## Major Map: Biochemistry (Medicinal Chemistry) – Bachelor of Science (B.S.)

**College of Liberal Arts and Sciences, Tempe Campus**  
**Catalog Year: 2009-2010**

<table>
<thead>
<tr>
<th>Course Subject and Title</th>
<th>Course/Grade</th>
<th>Minimum Grade if Required</th>
<th>Additional Critical Requirement Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERM ONE: 0-15 CREDIT HOURS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 117: General Chemistry for Majors I (SQ) or CHM 113: General Chemistry I (SQ)</td>
<td>4</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>MAT 270: Calculus &amp; Analytic Geometry I (MA) (or prereq - MAT 170: Precalculus, depending on math placement score)</td>
<td>3 or 4</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or 108: English for Foreign Students</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Science (SB) AND Cultural Awareness in the US (C), Global Awareness (G) OR Historical Awareness (H)</td>
<td>3</td>
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<tr>
<td><strong>TERM TWO: 16-30 CREDIT HOURS</strong></td>
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<tr>
<td>Complete one course from: BIO 187: General Biology I (SG) BIO 188: General Biology II (SQ)</td>
<td>4</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>CHM 118: General Chemistry for Majors II (SQ) or CHM 116: General Chemistry II (SQ)</td>
<td>4</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>MAT 271: Calculus with Analytic Geometry II or MAT 270: Calculus &amp; Analytic Geometry I</td>
<td>4</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or 108: English for Foreign Students</td>
<td>3</td>
<td>Grade of C</td>
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<tr>
<td><strong>TERM THREE: 31-45 CREDIT HOURS</strong></td>
<td></td>
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<tr>
<td>Complete remaining course from: BIO 187: General Biology I (SG) BIO 188: General Biology II (SQ)</td>
<td>4</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>CHM 333: Organic Chemistry for Majors or CHM 233: General Organic Chemistry I</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>MAT 271: Calculus with Analytic Geometry II or if completed, take Elective</td>
<td>4</td>
<td>Grade of C in MAT 271</td>
<td></td>
</tr>
<tr>
<td>CHM 337: Organic Chemistry for Majors I Laboratory or CHM 237: General Organic Chemistry Laboratory I</td>
<td>1</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>PHY 111: General Physics &amp; PHY 113: Laboratory</td>
<td>3/1</td>
<td>Grade of C</td>
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<tr>
<td><strong>TERM FOUR: 46-60 CREDIT HOURS</strong></td>
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<tr>
<td>BIO 360: Animal Physiology</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>CHM 334: Organic Chemistry for Majors II or CHM 234: General Organic Chemistry II</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>CHM 338: Organic Chemistry for Majors II Laboratory or CHM 238: Organic Chemistry Laboratory for Majors II</td>
<td>1</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>PHY 112: General Physics &amp; PHY 114: Laboratory</td>
<td>3/1</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>Literacy and Critical Inquiry (L)</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>TERM FIVE: 61-75 CREDIT HOURS</strong></td>
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<tr>
<td>BCH 461: General Biochemistry</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>BIO 353: Cell Biology</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>CHM 341: Elementary Physical Chemistry</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>CHM 343: Elementary Physical Chemistry Laboratory</td>
<td>1</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Science (SB) AND Cultural Awareness in the US (C), Global Awareness (G) OR Historical Awareness (H)</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>3</td>
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<tr>
<td><strong>TERM SIX: 76-90 CREDIT HOURS</strong></td>
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<tr>
<td>BCH 462: General Biochemistry</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>BCH 463: Biophysical Chemistry</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>BCH 467: Analytical Biochemistry Laboratory (L)</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Upper division CLAS Science and Society</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
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<tr>
<td>Humanities, Fine Arts &amp; Design (HU) and/or Critical Awareness in the US (C), Global Awareness (G) OR Historical Awareness (H)</td>
<td>3</td>
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<tr>
<td><strong>TERM SEVEN: 91-105 CREDIT HOURS</strong></td>
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<tr>
<td>CHM 433: Advanced Organic Chemistry I</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Upper division CLAS Science and Society</td>
<td>3</td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Computer/Statistics/Quantitative Science (CS)</td>
<td>3</td>
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</tr>
<tr>
<td>Humanities, Fine Arts &amp; Design (HU)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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</tbody>
</table>

- **Req. for Learning:** Maintain 2.0 GPA in all critical courses.
- **Community:** All freshmen must pass an academic success course and therefore must enroll in an Academic Success Cluster and/or a First Year Seminar.
- **ASU Math Placement Exam score determines placement into first-year composition courses.**
- **Maintain 2.0 GPA in all critical courses.**
- **First-Year Composition completed by the end of semester 3.**

Updated: 3/5/09
**Course Subject and Title** *(courses in **bold/shading** are critical)*

<table>
<thead>
<tr>
<th>Hrs.</th>
<th>Upper Division</th>
<th>Transfer Course/Grade</th>
<th>Minimum Grade if Required</th>
<th>Additional Critical Requirement Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERM EIGHT: 106-120 CREDIT HOURS</strong></td>
<td></td>
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<tr>
<td>CHM 435: Medicinal Chemistry</td>
<td>3</td>
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<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Upper division CHM or BCH elective</td>
<td>3</td>
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<td></td>
</tr>
<tr>
<td>Upper division Humanities, Fine Arts &amp; Design (HU) or Social &amp; Behavioral Science (SB)</td>
<td>3</td>
<td></td>
<td>Grade of C</td>
<td></td>
</tr>
<tr>
<td>Upper division elective</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper division elective</td>
<td>3</td>
<td></td>
<td>Grade of C</td>
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</tr>
</tbody>
</table>

**Graduation Requirements Summary:**

<table>
<thead>
<tr>
<th>Total Hours (120 minimum)</th>
<th>Total Hrs at ASU (30 minimum)</th>
<th>Hrs Resident Credit for Academic Recognition (56 minimum)</th>
<th>Major GPA (2.000 minimum)</th>
<th>Total UD Hrs (45 minimum)</th>
<th>Total Comm. College Hrs. (64 maximum)</th>
</tr>
</thead>
</table>

**General University Requirements: Legend**

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

- General Studies Awareness Requirements
  - Cultural Diversity in the US (C)
  - Global Awareness (G)
  - Historical Awareness (H)

- First-Year Composition

**Additional Notes:**