

**COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES (CASNR)  
Biochemistry Major Requirements**

<i>Biological Chemistry</i> .....	9
BIOC 101 Career Oppor. in Biochemistry.....	1
BIOC 431 & 432 Biochemistry I & II .....	6
BIOC 433 Biochemistry Lab .....	2
BIOC 433 Advanced Topics in Biochemistry .....	3
 <i>Biological Sciences</i> .....	 12 - 17
BIOS 102 Cell Structure and Function.....	4
BIOS 206 General Genetics or AGRO 315.....	4
BIOS 312 & either 313 or 314 Fund. Microbiology & Lab .....	4 - 5
 <i>Chemistry</i> .....	 21 - 24
CHEM 109 & 110 General Chemistry I & II .....	8
(or CHEM 113 & 114 Fund. Chemistry I & II .....	7)
CHEM 221 Elem. Quant. Analysis .....	4
(or CHEM 116 Quant. Chemistry Lab.....	2)
CHEM 251, 252, 253 & 254 (or CHEM 261, 262, 263 & 264) Organic Chemistry I & II.....	8
CHEM 471 (or 481) Physical Chemistry .....	4
 <i>Physics</i> .....	 10
PHYS 141 & 142 Elem. Gen. Physics I & II.....	10
(or PHYS 211, 221, 212, and 222.....	10)
 <i>Mathematics</i> .....	 10 - 15
MATH 101 College Algebra and MATH 102 Trigonometry.....	5
(or MATH 103 College Algebra and Trigonometry) (MPE*)	
MATH 106 & 107 Anal. Geom. & Calculus I & II .....	10
(High school preparation may relieve the MATH 101 and 102 requirement)	
 <i>General Education Requirements</i> .....	 33
AGRI 103 Food, Agriculture and Natural Resources Systems .....	3
Communications (three courses).....	9
Social Sciences (economics and one more social science course) .....	6
Historical Studies (one course).....	3
Humanities (one course).....	3
Arts (one course).....	3
Race, Ethnicity and Gender (one course).....	3
One other.....	3
 <i>Electives</i> .....	 22 - 33

Note: one three-credit course with an international focus and a capstone course in the major are required.

**TOTAL 128**

\* Math Placement Exam will probably be required. Check with the Math Department or website:  
[www.math.unl.edu](http://www.math.unl.edu)

## TYPICAL PROGRAMS

What does a biochemistry major's course schedule look like? There are as many different schedules as there are students, but an example of one schedule in the College of Agricultural Sciences & Natural Resources follows:

*Note: electives and general education courses have been chosen arbitrarily for this example.*

### TYPICAL BIOCHEMISTRY COURSE SCHEDULE (CASNR)

#### Freshman Year

**Fall Semester:** 16 Cr.

CHEM 109 or CHEM 113 (Chem. I)  
AGRI 103 (Food, Agriculture & Natl. Res.)  
MATH (as determined by Math Placement Exam)  
ENGL 150 (Composition)  
BIOC 101 (Career Opportunities)

**Spring Semester:** 16 Cr.

CHEM 110 or CHEM 114 (Chem. II)  
BIOS 102 (Cell Structure & Function)  
MATH 106 (Anal. Geom. Calculus I)  
ENGL 151 (Composition)

#### Sophomore Year

**Fall Semester:** 15 Cr.

CHEM 251 (Organic Chem.) &  
CHEM 253 (Organic Chemistry Lab)  
COMM 109 (Fundamentals of Communication)  
AECN 141 (Intro to Econ. Of Agriculture)  
MATH 107 (Anal. Geom. & Calculus II)

**Spring Semester:** 17 Cr.

CHEM 252 (Organic Chem.) &  
CHEM 254 (Organic Chemistry Lab)  
PHYS 141 (Gen. Physics I)  
BIOS 206 or Agro 315 (Genetics)  
PHIL 220 (Elements of Ethics)

#### Junior Year

**Fall Semester:** 17 Cr.

BIOC 431 (Biomolecules and Metabolism)  
CHEM 221 or CHEM 116 (Quant. Analysis)  
PHYS 142 (Gen. Physics II)  
MUNM 287 (History of Rock Music)  
BIOC 498 (Undergrad. Research) 1 cr.

**Spring Semester:** 16 Cr.

BIOC 432 (Gene Expression and Replication)  
BIOC 433 (Biochem. Lab)  
BIOS 312 & 314 (Microbiology & Lab)  
GEOG 375 (Geography of Asia)  
COMM 210 (Small Group Problem Solving)  
BIOC 498 (Undergrad. Research) 2 cr.

#### Senior Year

**Fall Semester:** 17 Cr.

CHEM 471 (Physical Chem.)  
CLAS 283 (Epic Tales: The World's Heroes and Gods)  
BIOS 401 (Adv. Cell Structure & Function)  
POLS 272 (Non-Western Politics)  
BIOC 498 (Undergrad. Research) 1 cr.  
Elective (3 cr.)

**Spring Semester:** 17 Cr.

ANTH 252 (Archaeology of World Civil.)  
BIOS 418 (Advanced Genetics)  
BIOC 498 (Undergrad. Research) 2 cr.  
BIOC 435 (Advanced Topics in Biochemistry)  
Electives 6 cr