

**I. GENERAL EDUCATION CURRICULUM ..... 44**  
*CHE 1101/1110 & 1102/1120 fulfill the Science Inquiry perspective. Math 1110 fulfills the Quantitative Literacy requirement.*

**II. MAJOR REQUIREMENTS (not including 12 s.h. counted in Area I, above) ..... 53**  
**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 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)

Choose one:

- MAT 2110 \_\_\_\_\_ (3) Techniques of Proof (Pre: MAT 1120)
- MAT 2510 \_\_\_\_\_ (4) Sophomore Honors Seminar (Pre: MAT 1120)

**B. Mathematics Courses for the Concentration (29-31 hours; 6 hours must be at 4000 level, 3 hours of which must be MAT)**

- MAT 2310 \_\_\_\_\_ (3) Computational Mathematics (Pre: MAT 1120)
- MAT 3130 \_\_\_\_\_ (3) Introduction to Differential Equations (Pre: MAT 1120)
- MAT 3220 \_\_\_\_\_ (3) Introduction to Real Analysis [WID] (Pre: RC 2001, MAT 2110 or 2510)
- MAT 3350 \_\_\_\_\_ (3) Introduction to Mathematical Biology (Pre: MAT 1120; Jr. standing)
- STT 3850 \_\_\_\_\_ (4) Statistical Data Analysis I (Pre: MAT 1110)

Choose one:

- MAT 4310 \_\_\_\_\_ (3) Numerical Methods (Pre: MAT 2310)
- STT 3851 \_\_\_\_\_ (3) Statistical Data Analysis II [WID] (Pre: RC 2001, STT 3850)

Choose one:

- 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)

4-7 hours of approved electives\*\* in mathematical sciences to bring total hrs in AREA II to 65 hrs (at least 4 hours at 4000 level, 3 of which must have MAT prefix)

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

**C. A Life Sciences Concentration (24-28 hours)**

- 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)
- CHE 2201 \_\_\_\_\_ (3) Organic Chemistry I (Pre: CHE 1102 & 1120; Co: CHE 2203)
- CHE 2203 \_\_\_\_\_ (1) Organic Chemistry I Lab (Co: CHE 1102 & 1120, 2201)
- BIO 1801 \_\_\_\_\_ (4) Biological Concepts I (Co: CHE 1101)
- or all BIO 1201 \_\_\_\_\_ (3) Biology in Society I
- and BIO 1202 \_\_\_\_\_ (3) Biology in Society II
- and BIO 1203 \_\_\_\_\_ (2) Biology in Society Laboratory

Choose two: (Pre: BIO 1801 for all BIO courses above 2000)

- BIO 3302 \_\_\_\_\_ (4) Ecology
- BIO 2400 \_\_\_\_\_ (3) Genetics (Pre: CHE 1102, MAT 1025) **AND** BIO 2410 \_\_\_\_\_ (1) Genetics Lab (Pre/Co: BIO 2400/2700)
- BIO 2600 \_\_\_\_\_ (3) Cell Biology (Pre: CHE 1102) **AND** BIO 2610 \_\_\_\_\_ (1) Cell Bio Lab (Pre: MAT 1025; Pre/Co: BIO 2600)
- BIO 3800 \_\_\_\_\_ (4) Molecular Biology [WID-BIO] (Pre: CHE 2201 or 2101; RC 2001)

Student Signature: _____ Advisor Signature: _____ Chairperson Signature: _____ Date: _____      Date Sent to Dean's Office: _____
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**III. MINOR (optional)**

**IV. ELECTIVES (taken to total 122 hours for the degree) ..... 25**  
**2 semester hours of free electives must be outside the major discipline. 122**