

2004-2005
BIOCHEMISTRY MAJOR – BACHELOR OF SCIENCE DEGREE
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

| MAJOR REQUIREMENTS | ALTERNATIVE SEQUENCE |
|--------------------|----------------------|
|--------------------|----------------------|

| Course | Title | Hrs | Tr | UD |
|------------------|---------------------|-----|----|----|
| CHM 117 | Gen Chem Majors | 4 | | |
| CHM 118 | Gen Chem Majors | 4 | | |
| CHM 317 | Org Chem Majors | 3 | | |
| CHM 319 | Org Chem Lab Majors | 1 | | |
| CHM 318 | Org Chem Majors II | 3 | | |
| CHM 320 | Org Chem Lab Maj II | 1 | | |
| CHM 341 | Elem Physical Chem | 3 | | |
| BCH 461 | Gen Biochemistry | 3 | | |
| BCH 462 | Gen Biochemistry | 3 | | |
| BCH 463 | Biophysical Chem | 3 | | |
| BCH 464 | Biophy Chem Lab | 2 | | |
| BCH 467 | Analy Biochem Lab | 3 | | |
| CHM/BCH elective | | 3 | | |

| Course | Title | Hrs | Tr | UD |
|---------|-------------------|-----|----|----|
| CHM 113 | General Chem | 4 | | |
| CHM 115 | Gen Chem (or 116) | 5 | | |
| CHM 331 | Gen Organic Chem | 3 | | |
| CHM 335 | Gen Org Chem Lab | 1 | | |
| CHM 332 | Gen Organic Chem | 3 | | |
| CHM 336 | Gen Org Chem Lab | 1 | | |
| CHM 345 | Physical Chem. I | 3 | | |

Electives: **BCH 392, 465**
CHM 325, 327, 424, 431, 453, 471, 481, 485

Related Courses

| | | | | |
|---------|---------------------|---|--|--|
| BIO 187 | General Biology I | 4 | | |
| BIO 188 | General Biology II | 4 | | |
| BIO 340 | General Genetics | 4 | | |
| BIO 353 | Cell Biology | 3 | | |
| MAT 270 | Calculus w/Geom.I | 4 | | |
| MAT 271 | Calculus w/Geom. II | 4 | | |
| PHY 111 | General Physics | 3 | | |
| PHY 113 | Gen. Physics Lab | 1 | | |
| PHY 112 | General Physics | 3 | | |
| PHY 114 | Gen. Physics Lab | 1 | | |

Major must include minimum of 67 hours, 12 hours upper division at ASU, "C" minimum in all upper division courses.

| UNIVERSITY GENERAL STUDIES | COLLEGE OF LIBERAL ARTS & SCIENCES |
|----------------------------|------------------------------------|
|----------------------------|------------------------------------|

First Year Comp ("C" minimum) _____

Literacy/Critical Inquiry (L) _____
Literacy/Critical Inquiry (upper division satisfied by BCH 467)
Mathematical Studies (CS) _____

Mathematical Studies (MA) (satisfied by major)

Humanities/Fine Art (HU)
 (6-9 hours, HU and SB must total 15 hours)

Social Behavioral Sciences (SB)
 (6-9 hours, one HU or SB must be upper division)

HU and SB Awareness Areas (must cover all three)
 Cultural (C) _____ Global (G) _____ Historical (H) _____

Second Language _____
 (proficiency through intermediate level, "C" min.)

Humanities (6 hours, upper division, choose from:
 AFH, CSH, ENG, HPS, HUM, PHI, REL, WSH)
All second language literature or civilization courses.
Can NOT double count with University General Studies.

Social Behavioral Sciences (6 hours, upper division
 choose from: AFS, ASB, CSS, ECN, GCU, HST, PGS,
 POS, SOC, WST **except for WST 413, 464 and 470**)
Can NOT double count with University General Studies.

Bridge Course (to view refer to:
<http://clas.asu.edu/students/roadmap/degreerequirements/>)

Natural Science/Mathematics (satisfied by major)

Required: 120 total hours, 45 upper division hours, 30 hours in residence at ASU, 2.00 minimum GPA

The schedule presented below is a model program of study that includes all the departmental requirements for courses in chemistry and related subjects. It presents a sequence that accommodates prerequisites for the required courses. Students and advisers should recognize that the order of courses in this outline is a model program and many other plans will work as well.

Year 1

| Semester (Fall) | hours | Semester (Spring) | hours |
|--------------------------------|---------------------|--------------------------------|----------------|
| CHM 117 General Chem. - Majors | 4 | CHM 118 General Chem. - Majors | 4 |
| MAT 270 Calculus w/Geom. I | 4 | MAT 271 Calculus w/Geom. II | 4 |
| ENG 101 First-year Comp. | 3 | ENG 102 First-year Comp. | 3 |
| | | BIO 187 General Biology | 4 |
| *Non-major | <u>4-6</u> 15-17 | *Non-major | <u>4</u> 15 |

Year 2

| Semester (Fall) | hours | Semester (Spring) | hours |
|---------------------------------|---------------------|--------------------------------|---------------------|
| BIO 188 General Biology | 4 | BIO 340 General Genetics | 4 |
| CHM 317 Organic Chem. - Majors | 3 | CHM 318 Organic Chem. - Majors | 3 |
| CHM 319 Org. Chem. Lab - Majors | 1 | CHM 320 Org. Chem. Lab Majors | 1 |
| PHY 111 Physics | 3 | PHY 112 Physics | 3 |
| PHY 113 Physics Lab | 1 | PHY 114 Physics Lab | 1 |
| *Non-major | <u>3-5</u> 15-17 | *Non-major | <u>3-5</u> 15-17 |

Year 3

| Semester (Fall) | hours | Semester (Spring) | hours |
|------------------------------|---------------------|---------------------------------|---------------------|
| BIO 353 Cell Biology | 3 | BCH 462 General Biochemistry | 3 |
| CHM 341 Elem. Physical Chem. | 3 | BCH 463 Biophysical Chem. | 3 |
| BCH 461 General Biochemistry | 3 | BCH 467 Analytical Biochem. Lab | 3 |
| *Non-major | <u>6-8</u> 15-17 | *Non-major | <u>6-8</u> 15-17 |

Year 4

| Semester (Fall) | hours | Semester (Spring) | hours |
|-------------------------------|-----------------------|-------------------|-----------------------|
| BCH 464 Biophysical Chem. Lab | 2 | @CHM/BCH elective | 3 |
| *Non-major | <u>13-15</u> 15-17 | *Non-major | <u>12-14</u> 15-17 |

* Non-major courses: Courses that satisfy university general studies and College of Liberal Arts and Sciences graduation requirements and any other interests the student chooses to pursue.

@ May be taken any semester to complete the chemistry hours requirement. NOTE: only 3 hrs. of credit for CHM/BCH elective is required.