2014-2015

Bachelor of Science (BS) **Program of Study for Mathematics Majors**
Degree Code 260*
Concentration Code 260G **PHYSICAL SCIENCES**
Student Name: _____ **Date_____**

I. GENERAL EDUCATION CURRICULUM 44
Math 1110 will meet the Quantitative Literacy general education requirement.

II. MAJOR REQUIREMENTS *(not including 4 s.h. counted in Area I, above)* **..... 61**
2.0 major GPA is required for graduation. Major GPA calculation will include <u>all</u> courses taken in the major department, plus any other courses under II. Minimum of 18 semester hours of courses taken to fulfill major requirements must be courses offered by Appalachian.

A. Mathematics Common Core (14-15 hours)

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 2240	_____	(3)	Introduction to Linear Algebra *(Pre: MAT 1120)*

<u>Choose one:</u>

MAT 2110	_____	(3)	Techniques of Proof *(Pre: MAT 1120)*
MAT 2510	_____	(4)	Sophomore Honors Seminar *(Pre: MAT 1120)*

B. Mathematics Courses for the Concentration (33-34 hours)

MAT 2130	_____	(4)	Calculus with Analytic Geometry III *(Pre: MAT 1120 w/min grade C-)*
MAT 2310	_____	(3)	Computational Mathematics *(Pre: MAT 1120)*
MAT 3130	_____	(3)	Introduction to Differential Equations *(Pre: MAT 1120)*
MAT 4310	_____	(3)	Numerical Methods *(Pre: MAT 2310)*
STT 3850	_____	(4)	Statistical Data Analysis I *(Pre: MAT 1110)*

<u>Choose one:</u>

MAT 3110	_____	(3)	Introduction to Modern Algebra **[WID]** *(Pre: ENG 2001, MAT 2110 or 2510; Co: 2240)*
MAT 3220	_____	(3)	Introduction to Real Analysis **[WID]** *(Pre: ENG 2001, MAT 2110 or 2510)*

<u>Choose one:</u>

MAT 4040	_____	(1)	Mathematics Capstone **[CAP]** *(Pre: MAT 3110 or 3220; Sr. standing)*
MAT 4510	_____	(3)	Senior Honors Thesis **[CAP]** *(Pre: MAT 3510; 3.45+ GPA in math)*

12-13 hours of approved electives** in mathematical sciences **to bring total hrs in AREA II to 65 hrs** (3 hours must be at 4000 level)

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C. A Physical Sciences Concentration (17 hours)

PHY 2010	_____	(4)	Intermediate Physics I *(Pre: PHY 1104 or 1151, MAT 1120)*
PHY 2020	_____	(4)	Intermediate Physics II *(Pre: PHY 2010, MAT 2130)*
PHY 3210	_____	(3)	Modern Physics I *(Pre: PHY 1151 or Co: PHY 2010)*

3 hours of approved electives** in physics at or above 2000 level

_____

3 hours of approved electives** in physics or technology

_____

*** Must be approved by mathematical sciences advisor.*

III. MINOR (optional)

Student Signature: _____
Advisor Signature: _____
Chairperson Signature: _____
Date: _____ Date Sent to Dean's Office: _____

IV. ELECTIVES (taken to total 122 hours for the degree) ..... <u>17</u>
2 semester hours of free electives must be outside the major discipline. **122**
Total major requirements – 65; Gen Ed courses that may count in major (depends on choices) – 4; net major 61 hours;