

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN PLANT BIOLOGY**  
**COLLEGE OF ARTS AND SCIENCES**  
 THE UNIVERSITY OF OKLAHOMA

For Students Entering the Oklahoma State System for Higher Education:  
**Summer 2015 through Spring 2016**

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

Plant Biology - Biotechnology  
**B787 P061**  
 Bachelor of Science in Plant Biology

**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.	Some courses required for the major may also fulfill University General Education and/or College of Arts & Sciences Requirements		
<p>Courses for fulfillment of General Education and College of Arts &amp; Sciences requirements must be from the approved General Education course list published in the Class Schedule or at <a href="http://www.ou.edu/enrollment/home/">http://www.ou.edu/enrollment/home/</a></p> <p style="text-align: center;"><b>University-Wide General Education (minimum 40 hours) and College of Arts and Sciences Requirements</b></p> <p><b>Core Area I: Symbolic and Oral Communication</b> (9-22 hours, 3-6 courses)</p> <p>a. <b>English Composition</b> (6 hours, 2 courses)</p> <ol style="list-style-type: none"> <li>1. English 1113, Principles of English Composition</li> <li>2. English 1213, Principles of English Composition, or EXPO 1213, Expository Writing</li> </ol> <p>b. <b>Foreign Language</b> (0-13 hours in the same language)                      The College of Arts and Sciences requirement <i>cannot be met by high school coursework</i>.</p> <ol style="list-style-type: none"> <li>1. Beginning Course (0-5 hours) _____</li> <li>2. Beginning Course, continued (0-5 hours) _____</li> <li>♦ 3. Intermediate Course (2000 level, 0-3 hours). _____                      One course at the intermediate level or demonstrated competency at that level.</li> </ol> <p>c. <b>Mathematics</b> (3 hours, 1 course). _____</p> <p><b>Core Area II: Natural Science</b> (7 hours, 2 courses) including one laboratory component.</p> <p>♦ <b>1. Biological Science</b> _____                      Chosen from the following approved General Education designators: BIOL, HES, MBIO, or PBIO.</p> <p>♦ <b>2. Physical Science</b> _____                      Chosen from the following approved General Education designators: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS.</p> <p><b>Core Area III: Social Science</b> (6 hours, 2 courses)</p> <ol style="list-style-type: none"> <li>1. Political Science 1113, American Federal Government</li> <li>2. _____</li> </ol> <p><b>Core Area IV: Humanities</b> (18 hours, 6 courses)</p> <p>a. <b>Understanding Artistic Forms</b> (3 hours, 1 course) _____</p> <p>b. <b>Western Civilization and Culture</b> (6 hours, 2 courses)</p> <ol style="list-style-type: none"> <li>1. History 1483, U.S., 1492-1865, or History 1493, U.S., 1865-Present,</li> <li>2. _____ (excluding HIST 1483 and 1493)</li> </ol> <p>c. <b>Non-Western Culture</b> (3 hours, 1 course): _____</p> <p>d. <b>Additional Core IV Humanities courses</b> (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.</p> <p>♦ 1. _____</p> <p>♦ 2. _____</p> <p><b>Core Area V: Senior Capstone Experience</b> (3 hours, 1 course): _____</p> <p>♦ College of Arts and Sciences Requirements: College requirements are not automatically fulfilled by a previous degree.</p>	MAJOR REQUIREMENTS	MAJOR SUPPORT REQUIREMENTS	
	<p>Minimum of 32 hours of major work including PBIO 1114 and 4983 (capstone). Twenty-four (24) upper-division hours including at least one course from <u>each of the 4 areas</u> listed below.</p> <p>At least two upper-division Plant Biology courses with laboratories are required (excluding capstone).</p> <p>A grade of C or better must be earned in each course presented for major credit and in the required supporting courses.</p> <p>BIOL 1005 and MBIO 2815 will not be accepted for major credit.</p> <p>1114 General Botany 4                      3673 Practical Bioinformatics 3                      4313 Biotechnology Applications 3                      4810 Cell Biology Laboratory 3                      4983 Plant Biology for the 21<sup>st</sup> Century (Senior Capstone) 3</p> <p><b>AREA 1. SYSTEMATICS &amp; EVOLUTION</b></p> <p>3534 Flowering Plants                      4413 Paleobotany                      BIOL 2013, Evolution</p> <p>_____ 3-4</p> <p><b>AREA 2. PHYSIOLOGY, STRUCTURE &amp; DEVELOPMENT</b></p> <p>4114 Princ. of Plant Physiology                      4283 Plant Anatomy                      5264 Morphology of Vascular Plants                      5293 Cytology Ultrastructure</p> <p>_____ 3-4</p> <p><b>AREA 3. ECOLOGY &amp; ENVIRONMENT</b></p> <p>2404 Ecology &amp; Environ. Quality, or                      3451 Methods in Plant Ecology, and                      3453 Princ. of Plant Ecology</p> <p>_____ 4</p> <p><b>AREA 4. CELLULAR &amp; MOLECULAR BIOLOGY</b></p> <p>3113 Cell Biology                      3333 Genetics                      4810 Plant Molecular Biology                      4873 Microbial Physiology &amp; Molecular Biology Laboratory</p> <p>_____ 3</p> <p>Plant Biology electives to complete 32 hours required in the major.</p> <p>_____ 1-3</p>	<p>PHYS 2414 Gen. Physics for Life Science Oriented Majors 4</p> <p>One course in statistics, biochemistry, or computer science, or a second course in physics.</p> <p>_____ 3-4</p> <p>MATH 1743 (or equiv.) Calculus I 3                      CHEM 1315 (or equiv.) Gen. Chemistry 5                      CHEM 1415 (or equiv.) Gen. Chemistry 5</p> <p>Five hours of Organic Chemistry including laboratory:                      _____ 3                      _____ 2</p> <p>MBIO 3812 Fund. of Microbiology Lab 2                      MBIO 3813 Fundamentals of Microbiology 3</p> <p>3-4                      HSCI 2423 Social and Ethical Issues in Science, Tech., Environment &amp; Med. OR                      HSCI 3333 Technology and Society in World History                      (these HSCI courses also fulfill Gen. Ed. Western Civilization)                      _____ HSCI 3</p>	<p style="text-align: center;"><b>Free Electives</b></p> <p>Electives to bring total applicable hours to 120 including 48 upper-division hours.</p>

## 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, excluding Honors Reading and Honors Research.

**P.E. 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.

**GRADEPOINT 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 graduation application is available on line on your Ozone site. Deadlines for the OU Graduation Application are: **March 1** for Spring certification and the University of Oklahoma Commencement book; **July 1** for Summer graduation certification; and, **October 1** for Fall graduation certification.

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

### Suggested Semester Plan of Study — Plant Biology - B787 P061

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 Microbiology and Plant Biology academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, College of Arts and Sciences, and Plant Biology major requirements.

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
<b>FRESHMAN</b>	PBIO 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), or	3
	MATH 1743, Calculus I for Business, Life & Social Sci., or equiv. (Core I)	3	EXPO 1213, Expository Writing (Core I)	3
	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, or	3	PBIO 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	MBIO 3813, Fundamentals of Microbiology	3
	Intermediate Foreign Language	3	Elective chosen from: Statistics, Biochemistry, or Computer Science, or a second course in Physics	3-4
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>15-17</b>
<b>JUNIOR</b>	PBIO Cellular & Molecular Biology Major Elective	3	PBIO Major Elective	1-3
	PBIO Ecology & Environment Major Elective	4	PBIO 3673, Practical Bioinformatics	3
	CHEM 3152, Organic Chemistry Lab	2	PBIO Physiology, Structure & Development Major Elective	3-4
	Non-Western Culture (Core IV)	3	HSCI 2423, Social & Ethical Issues in STEM, or	3
	Social Science (Core III)	3	3333, Technology & Society in World History (Core IV-Western Civ.)	3
	MBIO 3812, Fundamentals of Microbiology Laboratory	2	Free Elective, upper-division (3000-4000-level)	3
	<b>TOTAL CREDIT HOURS</b>	<b>15-16</b>	<b>TOTAL CREDIT HOURS</b>	<b>13-16</b>
<b>SENIOR</b>	PBIO 4983, Plant Biology for the 21 <sup>st</sup> Century (Capstone)	3	Understanding Artistic Forms (Core IV)	3
	PBIO 4810, Cell Biology Laboratory	3	PBIO 4313, Biotechnology Applications	3
	Humanities, upper-division, outside major (Gen. Ed.)	3	Free Elective, lower- or upper-division	2-5
	Free Elective, lower- or upper-division	3	Free Elective, upper-division (3000-4000-level)	3
	Free Elective, upper-division (3000-4000-level)	3	Free Elective, upper-division (3000-4000-level)	3
		3		
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>14-17</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 <https://iadvise.ou.edu/>.