## Check List for BA in Mathematics

**Effective Fall 2016**

### MATHEMATICS (45 Hours; MUST have 30 advanced hours):

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- MATH 1431 Calculus I Fall, Spring, Sum
- MATH 1432 Calculus II Fall, Spring, Sum
- MATH 2131 Linear Algebra Lab Fall, Spring, Summer
- MATH 2331 Linear Algebra Fall, Spring, Sum
- MATH 2432 Calculus III Fall, Spring, Sum
- MATH 3325 Transition to Advanced Mathematics Fall, Spring, Sum
- MATH 3330 Abstract Algebra Fall, Spring, Sum
- MATH 3331 Differential Equations Fall, Spring, Sum
- MATH 3334 Advanced Multivariable Calculus Fall, Spring, Sum
- MATH 3335 Vector Analysis Fall, Spring
- MATH 3363 Introduction to Partial Differential Equations Fall, Spring, Sum
- MATH 3364 Introduction to Complex Analysis Fall, Spring
- MATH 4389 Survey of Undergraduate Mathematics Fall, Spring, Sum
- MATH 3__ 3 hours advanced MATH elective
- MATH 43__ 3 hours 4000-level MATH elective

### MATH SENIOR SEQUENCE (6 Hours):

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- MATH 43__ 3 hrs MATH Senior Sequence elective
- MATH 43__ 3 hrs MATH Senior Sequence elective

Possible Senior Sequences:
- 4331/4332, 4377/4378, 4335/4336, 4335/4362, 4335/4366, 4320/4380, 4309/4310

### NSM Natural Sciences (7 Hours):

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 1 hr Natural Sciences Lab***
- 3 hours NSM Approved Natural Science***
- 3 hours NSM Approved Natural Science***

**Indicates ALL courses must be in the same discipline and approved for NSM majors

### CORE (Check UH Catalog or UH Core Website for Pre-Requisites)

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- ENGL 1303 First Year Writing I
- ENGL 1304 First Year Writing II

### COMMUNICATION (6 Hours):

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### STATE REQUIREMENTS (12 Hours):

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- HIST 1376 or 1377 The United States to 1877
- HIST 1378 or 1379 The United States Since 1877
- POLS 1336 U.S. and Texas Constitutions and Politics
- POLS 1337 U.S. Government: Congress, President, and Court

### FROM APPROVED CORE LIST (12 Hours): Choose from UH Core Website

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Language/Philosophy/Culture (3 Hours)
- Creative Arts (3 Hours)
- Social & Behavioral Science (3 Hours)
- Writing in the Disciplines (3 Hours)

### RULES YOU NEED TO KNOW:

1. **MINIMUM of a 2.00 GPA in cumulative, major, and minor GPA to graduate**
2. **C-RULE: MAXIMUM of 6 hours of grades below C- allowed in UH MATH courses**
3. **LAST 30 hours must be exclusively completed at UH**
4. **MAXIMUM of 6 W's allowed during entire undergraduate career**
5. **MINIMUM of 36 advanced hours and 120 total hours to graduate**
6. **MAXIMUM of 66 lower level transfer hours may be applied towards UH degree**
7. **At 60 hours, must request a Major Degree Plan *REQUIRED TO GRADUATE***

---

### EXAMPLES OF MATHEMATICS ELECTIVES

- F/S Su MATH 3336 Discrete Mathematics
- F/S Su MATH 3338 Probability
- F/S Su MATH 3339 Statistics for the Sciences
- F MATH 3340 Introduction to Fixed Income Mathematics
- S MATH 3379 Introduction to Higher Geometry
- S MATH 4309 Mathematical Biology
- F MATH 4310 Biostatistics
- S MATH 4315 Graph Theory with Applications
- F MATH 4320 Introduction to Stochastic Processes
- F/S MATH 4331/4332 Introduction to Real Analysis
- ** MATH 4333 Advanced Abstract Algebra
- F/S MATH 4335/4336 Partial Differential Equations
- F/S MATH 4350/4351 Differential Geometry
- S MATH 4355 Mathematics of Signal Representation
- ** MATH 4360 Integral Equations
- ** MATH 4362 Theory of Ordinary Differential Equations
- F/S MATH 4364/4365 Numerical Analysis
- F MATH 4366 Numerical Linear Algebra
- F/S Su MATH 4377 Advanced Linear Algebra I
- S/Su MATH 4378 Advanced Linear Algebra II
- S MATH 4380 Mathematical Introduction to Options
- F MATH 4388 History of Mathematics

- F - Fall Semester, S - Spring Semester, Su - Summer Semester

**Indicates the course is not offered at consistent intervals**

### NSM CAPSTONE (Minimum 6 Advanced Hours):

- Must choose from one of the following:
  - Minor
  - Double Major
  - Senior Research Project
  - Double Degree
  - Senior Honors Thesis
  - teachHouston

### FREE ELECTIVES (Additional hours to complete a total of 120 hours, including at least 36 advanced hours)

<table>
<thead>
<tr>
<th>Tr</th>
<th>UH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*May require up to 26 hours of free electives, depending on NSM Capstone selected and if any Foreign Language pre-requisites are needed*