# DEGREE GUIDE FOR THE COLLEGE OF ARTS AND SCIENCES
# B.S.: BIOCHEMISTRY -- 2009-2011

Note: of the 128 credits required for graduation, students must earn at least 104 within Arts and Sciences departments.

| **Thought and Expression** | | **GRD** | **7.0** |
|---|---|---|---|
| ENGL 101 English Composition | 3 | [ ] | |
| PHIL 101 Critical Thinking | 2 | [ ] | |
| SPCO 101 Intro to Speech Comm | 2 | [ ] | |

| **Religious Studies** | | **GRD** | **9.0** |
|---|---|---|---|
| RELI 100 Level Course | 3 | [ ] | |
| RELI 200 Level Course | 3 | [ ] | |
| RELI 300 Level Course | 3 | [ ] | |

| **Philosophy** | | **GRD** | **9.0** |
|---|---|---|---|
| PHIL 201 Human Nature | 3 | [ ] | |
| PHIL 301 Ethics | 3 | [ ] | |
| PHIL 400 Level Course | 3 | [ ] | |

| **English** | | **GRD** | **6.0** |
|---|---|---|---|
| ENGL 102, 103H, 105 or 106 | 3 | [ ] | |
| ENGL 201 – 285 | 3 | [ ] | |

| **Fine Arts** | | **GRD** | **3.0** |
|---|---|---|---|
| (P) | 3 | [ ] | |

*Fine Arts Course must have "P" designation*

| **Foreign Language/Culture** | | **GRD** | **3.0** |
|---|---|---|---|
| (FC) | 3 | [ ] | |

*Foreign Language/Culture Course must have "FC" designation*

| **History (choice of 2)*** | | **GRD** | **6.0** |
|---|---|---|---|
| HIST | 3 | [ ] | |
| HIST | 3 | [ ] | |

*HIST 101 and either 102 or 112 in the first year. If unable to complete all six 100-level HIST credits in the first year, HIST 201 or 202 may be substituted for ONE 100-level course after the first year. (NO upper division can substitute.)*

| **Social Science** | | **GRD** | **6.0** |
|---|---|---|---|
| CRIM 101, ECON, SOCI, POLS or PSYC | | | |
| | 3 | [ ] | |
| | 3 | [ ] | |

| **Math/Lab Science/Elective** | | **GRD** | **10.0** |
|---|---|---|---|
| Math** | 3 | [ ] | |
| Lab Science | 4 | [ ] | |
| Elective** | 3 | [ ] | |

***MATH 100 level or above (or ITEC for elective)*

| **Social Justice** | | **GRD** | **3.0** |
|---|---|---|---|
| (J) | 3 | [ ] | |

*Social Justice Course must have "J" designation*

**TOTAL CORE CREDIT** **62**

**Electives:**

[ ]
[ ]
[ ]

## B.S. – BIOCHEMISTRY -- 71 Credits

**MAJOR LOWER DIVISION** **41 credits**

| **CRSE** | **CRSE Title** | | **GRD** |
|---|---|---|---|
| CHEM 101 | General Chemistry | 3 | [ ] |
| CHEM 101L | General Chemistry Lab | 1 | [ ] |
| CHEM 206 | Inorganic Chemistry | 3 | [ ] |
| CHEM 206L | Inorganic Chemistry Lab | 1 | [ ] |
| CHEM 230 | Organic Chemistry I | 4 | [ ] |
| CHEM 230L | Organic Chemistry I Lab | 1 | [ ] |
| BIOL 101 | Diversity of Life | 3 | [ ] |
| BIOL 101L | Diversity of Life Lab | 1 | [ ] |
| BIOL 201 | Cellular Biology | 3 | [ ] |
| BIOL 201L | Cellular Biology Lab | 1 | [ ] |
| BIOL 202 | Genetics & Evolution | 3 | [ ] |
| BIOL 202L | Genetics & Evolution Lab | 1 | [ ] |
| MATH 157 | Calc & Analy Geometry I | 4 | [ ] |
| MATH 258 | Calc & Analy Geometry II | 4 | [ ] |
| PHYS 103 | Scientific Physics I | 3 | [ ] |
| PHYS 103L | Scientific Physics I Lab | 1 | [ ] |
| PHYS 204 | Scientific Physics II | 3 | [ ] |
| PHYS 204L | Scientific Physics II Lab | 1 | [ ] |

**MAJOR UPPER DIVISION** **30 credits**

| **CRSE** | **CRSE Title** | | **GRD** |
|---|---|---|---|
| CHEM 310 | Quantitative Analysis | 3 | [ ] |
| CHEM 310L | Quantitative Analysis Lab | 2 | [ ] |
| CHEM 331 | Organic Chemistry II | 3 | [ ] |
| CHEM 331L | Organic Chemistry II Lab | 1 | [ ] |
| CHEM 440 | Biochemistry I | 3 | [ ] |
| CHEM 443 | Biochemistry I Lab | 2 | [ ] |
| CHEM 445 | Biochemistry II | 3 | [ ] |
| BIOL 456 | Molecular Biology | 3 | [ ] |
| BIOL 456L | Molecular Biology Lab | 2 | [ ] |
| CHEM 471 | Chemical Bibliography | 1 | [ ] |
| CHEM 485 | Seminar | 1 | [ ] |
| CHEM 486 | Seminar | 1 | [ ] |
| CHEM 498A | Thesis | 1 | [ ] |
| CHEM 498B | Thesis | 1 | [ ] |

**Either of the following:**

| | | | |
|---|---|---|---|
| CHEM 450 | Biophysical Chemistry | 3 | [ ] |
| **OR** | | | |
| CHEM 320 | Physical Chemistry I | 3 | [ ] |
| **AND** | | | |
| CHEM 321 | Physical Chemistry II | 3 | [ ] |

# BS degree in Biochemistry

**[71 credits required for major (including supporting courses); 128 total credits]**

| | FALL | | | SPRING | |
|---|---|---|---|---|---|
| Freshman | CHEM | 101 | 3 | CHEM 230 | 4 |
| | CHEM | 101L | 1 | CHEM 230L | 1 |
| | BIOL | 101 | 3 | MATH 258 | 4 |
| | BIOL | 101L | 1 | SPCO 101 | 2 |
| | [1]MATH | 157 | 4 | PHIL 101 | 2 |
| | ENGL | 101 | 3 | [2]CORE | 3 |
| | | | 15 | | 16 |
| Sophomore | CHEM | 206 | 3 | CHEM 310 | 3 |
| | CHEM | 206L | 1 | CHEM 310L | 2 |
| | CHEM | 331 | 3 | BIOL 202 | 3 |
| | CHEM | 331L | 1 | BIOL 202L | 1 |
| | BIOL | 201 | 3 | CORE | 3 |
| | BIOL | 201L | 1 | CORE | 3 |
| | [3]CORE | | 3 | CORE | 3 |
| | | | 15 | | 18 |
| Junior | CHEM | 440 | 3 | CHEM 445 | 3 |
| | PHYS | 103 | 3 | CHEM 443 | 2 |
| | PHYS | 103L | 1 | PHYS 204 | 3 |
| | CORE | | 3 | PHYS 204L | 1 |
| | CORE | | 3 | CHEM 471 | 1 |
| | CORE | | 3 | CORE | 3 |
| | | | | CORE | 3 |
| | | | 16 | | 16 |
| Senior | [4]CHEM | 320 or CORE | 3 | [4]CHEM 321 or 450 | 3 |
| | BIOL | 456 | 3 | CHEM 486 | 1 |
| | BIOL | 456L | 2 | CHEM 498B | 1 |
| | CHEM | 485 | 1 | CORE | 3 |
| | CHEM | 498A | 1 | CORE | 3 |
| | CORE | | 3 | CORE | 3 |
| | CORE | | 3 | CORE | 3 |
| | | | 16 | | 17 |

NOTES:

1. MATH 157 and CHEM 440 are prerequisites for CHEM 450
2. CORE refers to University core requirements (other than T/E, Math, and science) and other electives.
3. MATH 259 and MATH 260 are recommended core electives for BS students.
4. Students must take either CHEM 320/321 or CHEM 450.