

**Bachelor of Science (BS) Teaching
Degree Code 266A**

**Program of Study for Physics Majors
PHYSICS, SECONDARY EDUCATION LICENSURE**

I. GENERAL EDUCATION CURRICULUM **44**
Physics 1150 & 1151 or 1103 & 1104 fulfill the Science Inquiry perspective. MAT 1110 fulfills the Quantitative Literacy requirement.

II. PROFESSIONAL EDUCATION REQUIREMENTS **24**

A minimum grade of C is required in each professional education course. CI 2300 & FDN 2400 are required prior to admission to Teacher Educ.

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| CI 2300 | _____ (2) | Teaching and Learning in the Digital Age (<i>Entry course to teacher education</i>) | |
| FDN 2400 | _____ (2) | Critical Perspectives on Teaching and Learning (<i>Pre or Co: CI 2300</i>) (<i>Entry course to teacher education</i>) | |
| PSY 3010 | _____ (3) | Psychology Applied to Teaching (<i>Pre or Co: CI 2300</i>) | PROFICIENCIES: |
| SPE 3300* | _____ (3) | Creating Inclusive Learning Communities (<i>Pre: CI 2300, FDN 2400, PSY 3010</i>) | Reading _____ |
| CI 3400* | _____ (2) | Policies and Practice in Educational Assessment (<i>Pre: CI 2300, FDN 2400, PSY 3010</i>) | English _____ |
| CI 4900 | _____ (12) | Student Teaching [CAP] (<i>All courses in professional core must be completed with grades of C (2.0) or higher prior to student teaching, along with other courses (including methods and reading) identified within the major.</i>) | Speech _____ |

*Admission to Teacher Education required.

NOTE: To be admitted to the Teacher Education Program students must take and satisfy testing requirements for Reading, Writing and Math areas of the PRAXIS (PPST or CBT). The PRAXIS II Area Exams are required for student teaching.

III. MAJOR REQUIREMENTS (not including 12 s.h. counted in Area I, above) **57**
2.0 major GPA is required for graduation. Major GPA calculation will include all courses taken in the major department, plus any other courses under III. Minimum of 18 semester hours of courses taken to fulfill major requirements must be courses offered by Appalachian.

A. Area of Specialization for teaching physics: (minimum of 32 semester hours)

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|----------|-----------|--|-----------|----------|-----------|---|
| PHY 1103 | _____ (4) | General Physics I (<i>Co: MAT 1020/1025</i>) | OR | PHY 1150 | _____ (5) | Analytical Physics I (<i>Co: MAT 1110</i>) |
| PHY 1104 | _____ (4) | General Physics II (<i>Pre: PHY 1103</i>) | | PHY 1151 | _____ (5) | Analytical Physics II (<i>Co: MAT 1120</i>) |
| PHY 2010 | _____ (4) | Intermediate Physics I (<i>Pre: PHY 1104/1151; MAT 1120</i>) | | | | |
| PHY 2020 | _____ (4) | Intermediate Physics II (<i>Pre: PHY 2010; MAT 2130</i>) | | | | |
| PHY 2210 | _____ (3) | Physics Laboratory Techniques and Data Analysis [WID] (<i>Co: ENG 2001, PHY 2020</i>) | | | | |
| PHY 3210 | _____ (3) | Modern Physics I (<i>Pre: PHY 1151; Co: PHY 2010</i>) | | | | |
| PHY 3400 | _____ (3) | Physics Instruction Practicum (<i>Pre: PHY 1104 or 1151</i>) | | | | |
| PHY 3520 | _____ (1) | Instructional Assistance (<i>Pre: Jr/Sr standing</i>) | | | | |
| PHY 4210 | _____ (3) | Methods of Experimental Physics [CAP] (<i>Pre: PHY 2210</i>) | | | | |
- 2 to 4 hours in PHY & AST electives for minimum of 32 hours in Physics _____

B. Biology (4 sh)

- BIO 1801 _____ (4) Biological Concepts I (*Co: CHE 1101*)

C. Geology (4 sh)

- GLY 1101 _____ (4) Introduction to Physical Geology

D. Chemistry (8 sh)

- CHE 1101 _____ (3) Introductory Chemistry I (*Co: CHE 1110*)
 CHE 1110 _____ (1) Introductory Chemistry I Lab (*Co: CHE 1101*)
 CHE 1102 _____ (3) Introductory Chemistry II (*Pre: CHE 1101/1110; Co: CHE 1120*)
 CHE 1120 _____ (1) Introductory Chemistry II Lab (*Co: CHE 1102*)

E. Mathematics (12 sh)

- MAT 1110 _____ (4) Calculus with Analytic Geometry I (*Pre: MAT 1025 w/min grade C-*)
 MAT 1120 _____ (4) Calculus with Analytic Geometry II (*Pre: MAT 1110 w/min grade C-*)
 MAT 2130 _____ (4) Calculus with Analytic Geometry III (*Pre: MAT 1120 w/min grade C-*)

F. Other Required Courses (6 sh) (*Minimum "C" grade required)

- PHY 3521 _____ (1) Secondary Science Field Experience (*Pre: Jr/Sr standing*)
 G S 4403* _____ (3) Teaching Science in Middle and High Schools [**WID**] (*Pre: ENG 2001*)
 R E 4630* _____ (2) Reading in the Content Areas

G. Additional Required Courses (minimum 3 sh) (Select from the following)

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|----------|-----------|---|----------|-----------|--|
| AST 1001 | _____ (4) | Introductory Astronomy I - Solar System | | | |
| STT 2810 | _____ (3) | Basic Statistics (<i>Pre: MAT 1010</i>) | MAT 3130 | _____ (3) | Intro to Differential Equations (<i>Pre: MAT 1120</i>) |
| PHY 3140 | _____ (3) | Environmental Phy (<i>Pre: 1104/1151</i>) | PHY 4020 | _____ (3) | Comp Meth in Physics & Engineering (<i>Pre: PHY 2010&2020</i>) |
| PHY 4330 | _____ (3) | Digital Electronics | PHY 4730 | _____ (3) | Analog Systems (<i>Pre: PHY 3210</i>)
w/"C" or better;
MAT 2130) |

IV. MINOR (optional)

V. ELECTIVES (taken to total 122 hours for the degree) **2**
Total hours required for graduation **127**