

## B.A. in Physics: Physics Education Track (FIUteach)

### Program Description

The Bachelor of Arts in Physics with a Physics Education Track provides you with a robust foundation in physical science and problem solving skills on which you can build a variety of careers. Upon completion of this program, you will be eligible for a Physics (grades 6-12) Professional Teaching Certificate and be considered a highly qualified teacher. You can choose to teach, pursue graduate school or work in the various industries requiring a strong background in Physics.

A minimum lower-division GPA of 2.5 or better on a 4.0 scale

- Successful completion of 60 credit hours of lower-division coursework or an AA degree from an accredited institution
- A passing score on all sections of the FTCE: General Knowledge Exam (GK) University Core Curriculum/General Education must be completed
- Major Pre-requisites (listed below) must be taken and passed with a minimum grade of C

FIU Course(s):		Credit Hours:	✓
CHM 1045	General Chemistry I	3	
CHM 1045L	General Chemistry I Lab	1	
CHM 1046	General Chemistry II	3	
CHM 1046L	General Chemistry II Lab	1	
PHY 2048	Physics with Calculus I	3	
PHY 2048L	General Physics Lab I	1	
PHY 2049	Physics with Calculus II	3	
PHY 2049L	General Physics Lab II	1	
MAC 2311	Calculus I	4	
MAC 2312	Calculus II	4	
MAC 2313	Multivariable Calculus	4	
BSC 2010	General Biology I	3	
BSC 2010L	General Biology I Lab		
SMT 2661* <b>AND</b> SMT 2662*	Step 1: Inquiry Approaches to Teaching Mathematics and Science (Prerequisite: Freshman/Sophomore standing)	1	
<b>OR</b>	Step 2: Inquiry-Based Lesson Design in Mathematics and Science (Prerequisite: SMT 2661)	1	
SMT 2044*	1 & 2 Combined: Inquiry-Based Approaches and Lesson Design for Teaching Mathematics and Science (Prerequisite: Junior/Senior standing)	2	

<sup>1</sup>Organic Chemistry sequence or Physics sequence must be taken at the Lower Division.

<sup>2</sup>Physics without Calculus I and II (PHY 2053 and PHY 2054) can be substituted Physics with Calculus I and II.

<sup>3</sup>Calculus I and II must be taken at the lower division. If Statistics I is taken it must be taken at the lower division.

Both Statistics I and II are required to replace Calculus II only. STA 3111 and STA 3112 may be substituted for STA 2122 and STA 3123.

### Program of Study

The program of studies is as follows:

- Total credits: 120
  - The balance of the 120 credit hour requirement for graduation should be chosen in consultation with the student's departmental and/or advisor(s)
- All courses and FTCE tests must be taken prior to student teaching
- All program courses must be completed with a minimum grade of "C"

Course:		Credit Hours	✓
<b>Physics Coursework (19 credits)</b>			
PHY 3106	Modern Physics (pre requisite: PHY 2049, MAC 2312) (F,S)	3	
PHY 3802L	Intermediate Physics Lab (Prerequisite/Corequisite: PHY 3106) (F,S)	3	
PHY 3107	Advanced Modern Physics (Prerequisite: PHY 3106) (S)	3	
PHY 4821L	Advanced Physics Lab (Prerequisites: MAC 2313, PHY 3802L) (F,S)	3	
PHY 3513	Thermodynamics (Prerequisites: PHY 2049, MAC 2313) (F,S)	3	
PHY 4221	Introduction to Classical Mechanics (Pre requisites: MAC 2313, PHY 2049) (F)	4	
<b>Physics Electives or Required Courses (8 Credits)</b>			
3000/4000 Level	Electives (see advisor)	8	
<b>Education Coursework (27 credits)</b>			
SMT 3100	Knowing & Learning (Prerequisites or Corequisites SMT 2661 or SMT	3	
SCE 4194	Perspectives in Science and Mathematics Education (GL) (Spring	3	
SMT 4301*	Classroom Interactions (Prerequisites: SMT 3100) (F,S)	3	
RED 4325*	Subject Area Reading (F,S,SS)	3	
TSL 4324*	ESOL Issues and Strategies for Content Teachers (GL) (F,S,SS)	3	
PHY 3018	Research Methods in Physics (F)	3	
SMT 4664*	Project-Based Instruction (Prerequisites: SMT 3100 and SMT 4301) (F,S)	3	
SCE 4944*	Student Teaching (F,S)	6	

**\*Course require field experience hours. Other courses may also have field requirements.**

### ***Student Teaching***

All courses must be completed prior the start of student teaching and both the FTCE: Professional Exam and FTCE: Subject Area Exam must be taken, passed, and official scores received by FIU three weeks prior to student teaching. Students must be FULLY admitted to their program to apply for student teaching. Student may apply for student teaching in the Office of Field Experiences ZEB 130 by February 1<sup>st</sup> for the Fall semester student teaching and June 1<sup>st</sup> for Spring semester student teaching.

### ***Graduation Requirements***

1. FIU cumulative GPA of 2.5 or better on a 4.0 scale
2. University Foreign Language Requirement (FLENT/FLEX) must be met
3. University Summer Enrollment Requirement must be met
4. Global Learning Requirement must be met
5. 45 semester hours must be in upper division courses
6. All program and University requirements must be met

