



# East Stroudsburg University of Pennsylvania Department of Mathematics

## B.S. in Mathematics with Concentration in Applied Biological Mathematics

For Students Who Entered September 2016 or Later

### University Requirements:

- 120 credits
- 2.0 or higher Quality Point Average
- 30 or more credits of 300 level or higher courses; last 32 credits at ESU
- Pass basic mathematics competency
- 42 credits in advanced course work

### I. General Education Requirements.....45 credits

#### Required Courses: (9 credits)

- ENGL 103 (3) *Must be completed within first 45 credits at ESU* \_\_\_\_\_
- FYE (3) *Must be completed within first year of study at ESU* \_\_\_\_\_
- Health (3) *Must be completed within first 60 credits at ESU* \_\_\_\_\_

#### Breadth Requirement: (36 credits)

##### **Group A – Arts and Letters (12)**

*Must include at least 4 of the following :*

- English Language and Literature \_\_\_\_\_
- Fine Arts – Art, Communication Studies, Dance, Music, Theatre \_\_\_\_\_
- Modern Languages \_\_\_\_\_
- Performing Arts – Communication Studies, Dance, Music, Theatre \_\_\_\_\_
- Philosophy \_\_\_\_\_

##### **Group B – Science (12)**

*Must include at least 4 of the following\*:*

- Biology \_\_\_\_\_
- Chemistry \_\_\_\_\_
- Computer Science \_\_\_\_\_
- Mathematics \_\_\_\_\_
- Physics \_\_\_\_\_
- Psychology \_\_\_\_\_

\* One of the four must have completion of the Math Competency as a prerequisite

##### **Group C – Social Science (12)**

*Must include at least 4 of the following:*

- Economics \_\_\_\_\_
- Geography \_\_\_\_\_
- History \_\_\_\_\_
- Political Science \_\_\_\_\_
- Sociology \_\_\_\_\_

#### Additional (Overlay) Requirements:

*The following requirements will be embedded into courses across the University, including GE Breadth courses, courses within the major programs, and elective courses, and should not require that a student complete additional credits for graduation.*

- (W2) Level II Writing requirement (W3) Level III Writing requirement \_\_\_\_\_
- (G) Global Diversity and Citizenship (SLO I) requirement \_\_\_\_\_
- (C) Communication (SLO III) requirement \_\_\_\_\_
- (I) Information Literacy/Technology (SLO IV) requirement \_\_\_\_\_
- (A) Artistic Expression (SLO VI) requirement \_\_\_\_\_

<b>II. Mathematics Course Requirements.....36 Credits</b>			
_____MATH 140	Calculus I	(4)	_____MATH 341 Diff Eqs (Option Course) (3)
_____MATH 141	Calculus II	(4)	_____MATH 425 Math Modeling (3)
_____MATH 220	Discrete Math Structures	(3)	_____MATH ELECTIVE (300 or higher) (3)
_____MATH 240	Multivariate Calculus	(4)	_____MATH ELECTIVE (300 or higher) (3)
_____MATH 311	Statistics I	(3)	_____MATH ELECTIVE (300 or higher) (3)
_____MATH 320	Linear Algebra	(3)	(MATH 351, 430, 431, 499 excluded)

Note: Three credits of MATH 486 – Internship in Applied Mathematics may be used as one MATH ELECTIVE

<b>III. Co-requisites.....12 Credits</b>			
_____CPSC 101	Comp & Use in Science	(3)	_____CMST 111 Speech Communication (3)
_____CPSC 130	Intro Comp Programming	(3)	_____ENGL 204 Technical Writing (3)

<b>IV. Biology Requirements.....11 Credits</b>			
_____BIOL 114	Introductory Biology I	(4)	_____BIOL 300 or Higher (3)
_____BIOL 115	Introductory Biology II	(4)	

V. A grade of C or better must be earned in all required courses (math, co-requisites and options courses)

<b>VI. Free Electives.....16 Credits</b>			
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