# 2020 - 2021 Major Map

## Mathematics, BA

**School/College:** The College of Liberal Arts and Sciences  
**Location:** Tempe campus  
**LAMATBA**

### Term 1 0 - 15 Credit Hours

<table>
<thead>
<tr>
<th>Course / Requirement</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 110: Principles of Programming (CS) OR CSE 100: Principles of Programming with C++ (CS)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>MAT 270: Calculus with Analytic Geometry I (MA)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>LIA 101: Student Success in The College of Liberal Arts and Sciences</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Second Language: Requirement satisfied through the following:**

- Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.

**Maintain 2.50 GPA in Critical Tracking Courses.**

**Term hours subtotal:** 15

### Term 2 15 - 30 Credit Hours

<table>
<thead>
<tr>
<th>Course / Requirement</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 271: Calculus with Analytic Geometry II (MA)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Related Field</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Second Language: Requirement satisfied through the following:**

- Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.

**Complete ENG 101 OR ENG 105 OR ENG 107 course(s).**

**Maintain 2.50 GPA in Critical Tracking Courses.**

**Term hours subtotal:** 15

### Term 3 30 - 45 Credit Hours

<table>
<thead>
<tr>
<th>Course / Requirement</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 272: Calculus with Analytic Geometry III (MA)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Second Language: Requirement satisfied through the following:**

- Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.

**Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C) | 3 | | |
| Natural Science - Quantitative (SQ) | 4 | | |

**Term hours subtotal:** 15

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- An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses.
- Mathematics Placement Assessment score determines placement in mathematics course.
- ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students.
- ASU Language Placement: Only true beginners are eligible for 101-level courses. All other students are required to take a placement exam, regardless of prior credit earned.
- Select your Career Interest Communities and play me3@ASU.
Complete First-Year Composition requirement.

Complete Mathematics (MA) requirement.

Maintain 2.50 GPA in Critical Tracking Courses.

Term hours subtotal: 15

**Term 4 45 - 61 Credit Hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 300: Mathematical Structures (L)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>MAT 342: Linear Algebra OR MAT 343: Applied Linear Algebra</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Second Language: Requirement satisfied through the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Completion of a language course at the intermediate level (202 or equivalent), including American Sign Language IV.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU) AND Historical Awareness (H)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB) AND Global Awareness (G)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Maintain 2.50 GPA in Critical Tracking Courses.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 16

**Term 5 61 - 77 Credit Hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 370: Intermediate Calculus OR MAT 371: Advanced Calculus 1</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related Field</td>
<td>6</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Natural Science - Quantitative (SQ) OR Natural Science - General (SG)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 16

**Term 6 77 - 91 Credit Hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division Additional Course in the Major (ACT, MAT or STP)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Related Field</td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Literacy and Critical Inquiry (L)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 14

**Term 7 91 - 106 Credit Hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete 2 courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division Additional Course in the Major (ACT, MAT or STP)</td>
<td>6</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division Elective</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 15

• PHY 121/PHY 122 and/or MSE 208 are recommended to satisfy the Natural Science - Quantitative (SQ) requirement as they also satisfy Related Field requirements.

• Meet with your academic advisor to discuss options for adding a minor, certificate, or concurrent major to your degree program.

• Upper division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.

• Develop your skills.

• Minimum grade of C required in all MAT and STP classes; grade of B or better strongly correlated with timely graduation.

• Meet with your academic advisor to discuss post-graduation plans, e.g. graduate school, career preparation.

• Upper division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.

• Use Handshake to research employment opportunities

• PHI 103 is recommended for the Literacy and Critical Inquiry (L) requirement.

• Minimum grade of C required in all MAT and STP classes; grade of B or better strongly correlated with timely graduation.

• Upper division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor.

• Meet with a career counselor from ASU Career Services for a review of your resume and interviewing tips for success.

Page 2
Meet with your academic advisor to discuss post-graduation plans, e.g., graduate school, career preparation. Develop your professional online presence.

### Term 8 106 - 120 Credit Hours

<table>
<thead>
<tr>
<th>Necessary course signified by ✨</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division Additional Course in the Major (ACT, MAT or STP)</td>
<td>4</td>
<td>C</td>
<td>• Minimum grade of C required in all MAT and STP classes; grade of B or better strongly correlated with timely graduation. Upper division MAT/STP courses should be taken through the Tempe campus, unless approved by a SoMSS advisor. Meet with your academic advisor for final degree check and apply for graduation through your My ASU.</td>
</tr>
<tr>
<td>Additional Course in the Major (ACT, MAT or STP)</td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Complete 3 courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division Elective</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Term hours subtotal:</td>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hide Course List(s)/Track Group(s)

- **Additional Course in the Major (ACT, MAT or STP)**
  - ACT Upper Division Elective
  - MAT Upper Division Elective
  - STP 4** Elective

- **Related Field**
  - ACT Upper Division Elective
  - AST Upper Division Elective
  - BCH 4** Elective
  - BME Upper Division Elective
  - CEE Upper Division Elective
  - CHE Elective
  - CHM 341: Elementary Physical Chemistry
  - CHM 343: Elementary Physical Chemistry Laboratory
  - CHM 345: Physical Chemistry I
  - CHM 346: Physical Chemistry II
  - CHM 348: Physical Chemistry Laboratory I (L)
  - CHM 349: Physical Chemistry Laboratory II (L)
  - CHM 453: Inorganic Chemistry
  - CHM 460: Biological Chemistry
  - CHM 471: Solid-State Chemistry
  - CIS 2** Elective
  - CIS Upper Division Elective
  - CSE Elective
  - ECN Upper Division Elective
  - EEE Elective
  - FIN Upper Division Elective
GLG 418: Geophysics
GLG 419: Geodynamics
GLG 470: Hydrogeology
GLG 481: Geochemistry

IEE Upper Division Elective

MAE Elective

MAT 243: Discrete Mathematical Structures
MAT 274: Elementary Differential Equations (MA) or MAT 275: Modern Differential Equations (MA)

MAT Upper Division Elective

MSE Elective

PHI 333: Symbolic Logic

PHI 413: Advanced Symbolic Logic

PHY 121: University Physics I: Mechanics (SQ)
PHY 122: University Physics Laboratory I (SQ)

PHY 131: University Physics II: Electricity and Magnetism (SQ)
PHY 132: University Physics Laboratory II (SQ)

PHY 150: Physics I (SQ)
PHY 151: Physics II (SQ)

PHY 2** Elective
PHY Upper Division Elective

STP Upper Division Elective


Notes:
• Please keep in mind that the applicability of a specific transfer course toward an ASU degree program depends on the requirements of the department, division, college or school in which you are enrolled at ASU. Transfer agreements that guarantee the completion of university level requirements do not necessarily meet college and major requirements. Please consult with an advisor for more information.

Total Hours: 120
Upper Division Hours: 45 minimum
Major GPA: 2.00 minimum
Cumulative GPA: 2.00 minimum
Total hrs at ASU: 30 minimum
Hrs Resident Credit for Academic Recognition: 56 minimum
Total Community College Hrs: 64 maximum
Total College Residency Hrs: 12 minimum

General University Requirements Legend

General Studies Core Requirements:
• Literacy and Critical Inquiry (L)
• Mathematical Studies (MA)
• Computer/Statistics/Quantitative Applications (CS)
• Humanities, Arts and Design (HU)
• Social-Behavioral Sciences (SB)
• Natural Science - Quantitative (SQ)
• Natural Science - General (SG)
General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

General Studies designations listed on the major map are current for the 2020 - 2021 academic year.