

# REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN BOTANY

## COLLEGE OF ARTS AND SCIENCES

### THE UNIVERSITY OF OKLAHOMA

For Students Entering the Oklahoma State System for Higher Education:

**Summer 2006 through Spring 2007**

Minimum Credit Hours and Grade Point Averages Required			
Total Hours —	120	Upper-Division Within Total	48
Major Hours —	32		
<b>Grade Point Averages:</b>			
Overall & Major: Combined OU/Transfer - <b>2.00</b> OU - <b>2.00</b>			
<b>48 Upper-Division Hours REQUIRED</b>			

Botany

**0402B**

Bachelor of Science  
in Botany

**OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in four years.**

#### GENERAL EDUCATION AND COLLEGE REQUIREMENTS

**Courses graded P/NP will not apply.**

Courses for fulfillment of General Education and College of Arts & Sciences requirements must be from the approved General Education course list published in the Class Schedule or at <http://www.ou.edu/admrec/gened.htm>.

#### University-Wide General Education (minimum 40 hours) and College of Arts and Sciences Requirements

**Core Area I: Symbolic and Oral Communication** (9-22 hours, 3-6 courses)

a. **English Composition** (6 hours, 2 courses)

1. English 1113, Principles of English Composition
2. English 1213, Principles of English Composition, **or** EXPO 1213, Expository Writing

b. **Foreign Language** (0-13 hours in the same language)

The College of Arts and Sciences requirement *cannot be met by high school coursework*.

1. Beginning Course (0-5 hours) \_\_\_\_\_
2. Beginning Course, continued (0-5 hours) \_\_\_\_\_

◆ 3. **Intermediate Course** (2000 level, 0-3 hours). \_\_\_\_\_  
One course at the intermediate level or demonstrated competency at that level.

c. **Mathematics** (3 hours, 1 course). \_\_\_\_\_

**Core Area II: Natural Science** (7 hours, 2 courses) including one laboratory component.

◆ **1. Biological Science** \_\_\_\_\_  
Chosen from the following approved General Education designators: BOT, HES, MBIO, or ZOO.

◆ **2. Physical Science** \_\_\_\_\_  
Chosen from the following approved General Education designators: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS.

**Core Area III: Social Science** (6 hours, 2 courses)

1. Political Science 1113, American Federal Government
2. \_\_\_\_\_

**Core Area IV: Humanities** (18 hours, 6 courses)

a. **Understanding Artistic Forms** (3 hours, 1 course) \_\_\_\_\_

- b. **Western Civilization and Culture** (6 hours, 2 courses)
1. History 1483, U.S., 1492-1865, **or** History 1493, U.S., 1865-Present,
  2. \_\_\_\_\_ (excluding HIST 1483 and 1493)

c. **Non-Western Culture** (3 hours, 1 course): \_\_\_\_\_

d. **Additional Core IV Humanities courses** (6 upper-division hours, 2 courses at the 3000- 4000-level). Must be outside the major and selected from Understanding Artistic Forms, Western Civilization and Culture, or Non-Western Culture.

◆ 1. \_\_\_\_\_

◆ 2. \_\_\_\_\_

**Core Area V: Senior Capstone Experience** (3 hours, 1 course): \_\_\_\_\_

◆ College of Arts and Sciences Requirements: College requirements are not automatically fulfilled by a previous degree.

**Computer Literacy Requirement** — Students must demonstrate computer proficiency which includes the competent use of a variety of software and networking applications. This requirement may be satisfied by:

1. A high school computer science course that meets curricular requirement; **or**
2. Completion of a college-level course that requires competent use of computing; **or**
3. Completion of a university computer proficiency assessment test.

#### Some courses required for the major may also fulfill University General Education and/or College of Arts & Sciences Requirements

##### MAJOR REQUIREMENTS

Minimum of 32 hours of major work including BOT 1114 and 4983 (capstone). Twenty-four (24) upper-division hours including at least one course from each of the 4 areas listed below.

At least two upper-division Botany courses with laboratories are required (excluding capstone).

A grade of C or better must be earned in each course presented for major credit and in the required supporting courses. BOT/ZOO/MBIO 1005 and MBIO 2815 will not be accepted for major credit.

1114 General Botany 4  
4983 Plant Biology for the 21<sup>st</sup> Century (Senior Capstone) 3

##### AREA 1. SYSTEMATICS & EVOLUTION

3534 Flowering Plants  
4413 Paleobotany  
ZOO 3013, Evolution

##### AREA 2. PHYSIOLOGY, STRUCTURE & DEVELOPMENT

4115 Princ. of Plant Physiology  
4283 Plant Anatomy  
5264 Morphology of Vascular Plants  
5293 Cytology Ultrastructure

##### AREA 3. ECOLOGY & ENVIRONMENT

2404 Ecology & Environ. Quality, **or**  
3452 Methods in Plant Ecology, **and**  
3453 Princ. of Plant Ecology

##### AREA 4. CELLULAR & MOLECULAR BIOLOGY

3113 Cell Biology  
3333 Genetics  
4810 Plant Molecular Biology  
4873 Microbial Physiology & Molecular Biology Laboratory

Botany electives to complete 32 hours required in the major.

##### MAJOR SUPPORT REQUIREMENTS

PHYS 2414 Gen. Physics for Life Science Oriented Majors, **and**

One course in statistics, biochemistry, or computer science, or a second course in physics.

\_\_\_\_\_ 3-4

MATH 1743 (or equiv.) Calculus I 3  
CHEM 1315 (or equiv.) Gen. Chemistry 5  
CHEM 1415 (or equiv.) Gen. Chemistry 5

Five hours of Organic Chemistry including laboratory:

\_\_\_\_\_ 3

\_\_\_\_\_ 2

3-4 One science course outside Botany is required. This must be at least a 3-hour letter-graded course. Students are encouraged to consider either Zoology 1114 or Microbiology 3813 to fulfill this requirement; other courses must be approved by the adviser.

\_\_\_\_\_ 3-4

##### Free Electives

Electives to bring total applicable hours to 120 including 48 upper-division hours.

8-12

## INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

**TOTAL HOURS:** A minimum of 120 semester hours acceptable toward graduation must be completed.

**UPPER-DIVISION HOURS:** A minimum of 48 upper-division semester hours acceptable toward graduation must be completed. OU courses numbered 3000 or above are upper-division. Transfer work is counted as lower-division or upper-division credit depending on the level at which it was offered at the institution where it was earned. Two-year college work is accepted only as lower-division credit.

**ARTS AND SCIENCES HOURS:** At least 80 semester hours of liberal arts and sciences courses are required for a BA degree. At least 55 semester hours of liberal arts and sciences courses are required for a BS degree.

**MAJOR WORK:** A minimum of 30 semester hours must be earned in the major, including a minimum of 15 credit hours at the upper-division level.

**PASS/NO PASS ENROLLMENT:** A maximum of 16 semester hours of free elective credit may be attempted under this option.

**INDIVIDUAL STUDIES (e.g., courses titled "Independent Study"):** A maximum of 12 total semester hours may be counted toward graduation.

**MILITARY, MILITARY IN-SERVICE, SKILLS, APPLIED TECHNOLOGY, AND P.E. COURSES:** A maximum of 16 semester credit hours of basic skills and/or applied technology courses. No physical education activity courses will be counted toward the 120 semester hours of acceptable credit for graduation.

**SENIOR INSTITUTION HOURS:** A minimum of 60 semester hours applied toward graduation must be earned at senior (4-year) institutions.

### RESIDENCY:

- At least 15 of the final 30 hours applied toward the degree or at least 50 percent of the hours required by the institution in the major field must be satisfactorily completed at the awarding institution.
- At least 15 semester hours of upper-division major work must be completed in residence at OU.
- OU correspondence courses are **not** considered resident credit.
- Credits earned via examination are neither resident nor nonresident credit.

**GRADE POINT AVERAGES:** Students must earn a minimum overall 2.00 for each of the following: Combined Retention GPA (all college grades), OU Retention GPA, GPA for all major courses, and GPA for all major courses taken at OU. Some schools and departments of the College have higher minimum grade point averages required for their students.

**SPECIAL DEGREES:** Students may qualify for an Honors degree (cum Laude, Magna cum Laude, or Summa cum Laude) by completing specific requirements of the Honors College. A degree will be earned with Distinction if the student completes at least 60 semester hours at OU with at least a 3.60 combined retention GPA and OU retention GPA. A degree will be earned with Special Distinction if the student completes at least 60 semester hours at OU with at least a 3.90 combined retention GPA and OU retention GPA.

**APPLICATION FOR GRADUATION:** Students must apply for graduation during the term in which they complete their degree requirements in order to graduate in that term. The application is valid for three terms. Application forms are available from the College of Arts and Sciences Academic Services office, Ellison Hall, Room 124. The deadline for completion of all coursework to graduate in a particular term is the last day of classes in that term.

**Refer to the OU General Catalog for more complete information.**

### Suggested Semester Plan of Study — Botany - 0402B

This plan shows one possible grouping of courses that would allow students to graduate in four years. Please refer to the front of the degree checksheet for official requirements. Students must consult with College of Arts and Sciences and/or Department of Botany academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, College of Arts and Sciences, and Botany major requirements.

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
<b>FRESHMAN</b>	BOT 1114, General Botany	4	CHEM 1315, General Chemistry	5
	ENGL 1113, Principles of English Composition (Core I)	3	ENGL 1213, Principles of English Composition (Core I), <b>or</b>	3
	MATH 1743, Calculus I for Business, Life & Social Sci., or equiv. (Core I)	3	EXPO 1213, Expository Writing (Core I)	
	Beginning Foreign Language (Core I)	5	P SC 1113, American Federal Government (Core III)	3
			Beginning Foreign Language continued (Core I)	5
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>16</b>
<b>SOPHOMORE</b>	CHEM 1415, General Chemistry	5	CHEM 3053, Organic Chemistry	3
	HIST 1483, United States 1492-1865, <b>or</b>	3	BOT Systematics & Evolution Major Elective	3-4
	1493, United States 1865-Present (Core IV)		Humanities, upper-division, outside major (Gen. Ed.)	3
	PHYS 2414, Gen. Physics for Life Science Oriented Majors	4	Non-Western Culture (Core IV)	3
	Intermediate Foreign Language	3	Elective chosen from: Statistics, Biochemistry, or Computer Science, or a second course in Physics	4
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>16-17</b>
<b>JUNIOR</b>	BOT Cellular & Molecular Biology Major Elective	3	BOT Major Elective	3
	BOT Ecology & Environment Major Elective	4-5	BOT Major Elective	3
	CHEM 3152, Organic Chemistry Lab	2	BOT Physiology, Structure & Development Major Elective	3-5
	MBIO 3813, Fundamentals of Microbiology, <b>or</b>	3-4	Western Civilization & Culture (Core IV)	3
	ZOO 1114, Introductory Zoology		Free Elective, upper-division (3000-4000-level)	3
	Social Science (Core III)	3		
	<b>TOTAL CREDIT HOURS</b>	<b>15-17</b>	<b>TOTAL CREDIT HOURS</b>	<b>15-17</b>
<b>SENIOR</b>	BOT 4983, Plant Biology for the 21 <sup>st</sup> Century (Capstone)	3	Understanding Artistic Forms (Core IV)	3
	BOT Major Elective	3	Free Elective, lower- or upper-division	3
	BOT Major Elective, <b>or</b>	3	Free Elective, lower- or upper-division	3-5
	Free Elective, upper-division (Independent Study recommended)		Free Elective, upper-division (3000-4000-level)	3
	Humanities, upper-division, outside major (Gen. Ed.)	3	Free Elective, upper-division (3000-4000-level)	3
	Free Elective, upper-division (3000-4000-level)	3		
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>15-17</b>

**Bachelor's degrees require a minimum of 48 hours of upper-division (3000-4000) coursework.**  
This plan of study should not be used in lieu of academic advisement.

Students who transfer from other institutions (particularly community colleges) must verify credit hour and course requirements with their college academic counselor, ELLH 124, 325-4411, <http://ou.edu/cas>.

Please make an appointment for a degree check with your college academic counselor once you have earned 90 hours. Appointments may be scheduled at [iAdvise.ou.edu](http://iAdvise.ou.edu).