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
## II. Mathematics Course Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 140</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 220</td>
<td>Discrete Math Structures</td>
<td>3</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Multivariate Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 311</td>
<td>Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

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

## III. Co-requisites

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPSC 101</td>
<td>Comp &amp; Use in Science</td>
<td>3</td>
</tr>
<tr>
<td>CPSC 130</td>
<td>Intro Comp Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

## IV. Biology Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 114</td>
<td>Introductory Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 115</td>
<td>Introductory Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 300</td>
<td>or Higher</td>
<td>3</td>
</tr>
</tbody>
</table>

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

## VI. Free Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>