Bachelor of Arts (BA) 2017-2018  Program of Study for Mathematics Majors
Degree Code 261A

I. GENERAL EDUCATION CURRICULUM ........................................................................................................................................44
Math 1110 will count toward Quantitative Literacy general education requirement.

II. LANGUAGE (Completion of 6 semester hours at the *intermediate level, or higher) .................................................................6
   1040 ___ and 1050 ___ or 1060 ___; or higher level courses

*NOTE: Language 1010 and 1020 (or 1030) are prerequisites for the intermediate levels. FL 1050 or 1060 may be used in Gen Ed Liberal Studies Experience

III. MAJOR REQUIREMENTS (not including 4 s.h. counted in Area I, above) ...........................................................................................31
   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. No more than 46 semester hours of Mathematics courses may be counted toward the BA Degree.

1. Mathematics Major Requirements: (29-30 s.h.)
   - 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-)
   - MAT 2110 ___ (4) Techniques of Proof (Pre: MAT 1120)
   - MAT 2240 ___ (3) Introduction to Linear Algebra (Pre: MAT 1120)

   Choose one:
   - MAT 3130 ___ (3) Intro to Differential Equations (Pre: MAT 1120)
   - STT 3850 ___ (3) Statistical Data Analysis (Pre: MAT 1120)

   Choose one WID course: (Pre for WID: RC 2003; MAT 2110 or 2510)
   - MAT 3110 ___ (3) Intro to Modern Algebra [WID] (Co: 2240)
   - MAT 3220 ___ (3) Intro to Real Analysis I [WID]

   Choose one 4 hour combination (courses must be taken in same semester):
   - [CAP] is Capstone course: each has corequisite of first class in each pair below
   - AND MAT 4011 ___ (1) Current Topics in Math [CAP]
   - AND MAT 4141 ___ (1) Differential Geometry [CAP]
   - AND MAT 4221 ___ (1) Intro to Real Analysis II [CAP]
   - AND MAT 4311 ___ (1) Numerical Methods [CAP]
   - AND MAT 4341 ___ (1) Intro to Oper Research [CAP]
   - AND MAT 4421 ___ (1) Dynamical Systems Theory [CAP]
   - AND MAT 4591 ___ (1) Adv Topics in Diff Equations [CAP]
   - AND MAT 4711 ___ (1) Introduction to Topology [CAP]
   - AND MAT 4721 ___ (1) Abstract Algebra [CAP]
   - AND MAT 4991 ___ (1) Numerical Linear Algebra [CAP]
   - AND STT 4821 ___ (1) Design & Analysis of Exper [CAP]
   - AND STT 4831 ___ (1) Linear Regression Models [CAP]
   - AND STT 4841 ___ (1) Regression &Time Series Forec [CAP]

2. Mathematics Electives: (5-6 s.h. to bring total hours in AREA III to 35 hours)
   Any course listed above but not used to meet requirements above, may be used in this section.
   - MAT 2310 ___ (3) Computational Math (Pre: MAT 1120)
   - MAT 2500 ___ (1-3) Independent Study
   - MAT 3010 ___ (2) Survey in History of Math (Pre: MAT 1120; MAT 2110 or 2510)
   - MAT 3310 ___ (3) Discrete & Continuous Math Models (Pre: MAT 1120; Co: 2240)
   - MAT 3330 ___ (3) Financial Mathematics (Pre: MAT 1120)
   - MAT 3350 ___ (3) Intro to Mathematical Biology (Pre: MAT 1120; Jr standing)
   - MAT 3500 ___ (1-3) Independent Study
   - MAT 3510 ___ (3) Junior Seminar
   - MAT 3610 ___ (3) Intro to Geometry (Pre: MAT 1120; MAT 2110 or 2510)
   - MAT 4400 ___ (1-3) Senior Research (Pre: 3 sh 4000 level MAT)
   - STT 3250 ___ (4) Fundamentals of Probability (Pre: MAT 2130)
   - STT 3820 ___ (3) Statistical Methods I (Pre: STT 2810 or 2820)
   - STT 3830 ___ (3) Statistical Methods II (Pre: STT 3820)
   - STT 3840 ___ (3) Elem Prob & Surv Sampling (Pre: STT 2810 or 2820)
   - STT 3851 ___ (3) Stat Data Anlys II [WID] (Pre: STT 3850; RC 2001)
   - STT 4811 ___ (3) Stat Concepts & Applications I (Pre: MAT 1120)
   - STT 4812 ___ (3) Stat Concepts & Applications II (Pre: STT 4811)

IV. MINOR REQUIRED ........................................................................................................................................................................12-21
Minimum of 9 semester hours of courses taken to fulfill minor requirements must be courses offered by Appalachian.

V. ELECTIVES (taken to total 122 hours for the degree) ..................................................................................................................20-29
2 semester hours of free electives must be outside the major discipline.