

**TO: Dr. Jeanne Okrasinski, COTE Chair**  
**FROM: Dr. Douglas Klarup, COS Interim Dean**  
**DATE: April 10, 2017**  
**RE: Executive Action Taken at the College of Sciences Curriculum Committee Meeting on April 7, 2017**

The following request was approved by executive action at the College of Sciences Curriculum Committee meeting on April 7, 2017. The request would be effective Fall 2017. I ask that similar action be taken at the Council on Teacher Education.

**Requested Change:**

Replace BIO 1100, BIO 1200G and BIO 1300G with BIO 1500 and BIO 1550G in the Science with Teacher Licensure (B.S.) major

**Rationale for Change:**

BIO 1100, 1200G and 1300G have been discontinued and should be replaced by BIO 1500 and BIO 1550G. The two-part series reduces the core requirements, and allows for efficient articulation of coursework from community colleges and other universities (which typically have a 2 semester introductory biology course sequence).

**Effective Date: Fall 2017**

## **Original**

### **Science with Teacher Licensure (B.S.)**

#### **High School Licensure**

The Science with Teacher Licensure major prepares students for teaching careers in the sciences (biological sciences, chemistry, earth sciences and physics) at the secondary level (grades 9-12). For students also wanting to be eligible to teach middle school sciences, additional Middle Level Education courses are required.

This major requires that students follow and meet the requirements for Admission, Retention and Graduation from Teacher Licensure programs as described in the "Teacher Licensure Programs" section of this catalog and as explained at the University Admission to Teacher Education Meeting which all students must attend. Students must gain University Approval to Take Teacher Education Courses no later than the end of the first semester of their Junior year. Additional information on Admission, Retention and

Graduation for Teacher Licensure programs can be found on the College of Education & Professional Studies website at <http://www.eiu.edu/ceps/teached>.

All students must pass the Illinois Licensure Test of Academic Proficiency or document a composite score of 22 or higher, with combined English/Writing score of 19/Writing Subtest score of 16, on the ACT plus Writing for selection into teacher education and should complete this requirement no later than their sophomore year.

Students must receive a "C" or better in all courses used toward graduation, regardless of where they are taken. This includes general education, professional education, major and minor courses, all university required courses, and electives. Students must maintain a minimum cumulative and major GPA of 2.65 in order to continue in the program.

### **Biological Sciences Specialization**

**Total Semester Hours required for the Degree: 138 semester hours**

The BS in Science with Teacher Licensure (Biological Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the biological sciences.

**The BS in Science Teacher Licensure with Biological Sciences Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Biological Sciences Specialization: 111**

#### **1. 77 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 2210 - Anatomy and Physiology I. Credits: 4
- BIO 2220 - Anatomy and Physiology II. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3400 - Methods of Teaching Biological Sciences in High School. Credits: 3
- BIO 3800 – Ecology. Credits: 4
- BIO 4984 - Organic Evolution. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- MAT 2250G - Elementary Statistics. Credits: 4

- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

## **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Chemistry Specialization**

**Total Semester Hours required for the Degree: 137-138 semester hours**

The BS in Science with Teacher Licensure (Chemistry Specialization) degree program prepares students for a career as high school science teachers. In addition, it prepares students to teach high school chemistry at all levels from introductory through Advanced Placement (AP).

**The BS in Science Teacher Licensure with Chemistry Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Chemistry Specialization: 110-111**

### **1. 76-77 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3

- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3000 - Undergraduate Seminar. Credits: 0
- CHM 3001 - Undergraduate Seminar. Credits: 1
- CHM 3100 - Practicum in Chemistry. Credits: 1
- CHM 3300 - Survey of Biochemistry. Credits: 3
- CHM 3780 - Instrumental Analysis. Credits: 3  
or CHM 3915
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- CHM 3915 - Physical Chemistry Laboratory. Credits: 2  
or CHM 3780
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

## **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Earth Sciences Specialization**

**Total Semester Hours required for the Degree: 138 semester hours**

The BS in Science with Teacher Licensure (Earth Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the earth sciences.

### **The BS in Science Teacher Licensure with Earth Sciences Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Earth Sciences Specialization: 108 including professional education core**

#### **1. 74 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- GEO 3200 - Human Impacts on the Environment. Credits: 3
- GEO 3410 - Climatology. Credits: 3  
or GEO 3510
- GEO 1430 - Historical Geology. Credits: 4
- GEO 2440 - Mineralogy. Credits: 4
- GEO 3405 - Petrology. Credits: 4
- GEO 3510 - Principles of Sedimentation. Credits: 3  
or GEO 3410
- GEO 4490 - Invertebrate Paleontology. Credits: 3
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

#### **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)

- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

**Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

**Physics Specialization**

**Total Semester Hours required for the Degree: 135 semester hours**

Students in the Science Teacher Licensure program with Physics Specialization are preparing for a career in high school science teaching. The physics specialization provides a broad based empirical introduction to the quantitative study of the foundations and applications of physics including the areas of mechanics, electromagnetism, thermodynamics and modern physics for the student who will teach AP, honors, or upper division high school physics.

**The BS in Science Teacher Licensure with a Physics Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Physics Specialization: 108 including professional education core**

**1. 74 Semester Hours in Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 3150 - Electronics. Credits: 4
- PHY 3500A - Laboratory Practicum A. Credits: 1  
or PHY 3500B or PHY3500D
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4470 - Optics. Credits: 4

## **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Modified**

### **Science with Teacher Licensure (B.S.)**

#### **High School Licensure**

The Science with Teacher Licensure major prepares students for teaching careers in the sciences (biological sciences, chemistry, earth sciences and physics) at the secondary

level (grades 9-12). For students also wanting to be eligible to teach middle school sciences, additional Middle Level Education courses are required.

This major requires that students follow and meet the requirements for Admission, Retention and Graduation from Teacher Licensure programs as described in the "Teacher Licensure Programs" section of this catalog and as explained at the University Admission to Teacher Education Meeting which all students must attend. Students must gain University Approval to Take Teacher Education Courses no later than the end of the first semester of their Junior year. Additional information on Admission, Retention and Graduation for Teacher Licensure programs can be found on the College of Education & Professional Studies website at <http://www.eiu.edu/ceps/teached>.

All students must pass the Illinois Licensure Test of Academic Proficiency or document a composite score of 22 or higher, with combined English/Writing score of 19/Writing Subtest score of 16, on the ACT plus Writing for selection into teacher education and should complete this requirement no later than their sophomore year.

Students must receive a "C" or better in all courses used toward graduation, regardless of where they are taken. This includes general education, professional education, major and minor courses, all university required courses, and electives. Students must maintain a minimum cumulative and major GPA of 2.65 in order to continue in the program.

### **Biological Sciences Specialization**

**Total Semester Hours required for the Degree: 138 131 semester hours**

The BS in Science with Teacher Licensure (Biological Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the biological sciences.

**The BS in Science Teacher Licensure with Biological Sciences Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Biological Sciences Specialization: 111-104**

#### **1. 77 70 Semester Hours of Major Courses**

- ~~BIO 1100 - General Biology. Credits: 4~~
- ~~BIO 1200G - General Botany. Credits: 4~~
- ~~BIO 1300G - Animal Diversity. Credits: 4~~
- BIO 1500 - General Biology I. Credits: 4
- BIO 1550G - General Biology II. Credits: 4
- BIO 2210 - Anatomy and Physiology I. Credits: 4
- BIO 2220 - Anatomy and Physiology II. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3400 - Methods of Teaching Biological Sciences in High School. Credits: 3
- ~~BIO 3800 - Ecology. Credits: 4~~

- BIO 3180 – Ecology and Evolution. Credits: 4
- ~~BIO 4984 - Organic Evolution. Credits: 3~~
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- MAT 2250G - Elementary Statistics. Credits: 4
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

## **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Chemistry Specialization**

Total Semester Hours required for the Degree: ~~137-138~~ 133-134 semester hours

The BS in Science with Teacher Licensure (Chemistry Specialization) degree program prepares students for a career as high school science teachers. In addition, it prepares

students to teach high school chemistry at all levels from introductory through Advanced Placement (AP).

**The BS in Science Teacher Licensure with Chemistry Specialization Major:**

Semester hours required for the Science with Teacher Licensure: Chemistry Specialization: **110-111 106-107**

**1. 76-77 72-73 Semester Hours of Major Courses**

- ~~BIO 1100 - General Biology. Credits: 4~~
- ~~BIO 1200G - General Botany. Credits: 4~~
- ~~BIO 1300G - Animal Diversity. Credits: 4~~
- BIO 1500 – General Biology I. Credits: 4
- BIO 1550G – General Biology II. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3000 - Undergraduate Seminar. Credits: 0
- CHM 3001 - Undergraduate Seminar. Credits: 1
- CHM 3100 - Practicum in Chemistry. Credits: 1
- CHM 3300 - Survey of Biochemistry. Credits: 3
- CHM 3780 - Instrumental Analysis. Credits: 3  
or CHM 3915
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- CHM 3915 - Physical Chemistry Laboratory. Credits: 2  
or CHM 3780
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

**2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)

- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

**Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

**Earth Sciences Specialization**

**Total Semester Hours required for the Degree: 138 134 semester hours**

The BS in Science with Teacher Licensure (Earth Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the earth sciences.

**The BS in Science Teacher Licensure with Earth Sciences Specialization Major:**

**Semester hours required for the Science with Teacher Licensure: Earth Sciences Specialization: 108 104 including professional education core**

**1. 74 70 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 1500 – General Biology I. Credits: 4
- BIO 1550G – General Biology II. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- GEO 3200 - Human Impacts on the Environment. Credits: 3
- GEO 3410 - Climatology. Credits: 3  
or GEO 3510

- GEO 1430 - Historical Geology. Credits: 4
- GEO 2440 - Mineralogy. Credits: 4
- GEO 3405 - Petrology. Credits: 4
- GEO 3510 - Principles of Sedimentation. Credits: 3  
or GEO 3410
- GEO 4490 - Invertebrate Paleontology. Credits: 3
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

## **2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Physics Specialization**

**Total Semester Hours required for the Degree: 135 131 semester hours**

Students in the Science Teacher Licensure program with Physics Specialization are preparing for a career in high school science teaching. The physics specialization provides a broad based empirical introduction to the quantitative study of the foundations and applications of physics including the areas of mechanics, electromagnetism, thermodynamics and modern physics for the student who will teach AP, honors, or upper division high school physics.

**The BS in Science Teacher Licensure with a Physics Specialization Major:**

Semester hours required for the Science with Teacher Licensure: Physics Specialization: **108 104** including professional education core

**1. 74 70 Semester Hours in Major Courses**

- ~~BIO 1100 - General Biology. Credits: 4~~
- ~~BIO 1200G - General Botany. Credits: 4~~
- ~~BIO 1300G - Animal Diversity. Credits: 4~~
- BIO 1500 – General Biology I. Credits: 4
- BIO 1550G – General Biology II. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- GEO 1300G - Introduction to Earth Sciences. Credits: 4
- GEO 1400G - Weather and Climate. Credits: 4
- GEO 2450G - Oceanography. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 3150 - Electronics. Credits: 4
- PHY 3500A - Laboratory Practicum A. Credits: 1  
or PHY 3500B or PHY3500D
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4470 - Optics. Credits: 4

**2. 34 Hours in the Professional Education Core**

- EDF 2555G - Education in a Diverse Society: The Multilingual/Multicultural Classroom. Credits: 3  
(May also be used to satisfy General Education (Social and Behavioral Sciences) and Diversity requirement.)
- EDF 4550 - Critical Focus on Education. Credits: 3  
(EDF 4450 may be substituted for EDF 4550 if taken prior to Fall 2013)
- EDP 2330 – Educational Psychology: Foundations for Teachers. Credit: 3  
(EDP 3331 may be substituted for EDP 2330 if taken prior to Fall 2016.)
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 2000 - Inquiry Into Teaching. Credits: 2
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 4
- SED 4330 - Literacy, Assessment, and Differentiation in Secondary Schools. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1

- STG 4001 - Student Teaching. Credits: 12-16  
(Register for 12 semester hours)

**Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)