Curriculum for 
Ph.D. in Applied Mathematics for the Life and Social Sciences

Admitted With A Bachelor's

<table>
<thead>
<tr>
<th></th>
<th>Semester Hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Core Courses</td>
<td>15</td>
<td>Phase I</td>
</tr>
<tr>
<td>Master's in Passing Elective Hours*</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Complete Phase I (for students w/o Master's)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Numerical Analysis Course</td>
<td>3</td>
<td>Phase II</td>
</tr>
<tr>
<td>Elective Hours*</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Present Comprehensive Exams and Defend Dissertation Proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Research Hours</td>
<td>12</td>
<td>Dissertation</td>
</tr>
<tr>
<td>Required Dissertation Hours</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Total Semester Hours Required</td>
<td>84</td>
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</table>

*All courses should be in consultation with student's advisor or chair.

All students admitted with a bachelor’s degree to the Ph.D. in Applied Mathematics in the Life and Social Sciences program are automatically admitted into Phase I and must complete the following:

I. **Phase I: Required Core Courses** (15 credits)
   a. AML 610 Topics in AMLSS (3 credits)
   b. AML 611 Research Design and Proposal Writing (3 credits)
   c. AML 612 AMLSS Modeling Seminar (3 credits)
   d. AML 613 Probability & Stochastic Modeling for LSS (3 credits)
   e. One course in Bio-Statistics (3 credits)

II. **Phase I: Elective and Research Courses** (15 credits)
    a. Elective hours in consultation with faculty advisor or chair (students may take “Reading and Conference” or “Research Hours” to fulfill these credits) (24-27 credits)
    b. Student must complete 30 credit hours before passing to Phase II
    c. Student needs two completed research papers for portfolio

III. **Complete Master’s in Passing** (Masters Degree Granted)
    a. Present master’s research at Graduate Symposium (in April or May of second year)
    b. Present portfolio to be reviewed by a subcommittee appointed by the graduate committee

IV. **Phase II: Required Courses** (3 credits)
    a. One course in Numerical Analysis (3 credits)

V. **Phase II: Elective Hours** (27 credits)
   a. Elective hours in consultation with student’s chair (27 credits)
      i. At least 6 credits must be in the Life Sciences, and
      ii. At least 6 credits from the Social Sciences

VI. **Comprehensive Exams and Dissertation Proposal Defense**

VII. **Dissertation and Research Credits** (24 credit hours)
    a. AML 792 Dissertation Research (*maximum of 12 credits*)
    b. AML 799 Dissertation (12 credits)

VIII. **Completion of Program**
     a. Present dissertation orally in an open forum
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Ph.D. in Applied Mathematics for the Life and Social Sciences

<table>
<thead>
<tr>
<th>Admitted with a Master's</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>Required Core Courses</td>
<td>18</td>
</tr>
<tr>
<td>Elective Hours*</td>
<td>12</td>
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<tr>
<td>Present Comprehensive Exams and Defend Dissertation Proposal</td>
<td></td>
</tr>
<tr>
<td>Required Research Hours</td>
<td>12</td>
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<tr>
<td>Required Dissertation Hours</td>
<td>12</td>
</tr>
<tr>
<td>Total Semester Hours Required</td>
<td>54</td>
</tr>
</tbody>
</table>

*All courses should be in consultation with student's advisor or chair.

All students admitted with a master’s degree to the Ph.D. in Applied Mathematics for the Life and Social Sciences program are automatically placed into Phase II and must complete the following:

I. **Phase I: Required Core Courses** (18 credits)
   a. AML 610 Topics in AMLSS (3 credits)
   b. AML 611 Research Design and Proposal Writing (3 credits)
   c. AML 612 AMLSS Modeling Seminar (3 credits)
   d. AML 613 Probability & Stochastic Modeling for LSS (3 credits)
   e. One course in Bio-Statistics (3 credits)
   f. One course in Numerical Analysis (3 credits)

II. **Phase II: Elective Hours** (12 credits)
    a. Elective hours in consultation with student’s chair (12 credits)
       i. At least 6 credits hour must be in the Life Sciences, and
       ii. At least 6 credit hours from the Social Sciences

III. **Comprehensive Exams and Dissertation Proposal Defense**

IV. **Dissertation and Research Credits** (24 credits)
    a. AML 792 Dissertation Research (*maximum of 12 credits*)
    b. AML 799 Dissertation (*12 credits*)

V. **Completion of Program**
   a. Present dissertation orally in an open forum