Bachelor of Science (BS)                                  Program of Study for Physics Majors
Degree Code 270*                                          PHYSICS
Concentration Code 270C                                    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.

CI 2300 _____ (2) Teaching and Learning in the Digital Age (Entry course to teacher education)
FDN 2400 _____ (2) Critical Perspectives on Teaching and Learning [Pre or Co: CI 2300] (Entry course to teacher education)
PSY 3010 _____ (3) Psychology Applied to Teaching [Pre or Co: CI 2300]

PROFICIENCIES:

SPE 3300* _____ (3) Creating Inclusive Learning Communities [Pre: CI 2300, FDN 2400, PSY 3010] Reading _____
C I 3400* _____ (2) Policies and Practice in Educational Assessment [Pre: CI 2300, FDN 2400, PSY 3010] English _____
C I 4900 _____ (12) Student Teaching [CAP] (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.

*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 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)

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

AST 1001 _____ (4) Introductory Astronomy I - Solar System
STT 2810 _____ (3) Basic Statistics [Pre: MAT 1010] MAT 3130 _____ (3) Intro to Differential Equations [Pre: MAT 1120]
PHY 4330 _____ (3) Digital Electronics PHY 4730 _____ (3) Analog Systems [Pre: PHY 3210] w/"C" or better; [Co: PHY 2130]

IV. MINOR (optional)

V. ELECTIVES (taken to total 122 hours for the degree) ......................................................... 2

Total hours required for graduation 127

Total major requirements – 69; Gen Ed courses that may count in major (depends on choices) –12; net major 57 hours;