DEGREE REQUIREMENTS CHECKLIST

This option is designed to provide students with advanced training in Applied Mathematics; graduates of the program should be qualified to enter any of the best Applied Mathematics graduate programs in the country. This option is more theoretical than the Mathematical Sciences Option.

This checklist below provides a summary of the requirements for the degree and major indicated above. For complete information, you should consult the Undergraduate Catalog 2008-2010. If you have any questions, please speak with an academic advisor at RLM 4.101.

PRESCRIBED WORK: These courses must be taken on a letter-grade basis.

1. English:
   - RHE 306
   - E 316K
   - Substantial Writing Component:
     - One upper-division course
     - One additional course
     These two courses may satisfy other degree requirements. They can be any number of semester hours. Consult the Course Schedule for a complete listing of writing component courses for a particular semester.

2. Foreign Language:
   - Third semester proficiency in a single foreign language at the college level
     - 506
     - 507 (or equivalent)
     - 312K (or equivalent)

3. U.S. History:
   - 6 semester hours of American History (3 hours of Texas History may be used toward one of the U.S. History requirements)
     - ________

4. Government:
   - 6 semester hours of American & Texas Government
     - GOV 310L
     - GOV 312L
     *See your Academic Advisor for transfer combinations that may be acceptable

5. 3 semester hours from one of the following areas:
   - Anthropology
   - Economics
   - Geography
   - Linguistics
   - Psychology
   - Sociology

6. 8 semester hours in one of the following areas: Astronomy, Biology, Chemistry, Geological Sciences or Physics:
   - ________
   - ________

7. 3 semester hours chosen from the following areas:
   - Architecture
   - Classics Department
   - College of Fine Arts
   - Philosophy (not logic)
   - 3 additional semester hours chosen from the following areas:
     - Architecture
     - Classics Department
     - College of Fine Arts
     - Philosophy

8. Calculus:
   - M 408C Differential & Integral Calculus*
   - M 408D Sequence, Series & Multivariable Calculus*
   *Or an equivalent calculus sequence (i.e., M 409K, M 408L, M 408M)

OPTION REQUIREMENTS: All courses must be taken on a letter-grade basis. A grade of C or better required in all courses counted towards option requirements. Students should consult the Applied Mathematics Advisor for information on other courses that may be counted toward this requirement.

- C S 303E (or the equivalent) Elements of Computers and Programming
- 32 semester hours of upper-division coursework in mathematics consisting of:
- M 341 (M340L, if already taken for other degree) Linear Algebra & Matrix Theory (Matrices and Matrix Calculations)
- M 427K Advanced Calculus for Applications I
- M 348 Scientific Computation in Numerical Analysis
- M 362K Probability I
- M 474M Introduction to Mathematical Modeling and Industrial Mathematics
- M 361 Theory of Functions of a Complex Variable
- M 365C Real Analysis I
- M 343K or M 373K Introduction to Algebraic Structures or Algebraic Structures I
- Enough of the following coursework to provide a total of at least 32 hours in the option requirement:
  - M 346 Applied Linear Algebra
  - M 365D Real Analysis II
  - M 368K Numerical Methods for Applications
  - M 372K Partial Differential Equations and Applications
  - M 376C Methods of Applied Mathematics
# SAMPLE COURSE PLAN

## FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 408C</td>
<td>M 408D</td>
<td>Natural science requirement (4hrs AS, BIO, CH, GEO, PHY)</td>
</tr>
<tr>
<td>RHE 306</td>
<td>C S 303E</td>
<td></td>
</tr>
<tr>
<td>Foreign language (506)</td>
<td>Foreign language (507)</td>
<td></td>
</tr>
<tr>
<td>Social science requirement (3hrs)</td>
<td>General culture requirement (3hrs)</td>
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</tr>
</tbody>
</table>

## NOTES
1. Upper-division class must be outside science.
2. Elective Math course including: M 346, M 365D, M 368K, M 372K, M 376C.
3. A one-hour writing component course can be taken concurrently with an approved math course during one of these semesters to complete the degree requirements for a total of 126 hours.
4. Upper-division electives may be required to meet general degree requirements.

**NOTE:** Sequence of upper division math courses should be chosen in consultation with a faculty advisor.

## SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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</thead>
<tbody>
<tr>
<td>M 341</td>
<td>M 427K</td>
<td>Natural science requirement (4hrs AS, BIO, CH, GEO, PHY)</td>
</tr>
<tr>
<td>E 316K</td>
<td>Social science requirement (HIS/GOV)</td>
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</tr>
<tr>
<td>Foreign language (312K)</td>
<td>General culture requirement (3hrs)</td>
<td></td>
</tr>
<tr>
<td>Social science requirement (HIS/GOV)</td>
<td>Elective (3 hrs)</td>
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</tbody>
</table>

## JUNIOR YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 362K</td>
<td>M 348</td>
<td></td>
</tr>
<tr>
<td>Upper division Math (3 hrs)</td>
<td>Upper division Math</td>
<td></td>
</tr>
<tr>
<td>Social science requirement (HIS/GOV)</td>
<td>Social science requirement (HIS/GOV)</td>
<td></td>
</tr>
<tr>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
<td></td>
</tr>
<tr>
<td>Upper division elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
<td></td>
</tr>
<tr>
<td>M 175-W</td>
<td>Elective (3 hrs)</td>
<td></td>
</tr>
</tbody>
</table>

## SENIOR YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 361</td>
<td>M 365C</td>
<td></td>
</tr>
<tr>
<td>M 343K or M 373K</td>
<td>M 474M</td>
<td></td>
</tr>
<tr>
<td>Upper division elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
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</tr>
<tr>
<td>M 175-W</td>
<td>Elective (3 hrs)</td>
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## ELECTIVES
- Electives are necessary to complete the **126-semester-hour requirement** for the B. S. in Mathematics.
- Once 30 hours of college credit is earned, up to 16 semester hours of electives may be taken pass/fail.
- Only two courses per semester may be taken pass/fail.

## GENERAL DEGREE REQUIREMENTS: YOU MUST SATISFY ALL OF THE FOLLOWING CONDITIONS IN ORDER TO GRADUATE:

- Minimum cumulative UT GPA of 2.0
- 30 semester hours must be completed in residence (in the classroom at UT) for students enrolled at UT Austin prior to Fall, 2004.
- For students in the 2004-2006 catalog and subsequent catalogs, 60 semester hours must be completed in residence (in the classroom at UT).
- 18 semester hours of coursework in mathematics must be completed in residence.
- 24 of the last 30 semester hours counted toward the degree must be in residence.
- 42 upper-division semester hours are required.
- 6 upper-division semester hours outside of both mathematics and subject areas listed in requirement 6. Philosophy courses in logic, computer science courses in discrete mathematics, and engineering courses may not be used.

The following courses will not count toward this degree: M301, M 302, M 303D, M304E, M 403K, M 403L, M 305G, M 505G, M316, M 316K, M 316L, M 360K, M 378S (or equivalent courses), KIN 119 or PED one-hour activity courses. No more than 12 semester hours of Bible coursework may be counted toward the degree. See catalog for restrictions about using ROTC coursework.

Link to Interactive Degree Audit
http://www.utexas.edu/student/registrar/ida

cns/mpaac: 07/08—BS MATH: Option II: Applied Mathematics