics) of the FTCE General Knowledge Test prior to earning 30 credits. The passing of the FTCE General Knowledge Test is a requirement for admission into the degree program. Please see Secondary Education Advisor - 305-348-2768.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 16 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
	BSC 2010	General Biology I	3	Satisfies UCC Natural Science Group Two course
	BSC 2010L	Gen Biology Lab I	1	Satisfies UCC Natural Science Group Two lab. Co-requisite: BSC2011
UCC Communication	ENC 1102	Writing and Rhetoric II	3	Satisfies UCC Communication course
	CHM 1046	Gen Chemistry II	3	Satisfies UCC Natural Science Group Two course
	CHM 1046L	Gen Chem Lab II	1	Satisfies UCC Natural Science Group Two course
	MAC 2312	Calculus II	4	Satisfies UCC Mathematics Group Two. Prerequisite: MAC 2311. Alternative: STA3111 and STA3112
Additional Lower Division Cour	SMT 2662	STEP 2 Lesson Math and Sci	1	Field hours. Fingerprint clearance required.

<p><b>Summer Term 2024</b> By end of Summer 1, student should have 30 credits or more.  Use this Semester to catch up on coursework and/or to meet your 9 Summer Hours Requirement.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 3 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
UCC Humanities Group One			3	May satisfy Gordon Rule with Writing (GRW) and/or Global Learning (GL) requirement. Please speak with your Academic Advisor

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<b>Fall Term 2024</b> Minimum cumulative FIU GPA of 2.5 required for admission into and graduation from Secondary Education Teacher Preparation Programs.  Passing scores on all areas of FTCE General Knowledge Test required prior to completion of term: 1. English Language Skills 2. Essay 3. Reading Comprehension 4. Mathematics					<b>Term GPA:</b> 2.5 <b>Term Hours:</b> 16 <b>Cum GPA:</b> 2.5
Course Group	Course Required	Course Description	Credit Hours	Course Notes	
UCC Arts			3	May satisfy Gordon Rule with Writing (GRW) and/or Global Learning (GL) requirement. Please speak with your Academic Advisor	
	CHM 2210L	Org Chem Lab I	1	Co-requisite: CHM2210	
	CHM 2210	Organic Chem I	4	Prerequisites: CHM1045/1045L and CHM1046/1046L	
Biology Education	SMT 3100	Know and Learn Math and Sci	3	Pre/co-requisite: SMT2661 or SMT2044	
	PHY 2048	Physics W/Calculus I	4	Alternative: PHY2053. Satisfies UCC Natural Science Group One course	
	PHY 2048L	General Phys Lab I	1	Satisfies UCC Natural Science Group One lab	

<b>Spring Term 2025</b>					<b>Term GPA:</b> 2.5 <b>Term Hours:</b> 16 <b>Cum GPA:</b> 2.5
Course Group	Course Required	Course Description	Credit Hours	Course Notes	
	BSC 2011L	Gen Biology Lab II	1	Satisfies UCC Natural Science Group Two lab. Co-requisite: BSC2011	
	PHY 2049	Physics W/Calc II	4	Alternative: PHY2054. Satisfies UCC Natural Science Group Two course	
Biology Education	SCE 4194	Pers in Sci and Math Ed	3		
	PHY 2049L	General Phys Lab II	1	Satisfies UCC Natural Science Group Two lab	
	CHM 2211	Organic Chem II	3	Prerequisites: CHM2210/2210L	
	CHM 2211L	Organic Chem Lab II	1	Co-requisite: CHM2211	
	BSC 2011	General Biology II	3	Satisfies UCC Natural Science Group Two course. Co-requisite: BSC2011L	

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<p><b>Summer Term 2025</b> By end of Summer 2, student should have 60 credits or more.</p> <p>Use this Semester to catch up on coursework and/or to meet your Summer Hours Requirement (if needed).</p> <p>May use TSL 4324 to satisfy the Global Learning requirement.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 6 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
UCC Social Science Group Two			3	DEP2000 is recommended. See advisor
Biology Education	TSL 4324	ESOL Content Areas	3	Prerequisite: Students must be program admitted. Field hours. Fingerprint clearance required

<p><b>Fall Term 2025</b> Students must pass all sections of the FTCE: General Knowledge (GK) Exam by the end of the semester that they complete 72 credits. After passing this exam, they must apply for Program Admission with their assigned advisor located in ZEB 210. In addition, students should complete Milestone #1 electronically, using their Taskstream account: <a href="https://w.taskstream.com/ts/chang28/ProgramMilestones">https://w.taskstream.com/ts/chang28/ProgramMilestones</a> . They must also maintain an average cumulative GPA of a 2.5, with a minimum of a 2.0 in all Education coursework.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 13 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
Biology Education	BSC 3910	Biology Research Methods	3	Prerequisite: SMT2662 or SMT2044
Biology Laboratories			1	Upper Division Biology laboratories require previous or concurrent enrollment of lecture course
Biology Core Courses	PCB 3063	Genetics	3	Prerequisite: BSC2010
Biology Core Courses	PCB 3043	Ecology	3	Prerequisites: BSC2010 and BSC2011
UCC Humanities - Group Two			3	May satisfy Gordon Rule with Writing (GRW) and/or Global Learning (GL) requirement. Please speak with your Academic Advisor

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<p><b>Spring Term 2026</b> Students should begin preparing for the FTCE: Professional Education Test and/or Subject Area Exam <math>\zeta</math> Biology 6-12 as planned with their assigned advisor. If SCE 4194 course is taken in this semester, it will satisfy the Global Learning (GL) Discipline Specific requirement. They must also maintain an average cumulative GPA of a 2.5, with a minimum of a <math>\zeta</math>C<math>\zeta</math> in all Education coursework.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 15 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
Biology Core Courses	PCB 4023	Cell Biology	3	
Biology Distribution - Organismal Diversity			3	
Biology Core Courses	PCB 3063	Genetics	3	Field hours. Fingerprint clearance required
Biology Education	SMT 4301	Class Interact Math and Sci	3	Prerequisite: SMT3100. Field hours. Fingerprint clearance required
Biology Distribution - Physiology/Biochemistry			3	

<p><b>Summer Term 2026</b> Summer enrollment is encouraged, but not applicable for all students. This may be determined after meeting with their assigned advisor. If TSL 4324 course is taken in this semester, it will satisfy the Global Learning (GL) Discipline Specific requirement. Students should apply for Student Teaching through the Office of Clinical Experiences by June 1st, or when specified by the Clinical Experience Office and/or their assigned advisor. In addition, they should have passed the FTCE: Professional Education Test and/or Subject Area Exam Biology 6-12 as planned with their assigned advisor. Students must continue to maintain an average cumulative GPA of a 2.5, with a minimum of a <math>\zeta</math>C<math>\zeta</math> in all Education coursework.</p>				<p><b>Term GPA:</b> 2.5 <b>Cum GPA:</b> 2.5</p>
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<p><b>Fall Term 2026</b> Students MUST have ALL required coursework completed and ALL FTCE Education Exams passed prior to placement in Student Teaching. Students must continue to maintain an average cumulative GPA of a 2.5, with a minimum of a C in all Education coursework.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 13 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
Biology Education	SMT 4664	Prob Based Instr Math-Sci	3	Prerequisite: SMT3100. Field hours. Fingerprint clearance required.
Biology Core Courses	BSC 4931	Senior Seminar	1	Pre/Co-requisites: PCB3063, PCB3043, PCB4023 and PCB467
Biology Distribution - Structure/Development			3	
Biology Distribution - Ecology			3	
Biology Core Courses	PCB 4674	Evolution	3	Prerequisites: PCB3063 and PCB3043

<p><b>Spring Term 2027</b> Student teaching is a full-time teaching experience and requires commitment during school hours along with preparation and grading time. Students should apply for Graduation by the first week of classes, or as communicated by their advisor. Students must continue to maintain an average cumulative GPA of a 2.5, with a minimum of a C in all Education coursework.</p>				<p><b>Term GPA:</b> 2.5 <b>Term Hours:</b> 6 <b>Cum GPA:</b> 2.5</p>
Course Group	Course Required	Course Description	Credit Hours	Course Notes
Biology Education	SCE 4944	Student Teaching	6	Prerequisites: RED4325, Admission to Plan, appropriate Special Teaching Laboratory, and appropriate number of hours in subject matter specialization.

<p><b>Summer Term 2027</b> Use this semester to catch up on coursework and/or satisfy the 9 credits summer requirement (if needed).</p>	
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### General Requirements

\*Critical Indicator is the minimum grade indicated in specific courses to demonstrate proficiency and progress in major. Earning less than the minimum grade is a trigger for a conversation with advisor\*

#### GENERAL UNIVERSITY REQUIREMENTS

See your Panther Degree Audit (PDA) for a real-time update on your academic career progress and additional information on University and major requirements at <http://my.fiu.edu>.

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(1) UCC: Students must meet the University Core Curriculum (UCC) requirements. For a full list of UCC courses, see <http://undergrad.fiu.edu/advising/curriculum.html> or speak with your advisor. UCC courses must be taken for a letter grade and may not be taken at other institutions without permission from the Dean of Undergraduate Education.

(2) Global Learning: Freshmen entering FIU Summer B 2010 or later must take at least two Global Learning (GL) designated courses at FIU. See <http://goglobal.fiu.edu>. Courses must be: - 1 GL foundation course (from the University Core Curriculum), which must be taken within the first 60 credits.- 1 GL discipline-specific course (3000/4000 level)

(3) Summer Hours Requirement: All students entering FIU or any university within the State University System (SUS) of Florida with fewer than 60 credit hours are required to earn at least nine credit hours prior to graduation by attending one or more summer terms at a university in the SUS.

(4) Gordon Rule: All Gordon Rule courses (i.e., English Composition, Humanities with Writing, and Quantitative Reasoning) must be completed with a minimum grade of "C." This requirement must be fulfilled within the first 60 credits.

(5) Foreign Language Requirement for Graduation (FLENT/FLEX): A student who did not complete two years of the same foreign language in high school or at a post-secondary institution must successfully complete 8-10 credit hours of instruction in one foreign language prior to graduation. Exceptions include appropriate CLEP, AP, IB, TOEFL, or transfer credit. Contact your advisor for more information.

(6) Postsecondary Civic Literacy (CL): Students must demonstrate understanding of American Civics via completed course work or test credit. Consult with an advisor to determine the best option for satisfying this requirement.

Grades: Students must earn a grade of "C" or higher in all courses required for the major. A grade of "C-" or lower is not acceptable in any required course.

This document only lists SELECTED requirements. See your P.D.A. for full list of CASE & major requirements at <http://my.fiu.edu>.

College of Arts, Sciences & Education:BS in Biological Sciences specific requirements.

1. Complete 5 required Biology courses
2. Complete Ecology course
3. Complete Organismal Diversity course
4. Complete Physiology/Biochemistry course
5. Complete Structure/Development course
6. Complete 2 3000-4000 Level Division Biology labs (1 unit each)

College of Arts, Sciences & Education:BS in Biology (Biology Education) specific requirements

Admission Requirement:

1. GPA 2.5 minimum

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2. Pass all 4 sections of General Knowledge Test(Reading Comprehension, English Language Skills, Mathematics & Essay).

### Graduation Requirement:

1. Have an overall GPA of 2.5 or higher
2. Successfully demonstrate all Florida Educator Accomplish Practices at pre-professional level. This is done throughout your coursework in the College of Education.
3. Pass FTCE General Knowledge, Professional Educator & Subject Area exams prior to graduation. Note: At FIU, the Professional Educator & Subject Area exams must be passed prior to Student Teaching.

### Testing Requirement:

1. FTCE General Knowledge Test(English Language, Reading, Essay, Math)
2. FTCE Professional Education Exam3. FTCE Subject Area Exam in Biology