UCF Degree Programs

Science Education - Physics (B.S.)
College of Education and Human Performance
School of Teaching, Learning, and Leadership,
Education Building, Room: 209

http://education.ucf.edu/science/

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The Science Education- Physics B.S. program offers students the option of two tracks: Science Education - Physics Track and Science Education - Physics Lifelong Learning Track (non-certification).

The Education Track is appropriate for students interested in opportunities for employment in formal, 6-12 schools that require certification. The Lifelong Learning Track is appropriate for students seeking opportunities for employment outside formal, K-12 schools that do not require certification.

Admission Requirements
■ Complete the University General Education requirements or its equivalent, i.e. an AA degree from a Florida College System or State University System institution.
■ Complete all Education Common Program Prerequisite courses with a minimum letter grade of "C-" (1.75) or better
■ Meet the Gordon Rule Requirement
■ Meet Foreign Language Admission Requirement
■ Have a minimum 2.5 overall GPA
■ Education Track: Pass all four parts of the General Knowledge Test (no alternatives or waivers are accepted). The Lifelong Learning Track is a non-certification program and does not require the General Knowledge Test.

Degree Requirements
■ Students should see an advisor prior to registering for classes
■ The courses designated in 1 (UCF General Education Program) and 2 (Education Common Program Prerequisites) should be completed prior to admission to the major and upper division education courses
■ The Education Track is a state-approved, initial teacher preparation program designed in compliance with Florida Statutes and State Board of Education Rule 6A-5.066.
Degree requirement are subject to change based on state statutes and State Board of Education Rule 6A-5.066.

1. UCF General Education Program (GEP) (38 hrs)
■ Students are advised to take the preferred courses.

A: Communication Foundations (9 hrs)
Required ENC 1101 Composition I 3 hrs
Required ENC 1102 Composition II 3 hrs
Prefer SPC 1608 Fundamentals of Oral Communication 3 hrs

B: Cultural & Historical Foundations (9 hrs)
General Education Program elective: Prefer a second course from GEP section B1 to meet Gordon Rule Requirement
Select 1:
Prefer MUL 2010 Enjoyment of Music or 3 hrs
Prefer THE 2000 Theatre Survey or 3 hrs
Prefer PHI 2010 Introduction to Philosophy 3 hrs

C: Mathematical Foundations (7 hrs)
Required MAC 2311C Calculus with Analytic Geometry I 4 hrs
Select 1:
Prefer STA 1063C Basic Statistics Using Microsoft Excel or 3 hrs
Prefer STA 2014C Principles of Statistics 3 hrs

D: Social Foundations (6 hrs)
Prefer POS 2041 American National Government 3 hrs
Prefer PSY 2012 General Psychology 3 hrs

E: Science Foundations (7 hrs)
Required PHY 2048C General Physics Using Calculus I 4 hrs

Select 1:
■ Prefer ANT 2511 The Human Species or 3 hrs
■ Prefer BSC 1005 Biological Principles 3 hrs

1 A grade of "C-" (1.75) or better is required.
2 A grade of "C" (1.75) or better is required.

2. Common Program Prerequisites (CPP) (29 hrs)
■ See "Common Prerequisites" in the Transfer and Transition Services section for more information.

EDF 2005 Introduction to the Teaching Profession 3 hrs
EDF 2085 Introduction to Diversity for Educators 3 hrs
EME 2040 Introduction to Technology for Educators 3 hrs
MAC 2311C Calculus with Analytic Geometry I GEP
MAC 2312 Calculus with Analytic Geometry II 4 hrs
MAC 2313 Calculus with Analytic Geometry III 4 hrs
PHY 2048C General Physics Using Calculus I GEP
PHY 2049C General Physics Using Calculus II 4 hrs
CHM 2045C Chemistry Fundamentals I 4 hrs
CHM 2046 Chemistry Fundamentals II 3 hrs
CHM 2046L Chemistry Fundamentals Laboratory 1 hr

1 In addition, a minimum of 6 hours with an international or diversity focus is required. The foreign language admission requirement may be used to meet this requirement.

3. Core Requirements: Basic Level (3 hrs)
■ Education Track requires 3 semester hours
■ Lifelong Learning Track requires 6 semester hours

PHY 2048C General Physics Using Calculus I GEP
MAC 2311C Calculus with Analytic Geometry I GEP

Education Track
1 EDF 2130 Child and Adolescent Development for Educators 3 hrs

1 Courses taken at Florida College System institutions may substitute for select courses in Other Program Requirements with the permission of the department.

Lifelong Learning Track 6 hrs
MHS 2330 Career Planning 3 hrs

Select 1:
EDF 2130 Child and Adolescent Development for Educators 3 hrs
EDP 2270 Adult Development & Learning 3 hrs

4. Core Requirements: Advanced Level (47 hrs)
■ Education Track requires 50 semester hours
■ Lifelong Learning Track requires 47 semester hours

Education Core Requirements 18 hrs
■ Education Track requires 18 semester hours of Education Core Requirements
■ Lifelong Learning Track requires 21 semester hours of Education Core Requirements

EDF 4467 Learning Theory and Assessment 3 hrs
EDF 4603 Analysis and Application of Ethical, Legal, and Safety Issues in Schools 3 hrs
1 EDG 4410 Teaching Strategies and Classroom Management 3 hrs
EEX 4242 Teaching Exceptional Students in Secondary Settings 3 hrs
RED 4043 Content Reading in Kindergarten through Grade 12 3 hrs
1 TSL 4080 Theory and Practice of Teaching ESOL 3 hrs
Students in Schools

Lifelong Learning Track
SCE 4361 Programs in Teaching Science 3 hrs

1 Prerequisite to Internship I

Education Track Specialization Requirements 13 hrs
CHM 2045C Chemistry Fundamentals I CPP
CHM 2046 Chemistry Fundamentals II CPP
CHM 2046L Chemistry Fundamentals Laboratory CPP
MAC 2312 Calculus with Analytic Geometry II CPP
MAC 2313 Calculus with Analytic Geometry III CPP

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PHY 2049C  General Physics Using Calculus II  CPP
PHY 3101  General Physics Using Calculus III  3 hrs
SCE 4361  Programs in Teaching Science  3 hrs
Elective: 3000 or 4000 level PHY or PHZ prefix  4 hrs

Select 1:  3 hrs
- PHY 3752C  Physics of Scientific Instruments or  3 hrs
- PHY 3722C  Physics Laboratory-Electronics  3 hrs

Internship I Block  7 hrs
- Program Internship I Prerequisites: EDG 4410, TSL 4080 and at least 50% of all required physics courses must be completed prior to Internship I with a minimum grade of "C-" (1.75) or better. However, a minimum GPA of 2.5 is required in the professional, specialization and overall for admission to Internship I.
- Passing score on the General Knowledge Test portion of the Florida Teacher Certification Examination (FTCE) is required before application to Internship I.
- Passing score on the Professional Education Test portion of the Florida Teacher Certification Examination (FTCE) is strongly recommended as soon as possible after completing the following courses: EDG 4410 Teaching Strategies and Classroom Management, EDF 4467 Learning Theory and Assessment, RED 4043 Content Reading, Kindergarten through Grade 12, and TSL 4080 Theory and Practice of Teaching ESOL Students in Schools.
- Students must apply and be approved for Internship I. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- SCE 4360  Science Instructional Analysis  4 hrs
- SCE 3940  Internship  3 hrs

Internship II Block  12 hrs
- At least 80% of all required physics courses and all methods courses must be completed with a letter grade of "C-" (1.75) or better before registering for Internship II. However, a minimum GPA of 2.5 is required in the professional, specialization and overall for admission to Internship II.
- Passing scores on all sections (General Knowledge, Professional, and Subject Area (Physics 6-12) of the Florida Teacher Certification Examination (FTCE) is required prior to entry into Internship II.
- Students must apply and be approved for Internship II. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of Internship II requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices in accordance with State Board of Education Rule 6A-5.006.
- SCE 4033C  Critical Issues and Trends in Secondary Education  3 hrs
- SCE 4033C  Critical Issues and Trends in Secondary Education  9 hrs

Lifelong Learning Track Specialization  26 hrs
- Select preferred specialization courses with advisor approval. A minimum of nine (9) hours must be taken in the content area. Substitutions are allowed with advisor approval.
- A grade of "C-" (1.75) or better is required.
- Must have a total of 48 or more hours of upper level courses to graduate.
- PHY 3101  General Physics Using Calculus III  3 hrs
- PHY 3752C  Physics of Scientific Instruments  3 hrs
- PHY 3722C  Physics Laboratory-Electronics  3 hrs
- EDG 4941  Directed Field Experience  1 hr
- EDG 4948  Service Learning  3 hrs
- DIG 3925  Digital Media Production I  3 hrs
- DIG 2000  Introduction to Digital Media  3 hrs
- DIG 2030  Digital Video Fundamentals  3 hrs
- DIG 2109  Digital Imaging Fundamentals  3 hrs
- DIG 2500  Fundamentals of Interactive Design  3 hrs
- DIG 3811  User-Centered Design  3 hrs
- DEP 2004  Developmental Psychology  3 hrs
- DEP 3202  Psychology of Exceptional Children  3 hrs
- DEP 3464  Psychology of Aging  3 hrs
- EXP 3604  Cognitive Psychology  4 hrs
- EXP 3250  Principles of Human Factors Psychology  3 hrs
- EAB 3703  Principles of Behavior Modification  4 hrs
- MAN 3025  Management of Organizations  3 hrs
- MAN 4101  Human Relations in Management  3 hrs
- MAR 3023  Marketing  3 hrs
- ECT 4184  Curriculum Development Techniques for Industry Training  3 hrs
- HFT 1000  Introduction to the Hospitality and Tourism Industry  3 hrs
- HFT 2750  The Event Industry  3 hrs
- HFT 3798  Fairs and Festivals  3 hrs
- HFT 4754  Exhibit and Trade Show Operations  3 hrs
- SCE 4360  Science Instructional Analysis  4 hrs

5. Restricted Electives
- None

6. Capstone Requirements
- None

7. Foreign Language Requirements
- Admissions: State University System foreign language admission requirement: two years in high school or one year of college instruction in a single foreign language. (This requirement applies to those students admitted to the University without the required two units of foreign language in high school.)

Graduation
- None

8. Electives
- None

9. Additional Requirements
- None

10. Required Minors
- None

11. Departmental Exit Requirements
- Achieve a minimum 2.5 GPA in all courses within the major.
- In courses throughout the program, you must upload key assignments into your LiveText Dashboard. These key assignments are then assessed by faculty. The resulting data provides evidence of your demonstrated professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices. All teacher education candidates, lifelong learning majors and early childhood and development and education majors (all ECDE tracks) are required to complete all LiveText requirements in order to be cleared for graduation. http://livetext.education.ucf.edu/

Education Track
- Pass all applicable sections of the Florida Teacher Certification Examination. See http://www.fldoe.org for test dates and test sites. Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator’s Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBE Rule 6A-4.002)

12. University Minimum Exit Requirements
- A 2.0 UCF GPA
- A minimum of 60 semester hours earned after CLEP awarded
- 48 semester hours of upper division credit completed
- 30 of the last 39 hours of course work must be completed in residency at UCF.
- A maximum of 45 hours of extension, correspondence, CLEP, Credit by Exam, and Armed Forces credits permitted.
- Complete the General Education Program, the Gordon Rule, and nine hours of summer credit.

Total Semester Hours Required
- 120
**Honors In Major**
- None

**Related Programs**
- None

**Certificates**
- None

**Related Minors**
- None

**Advising Notes**
- None

**Transfer Notes**
- None

**Acceptable Substitutes for Transfer Courses**
- None

## Plan of Study (120 hrs)

### Freshman Year - Fall (15 hrs)
- GEP B1 Elective 3 hrs
- ENC 1101 Composition I 3 hrs
- PSY 2012 General Psychology 3 hrs
- SPC 1608 Fundamentals of Oral Communication 3 hrs
- Select 1: 3 hrs
- STA 1063C Basic Statistics Using Microsoft Excel or 3 hrs
- STA 2014C Principles of Statistics 3 hrs

### Freshman Year - Spring (16 hrs)
- GEP B3 Elective ( Prefer course from section B1) 3 hrs
- MAC 2311C Calculus with Analytic Geometry I 4 hrs
- ENC 1102 Composition II 3 hrs
- POS 2041 American National Government 3 hrs
- Select 1: 3 hrs
- STA 1053C Basic Statistics Using Microsoft Excel or 3 hrs
- STA 2014C Principles of Statistics 3 hrs

### Freshman Year - Summer (7 hrs)
- MAC 2312 Calculus with Analytic Geometry II 4 hrs
- EDF 2005 Introduction to the Teaching Profession 3 hrs

### Sophomore Year - Fall (14 hrs)
- MAC 2313 Calculus with Analytic Geometry III 4 hrs
- PHY 2048C General Physics Using Calculus I 4 hrs
- EDF 2085 Introduction to Diversity for Educators 3 hrs
- Select 1: 3 hrs
- ANT 2511 The Human Species or 3 hrs
- BSC 1005 Biological Principles 3 hrs

### Sophomore Year - Spring (14 hrs)
- CHM 2045C Chemistry Fundamentals I 4 hrs
- EME 2040 Introduction to Technology for Educators 3 hrs
- PHY 2049C General Physics Using Calculus II 4 hrs
- Education Track 3 hrs
- EDF 2130 Child and Adolescent Development for Educators 3 hrs

### Lifelong Learning Track
- 3 hrs
- Select 1:
  - EDF 2130 Child and Adolescent Development for Educators or 3 hrs
  - EDP 2270 Adult Development & Learning 3 hrs

### Junior Year - Fall (12 hrs)
- EEX 4242 Teaching Exceptional Students in Secondary Settings 3 hrs
- EDG 4410 Teaching Strategies and Classroom Management 3 hrs
- TSL 4080 Theory and Practice of Teaching ESOL Students in Schools 3 hrs
- Education Track 3 hrs
- PHY 3101 General Physics Using Calculus II 3 hrs

### Lifelong Learning Track
- 3 hrs

### Senior Year - Fall (13 hrs)
- EDF 4467 Learning Theory and Assessment 3 hrs
- RED 4043 Content Reading in Kindergarten through Grade 12 3 hrs
- CHM 2046 Chemistry Fundamentals II 3 hrs
- CHM 2046L Chemistry Fundamentals Laboratory 1 hr
- Education Track 4 hrs
- PHY or PHZ 3000 or 4000 level elective 4 hrs

### Lifelong Learning Track
- 4 hrs
- MHS 2330 Career Planning and 3 hrs
- Choose Lifelong Learning Specialization course 1 hr

### Senior Year - Spring (12 hrs)
- SCE 4361 Programs in Teaching Science 3 hrs
- SCE 4360 Science Instructional Analysis 4 hrs
- SCE 3940 Internship 3 hrs
- Select 1:
  - PHY 3752C Physics of Scientific Instruments or 3 hrs
  - PHY 3722C Physics Laboratory-Electronics 3 hrs

### Lifelong Learning Track
- 10 hrs
- Choose Lifelong Learning Specialization courses 10 hrs

### Senior Year - Summer (3 hrs)
- SCE 4361 Programs in Teaching Science 3 hrs

### Program Academic Learning Compacts
- Program Academic Learning Compacts (student learning outcomes) for undergraduate programs are located at: [http://www.o eas.ucf.edu/alc/academic_learning_compacts.htm](http://www.o eas.ucf.edu/alc/academic_learning_compacts.htm)

### Equipment Fees
- Part-Time Student: $12 per term
- Full-Time Student: $24 per term