DEGREE REQUIREMENTS CHECKLIST

This option is suitable for students who wish to take the Actuarial Exams, who wish to pursue graduate study in Actuarial Science or who wish to gain a deeper understanding of the uses of contemporary mathematics in business and economics.

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 *See your Academic Advisor for transfer combinations that may be acceptable
   ❑ GOV 310L  ❑ GOV 312L

5. 3 semester hours from one of the following areas (This requirement is fulfilled by completion of ECO 304K or ECO 304L):
   ❑ 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
   ❑ Alternative Area D Course (A list of these courses is available in RLM 4.101.)

8. Calculus:  ❑ M 408C  Differential & Integral Calculus*
   ❑ 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 IS REQUIRED IN ALL COURSES COUNTED TOWARD OPTION REQUIREMENTS.

❑ ACF 329 Theory of Interest
❑ ECO 304K Introduction to Microeconomics  ❑ ECO 304L Introduction to Macroeconomics
❑ ACC 310F or (both ACC 311 & ACC 312)  Foundations of Accounting or Fundamentals of Financial and of Managerial Acc.
❑ FIN 357 Business Finance

• At least 32 hours of upper division coursework in mathematics and supporting areas consisting of:
   ❑ M 341 (M 340L, if already taken for other degree)  Linear Algebra & Matrix Theory (Matrices and Matrix Calculations)
   ❑ M 362K  Probability I
   ❑ M 358K or M 378K  Applied Statistics or Introduction to Mathematical Statistics

• One of the following courses:
   ❑ M 328K Intro to Number Theory  ❑ M 343K Intro to Algebraic Structures  ❑ M 361K Intro to Real Analysis
   ❑ M 365C Real Analysis I  ❑ M 373K Algebraic Structures I  ❑ M 367K Topology I
   ❑ M 361 Theory of Functions of a Complex Variable

• ❑ M 339U Actuarial Contingent Payments I  ❑ M 339J Probability Models with Actuarial Applications
• At least two of the following courses:
   ❑ M 349R Applied Regression and Time Series  ❑ M 349P Actuarial Statistical Estimates
   ❑ M 339V Actuarial Contingent Payments II  ❑ M 339W Financial Mathematics for Actuarial Applications

*Offered Fall Semester only  +Offered Spring Semester only.
- Enough additional coursework to provide a total of at least 32 hours. In addition to upper-division mathematics courses, the following courses may be counted towards this requirement:
  - LEB 320F, 323
  - ECO 420K
  - MIS 325
  - R M 357E, 369K, 377

**NOTE:** Courses should be selected from this list in consultation with the specialization advisor to form a coherent program taking the student’s background and goals into account. Students are responsible for meeting prerequisites and for obtaining permission, as needed, to take courses taught outside the Mathematics Department.

### SAMPLE COURSE PLAN

#### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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</thead>
<tbody>
<tr>
<td>M 408C</td>
<td>M 408D</td>
<td>Natural science requirement (4 hrs AST, BIO, CH, GEO, PHY)</td>
</tr>
<tr>
<td>RHE 306</td>
<td>Natural science requirement (4 hrs AST, BIO, CH, GEO, PHY)</td>
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</tr>
<tr>
<td>Foreign language (506)</td>
<td>Foreign language (507)</td>
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<tr>
<td>ECO 304K</td>
<td>ECO 304L</td>
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#### SOPHOMORE YEAR

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<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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<tbody>
<tr>
<td>M 362K</td>
<td>M 341</td>
<td>Social science requirement (HIS/GOV)</td>
</tr>
<tr>
<td>ACF 329</td>
<td>M 358K or M 378K</td>
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</tr>
<tr>
<td>Foreign language (312K)</td>
<td>ACF 129D</td>
<td></td>
</tr>
<tr>
<td>General Culture Requirement (3 hrs)</td>
<td>E 316K</td>
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<tr>
<td>ACC 310F (or ACC 311)</td>
<td>Writing component (3 hrs)</td>
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<td></td>
<td>Elective (3 hrs) (or ACC 312)</td>
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#### JUNIOR YEAR

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<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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<tbody>
<tr>
<td>M 339U</td>
<td>M 339J</td>
<td></td>
</tr>
<tr>
<td>Upper division Math (3 hrs)</td>
<td>M 339V</td>
<td></td>
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<tr>
<td>FIN 357</td>
<td>Upper division Math or supporting course</td>
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<tr>
<td>Social science requirement (HIS/GOV)</td>
<td>M 139S + M 175-W</td>
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</tr>
<tr>
<td>Elective (3 hrs)</td>
<td>Elective (3 hrs)</td>
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#### SENIOR YEAR

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<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Summer</th>
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</thead>
<tbody>
<tr>
<td>M 339W</td>
<td>Upper division Math or supporting course</td>
<td></td>
</tr>
<tr>
<td>Upper division Math or supporting course</td>
<td>General Culture requirement (3 hrs)</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>
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</tr>
<tr>
<td>Elective (3 hrs)</td>
<td>Elective (1-3 hrs)</td>
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#### NOTES

1. Introductory Actuarial Financial Mathematics not required but suggested as preparation for actuarial exams
2. One of the following: M 328K, M 343K, M 361, M 361K, M 365C, M 367K, M 373K
3. At least two of the following courses: M 339V, M 339W, M 349P, M 349R
4. Upper division math courses or related courses from approved list.
5. One writing component course can be taken concurrently with an approved math course.
6. M139S- Seminar in Actuarial Practice- is one option. Or, the requirement can be met by taking a course in another subject area which “contains a substantial writing component.”
7. 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.

### 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
- 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. Courses used to satisfy the 32 semester hours of upper division coursework in mathematics and supporting areas may not count for this requirement. The following courses will not count toward this degree: M 301, M 302, M 303D, M 304E, M 403K, M 403L, M 305G, M 505G, M 316, 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/](http://www.utexas.edu/student/registrar/ida/)