### DEGREE REQUIREMENTS CHECKLIST

This option is designed for students who are interested in theoretical mathematics for its own sake, or wish to pursue graduate study in Pure Mathematics. Students pursuing this degree should have a serious commitment to abstract theoretical research.

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:**
   - Q RHE 306
   - Q 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
   - Q 506
   - Q 507 (or equivalent)
   - Q 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)
   - Q 4000
   - Q 4010

4. **Government:**
   - 6 semester hours of American & Texas Government
   - Q GOV 310L
   - Q GOV 312L

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

6. **Government:**
   - 8 semester hours in one of the following areas: Astronomy, Biology, Chemistry, Geological Sciences or Physics:
   - Q 4000
   - Q 4010

7. **3 semester hours chosen from the following areas:**
   - Architecture
   - Classics Department
   - College of Fine Arts
   - Philosophy (not logic)
   - Q 4000
   - Q 4010

8. **Additional Area D Course** (A list of these courses is available in RLM 4.101.)

9. **Calculus:**
   - Q M 408C Differential & Integral Calculus*
   - Q M 408D Sequence, Series & Multivariable Calculus*

*Or an equivalent calculus sequence (i.e., M 408K, 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.

- At least 32 semester hours of upper-division coursework in mathematics consisting of:
  - Q M 341 (M 340L, if already taken for other degree) Linear Algebra & Matrix Theory (Matrices and Matrix Calculations)
  - Q M 427K Advanced Calculus for Applications I
  - Q M 347 Advanced Calculus for Applications II
  - Q M 361 Probability I
  - Q M 365C Real Analysis I
  - Q M 373K Algebraic Structures I

- A two course sequence chosen from the following are to be included in the total hours of the option requirement:
  - Q M 427K Advanced Calculus for Applications I and Q M 372K Partial Differential Equations & Applications
  - Q M 358K Applied Statistics and Q M 378K Introduction to Mathematical Statistics
  - Q M 367K Topology I and Q M 367L Topology II
  - Q M 362K Probability I and Q M 339J Probability Models with Actuarial Applications
  - Q M 348 Scientific Computation in Numerical Analysis and Q M 368K Numerical Mathematics for Applications
  - Q M 365C Real Analysis I and Q M 365D Real Analysis II
  - Q M 367K Topology I and Q M 365G Curves and Surfaces
  - Q M 373K Algebraic Structures I and Q M 373L Algebraic Structures II

- At least 10 additional hours of upper-division coursework in mathematics, chosen with the approval of the Undergraduate Advisor, to meet the required total for the option.
  (Either M 343K or M 391K may be counted toward this requirement, but not both.)
  - Q 4000
  - Q 4010
  - Q 4020
### 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 AST, BIO, CH, GEO, PHY)</td>
</tr>
<tr>
<td>RHE 306</td>
<td>GOV 310L</td>
<td></td>
</tr>
<tr>
<td>Foreign language (506)</td>
<td>Foreign language (507)</td>
<td></td>
</tr>
<tr>
<td>Social science requirement (3 hrs)</td>
<td>General culture requirement (3 hrs)</td>
<td></td>
</tr>
</tbody>
</table>

#### NOTES

1. Upper-division class must be outside science.
2. 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.
3. Upper-division electives may be required to meet general degree requirements.

#### SOPHOMORE YEAR

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

#### JUNIOR YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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</thead>
<tbody>
<tr>
<td>M 362K</td>
<td>Upper division Math (3 hrs)</td>
<td>Upper division Math (3 hrs)</td>
</tr>
<tr>
<td>M 361</td>
<td>Upper division Math (3 hrs)</td>
<td>Upper division Math (3 hrs)</td>
</tr>
<tr>
<td>Social science requirement (HIS GOV)</td>
<td>M 175W</td>
<td>Upper division Math (3 hrs)</td>
</tr>
<tr>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
</tr>
<tr>
<td>Upper division elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</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 373K</td>
<td>Upper division math (3 hrs)</td>
<td>Upper division math (3 hrs)</td>
</tr>
<tr>
<td>Upper division elective (3 hrs)</td>
<td>Upper division math (3 hrs)</td>
<td>Upper division math (3 hrs)</td>
</tr>
<tr>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
</tr>
<tr>
<td>M 361L, M 360K, M 379S (or equivalent courses), KIN 119 or PED one-hour activity courses</td>
<td>M 365C</td>
<td>Elective (2 hrs)</td>
</tr>
</tbody>
</table>

#### NOTES

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

### 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:

- 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.
- 42 upper-division semester hours are required.
- 24 of the last 30 semester hours counted toward the degree must be in residence.
- 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 379S (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](http://www.utexas.edu/student/registrar/ida)