

# General Botany

## BIOL-1411

Fall 2013 Section SECTION\_301 CRN-11738 4 Credits 08/26/2013 to 12/13/2013 Modified 08/19/2013

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Welcome to BIOL 1411-301 Community.

- Please read my [Welcome Letter](#).
- Please download and print the [Must-do List](#).

## Meeting Times

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### Lecture

Monday, Wednesday, 9:10 AM to 10:25 AM, H-210

### Lab

Monday, Wednesday, 10:35 AM to 11:50 AM, H-108

## Contact Information

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### Professor: Dr. Amanda Chau

Email: [amanda.chau@blinn.edu](mailto:amanda.chau@blinn.edu)

Office: H-245 (H Building, Bryan Campus)

Phone: (979) 209-7427

Website: <https://www.blinn.edu/brazos/natscience/biol/achau/> (<https://www.blinn.edu/brazos/natscience/biol/achau/>)

Please use eCampus mail to contact me during the semester.

### Office Hours

Monday, Wednesday, 12:15 PM to 1:15 PM, My office (H-245)

Tuesday, Thursday, 12:15 PM to 1:45 PM

If you cannot make it to any of my office hours listed above, please email me to set up special appointment.

## Description

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Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. Laboratory activities are designed to reinforce lecture topics. This course is intended for science majors.

Requisites

**Prerequisite:** Students must be college ready in reading, by means of appropriate exemption score by TSI or alternative test; or by completing READ 0306, or READ 0307, or DIRW 0326, or ESOL 0325 with a "C" or better, or by completing READ 0208 or ESOL 0226 with a passing grade.

**Recommended prerequisite:** MATH 1314 – Successful completion of College Algebra or concurrent enrollment in higher-level mathematics is recommended.

## ★ Core Curriculum Statement

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This is a Core Course in the 42-Hour Core Curriculum of Blinn College. As such, students will develop proficiency in the appropriate Intellectual Competencies, Exemplary Educational Objectives, and Perspectives.

## ▮ Outcomes

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1. Compare and contrast the structures, reproduction, and characteristics of plants, algae, and fungi.
2. Describe the characteristics of life and the basic properties of substances needed for life.
3. Identify the principles of inheritance and solve classical genetic problems.
4. Describe phylogenetic relationships and classification schemes.
5. Identify the major phyla of life with an emphasis on plants, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
6. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
7. Identify the substrates, products, and important chemical pathways in photosynthesis and respiration.
8. Describe the unity and diversity of plants and the evidence for evolution through natural selection.
9. Compare different sexual and asexual life cycles noting their adaptive advantages.
10. Describe the reasoning processes applied to scientific investigations and thinking.
11. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
12. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
13. Communicate effectively the results of scientific investigations.

## ☰ Materials

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### Required Textbooks and Materials:

- a. **Textbook:** Custom Text for BIOL 1411 (Introductory Plant Biology, 12<sup>th</sup> ed., K.R. Stern, J.E. Bidlack, and S.H. Jansky). 2010. McGraw-Hill, New York, NY. ISBN:9780390309884 (Available at the Blinn Bookstore)
- b. **Laboratory Manual:** Exploring the world of plants: general botany laboratory manual, 2nd ed., A. Chau. 2012. Kendall Hunt Publishing Co., Dubuque, IA. ISBN: 9780757596254 (Available at the Blinn Bookstore)
- c. **Chapter Notes:** Either you can purchase them as a course packet at the Copy Center or download them free from eCampus.
- d. **Pulse CPS Clicker:** Clicker (ISBN: 9781881483816) and the Science/Math One Term Passcode for the e-Instruction Classroom Performance System are available at the Blinn Bookstore. You do not need to purchase the passcode at the bookstore if you have a check or credit card which allows you to pay for the enrollment fee online. Register your keypad at <http://legacy.einstruction.com/Login/index.cfm> and use our class key to sign into the class. CPS clickers should be brought to **EVERY** class. They will be used to take attendance and to administer in class quizzes.

Section 301 Class Key for Fall 2013: **I74918N942** (case sensitive).

## ☰ Course Requirements

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- a. **eCampus:** Access to the Internet is **REQUIRED**. Internet access at home would certainly be a plus, however, all students at Blinn College and/or Texas A&M have computing resources available to them. The Open Computer Labs at Blinn College are located in Room H-225, the Learning Center (L-258 above the Library), and the Library. If you are not familiar with these, see me or inquire at the

Learning Center, for more details, ASAP. eCampus is an online course tool. It is in essence a virtual classroom through which I will be posting course related materials and information, assignment instructions, quizzes and assignment due dates, test and exam dates, and important announcements. You will also be able to contact me with questions and or problems you might be having and have the ability to contact your classmates. It will be your responsibility to check this site daily: <https://ecampus.blinn.edu/default.asp> and click "Fall 2013- BIOL-1411-301 - General Botany".

**b. Final Exam:** The Final is a common comprehensive final worth 200 points. It will consist of at least 100 multiple choice questions, 4 short answer questions, and bonus questions. I will reschedule your final exam date only when you have a clash in final exam time and can provide a letter from your academic advisor to confirm the time conflict. Please come and see me ASAP so that I may plan accordingly.

**Section 301 Final Exam** will be on **December 11, Wednesday, from 10:15 am to 12:15 pm in lab room H-108.**

**c. Tests:** There will be four tests each worth 75 points. The four tests are worth a total of 300 points. A higher percentage on the final exam can substitute for the lowest test grade. Tests may consist of a combination of true/false, multiple choice, matching, fill in the blank, and short answer questions. Please see the lecture and lab schedule containing a list of the topics and chapters to be covered on each test. The exact date of the tests will be posted on eCampus Calendar and also announced in class at least two class periods prior the test date. We will follow the course schedule as closely as possible. **Make-up tests may be offered to those with excused absences and proper documentations at the discretion of the instructor.** Make-up tests may consist of a higher percentage of short answer and essay questions. Excused absences in addition to those officially recognized by Blinn (see "Attendance" below) include: illness with a doctor's note, or death of a close family member with documentation provided by funeral home. Students must contact me before the following class period to schedule a make-up. If you know that you will need to miss a test prior to the test date because of an excused absence, contact me ASAP so that I may plan accordingly.

**d. Daily Lecture Quizzes and Activities:** Daily quizzes, activities, or take-home assignments (worth a total of 100 points) will be given to help students gauge their progress in learning the materials. Daily quizzes will cover material from the previous lectures, textbook, activities, and/or take-home assignments. In most cases, your CPS clicker will be required to take these quizzes.

**e. Laboratory Practical Exams:** There will be two lab practical exams worth 100 points each. Lab practical exams will test student's ability to carry out specific tasks or techniques that relate to lab activities performed and/or the overall student learning outcomes for the laboratory. Additional short answer, problem solving, or fill-in-the-blank questions may also be administered. There will be **NO MAKE-UP or Extended Time** for the lab practical exams.

**f. Laboratory Exercises:** Lab exercises (at least 16) are worth a total of 200 points. The pre-lab portion for each lab exercise is to be completed outside of class and turned in at the beginning of each lab period. Pre-lab is designed to help students get ready for each upcoming lab period. Each lab exercise is to be completed during the lab and turned in at the end of the period or as instructed. For the most part, each laboratory exercise will be assigned a maximum grade of 12 points and 42% (5 points) of this grade will be the pre-lab. Additional deductions will be taken for incomplete work or failure to demonstrate general competency in the assigned material. Failure to turn assignments in on time automatically reduces the grade to a maximum of 6 points. Assignments that are more than a week late will not be accepted.

**g. Bonus Points:** Throughout the semester, take-home assignments, and weekly eCampus quizzes (due on Sundays before 11:45 pm), will be given to help students gauge progress in learning the materials. Volunteer opportunities will also be provided to serve the community. These take-home assignments, quizzes, and volunteer services are worth at least a total of 50 points and will be used as bonus points that will be added to your point total at the end of the semester.

**h. Due dates (milestones) for all assignments and quizzes (see eCampus Calender):**

Title	Due
Survey of Experience and Expectations	08/28 Online
Bonus Take-Home Assignment- Index of Learning Style	09/04 In Class
Bonus Quiz #1 (Ch. 1-3)	09/08 Online

Bonus Quiz #2 (Ch. 3-4)	09/15 Online
Bonus Quiz #3 (Ch. 5-6)	09/22 Online
Bonus Quiz #4 (Ch. 6-7)	09/29 Online
Take-Home Assignment- Plant Nutrition Summary, Or Invader Project- Part I	09/30 In Class
Bonus Quiz #5 (Ch. 8-9)	10/06 Online
Take-Home Assignment- Ch 10 Concept Map	10/07 In Class
Bonus Quiz #6 (Ch. 10)	10/13 Online
Bonus Quiz #7 (Ch. 11)	10/20 Online
Bonus Quiz #8 (Ch. 12-13)	10/27 Online
Take-Home Assignment- DNA Origami	10/28 In Class
Bonus Quiz #9 (Ch. 16)	11/03 Online
Take-Home Assignment- Red tide or Biofuel Summary, Or Invader Project- Part II	11/06 In Class
Bonus Quiz #10 (Ch. 18-19)	11/10 Online
Bonus Quiz #11 (Ch. 20)	11/17 Online
Bonus Quiz #12 (Ch. 21)	11/17 Online

**i. Major Test/Exam Dates At a Glance (see eCampus Calender):**

MW Test/Exam	Date	Lab Practical Exam	Date
Test #1	09/18, Wednesday	Lab Practical Exam #1	10/16, Wednesday
Test #2	10/14, Monday	Lab Practical Exam #2	12/02, Monday
Test #3	11/04, Monday		
Test #4	11/25, Monday		

Final Exam	12/11, Wednesday		
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j. **Keys to a Successful and Productive Semester:** We will be covering a lot of materials in this class. It is very important that you stay on top of your readings and take time to think through and understand the materials.

- **Connect with the course materials takes time.** To be successful in this class, I expect that you will spend at least 3 hours after each class (at least 6 hours/week for regular semester or 15 hours/week for summer session) to not only complete home work before coming to class, but also think through and apply what you have learned.
- **Connect with your peers creates opportunities.** It is important that you work well with your peers in/out of class. This will give you opportunities to learn from others and also teach others as well.
- **Connect with your instructor takes initiative.** If you need help, come and see me early. Let me work with you to solve any problems or answer any questions that you may have. Be proactive. Take control of your learning. Let's work together to achieve your goal set for this class.

## ✓ Evaluation

Evaluation criteria (see previous section).

a. Point Allocation:

Evaluation Methods	Points
Comprehensive Final Exam	200
Tests (4)	300
Daily Lecture Quizzes/Activities	100
Lab Practical Exams (2)	200
Lab Exercises	200
<b>Total Points</b>	<b>1000</b>
Bonus	50

b. Grading Scale:

Letter Grade	Percent Total*	Total Points
A	90 to 100 %	≥ 900
B	80 to 89 %	800-899

C	70 to 79 %	700-799
D	60 to 69 %	600-699
F	Below 59 %	≤ 599

c. **Grade updates:** I will provide periodic updates of your total and grade to help you gauge whether you are meeting your goal set for the class.

Your Percent Total = (Your Total Points + Bonus)/1000 x 100 = \_\_\_\_%

## Blinn College Policies

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Blinn College policies on civility, class attendance; scholastic integrity; students with disabilities; final grade appeals; and electronic devices as stated in the Blinn College Student Handbook, Faculty Handbook, Blinn College Catalog and specific technical program handbooks. All policies, guidelines and procedures in the Student and Faculty Handbook and the Board and Administrative Policy Manuals are applicable to this course

### Civility Statement

Members of the Blinn College community, which includes faculty, staff and students, are expected to act honestly and responsibly in all aspects of campus life. Blinn College holds all members accountable for their actions and words. Therefore, all members should commit themselves to behave in a manner that recognizes personal respect and demonstrates concern for the personal dignity, rights, and freedoms of every member of the College community, including respect for College property and the physical and intellectual property of others.

**Civility Notification Statement.** If a student is asked to leave the classroom because of uncivil behavior, the student may not return to that class until he or she arranges a conference with the instructor; it is the student's responsibility to arrange for this conference.

This statement reflects step one in a possible four step process. The Incivility Protocol is detailed in the [Blinn College Student Handbook](http://www.blinn.edu/student%20handbook.pdf). (<http://www.blinn.edu/student%20handbook.pdf>)

### Attendance Policy

The College District believes that class attendance is essential for student success; therefore, students are required to promptly and regularly attend all their classes. A record of attendance will be maintained from the first day of classes and/or the first day the student's name appears on the roster through final examinations. If a student has one week's worth of unexcused absences during the semester, he or she will be sent an e-mail by the College District requiring the student to contact his or her instructor and schedule a conference immediately to discuss his/her attendance issues. Should the student accumulate two weeks' worth of unexcused absences, he or she will be administratively withdrawn from class.

There are four forms of excused absences recognized by the institution:

1. observance of religious holy days—The student should notify his or her instructor(s) not later than the 15<sup>th</sup> day of the semester concerning the specific date(s) that the student will be absent for any religious holy day(s);
2. representing the College District at an official institutional function;
3. high school dual credit students representing the independent school district at an official institutional function; and
4. military service.

Other absences may be considered excused at the discretion of the faculty member with appropriate documentation. A student enrolled in a developmental course is subject to College District-mandated attendance policies. Failure to attend developmental classes shall result in removal from the course as defined by the College District.

It is the student's responsibility to officially drop a class he or she is no longer attending. To officially drop a class the student must obtain the class withdrawal form from Enrollment Services, complete the class withdrawal form, secure the required signatures, and return the completed form to Enrollment Services. The last day to drop with a Q is according to the [Academic](#)

[Calendar \(http://calendar.blinn.edu/events/academic\\_calendar.pdf\)](http://calendar.blinn.edu/events/academic_calendar.pdf).

## Scholastic Integrity

Blinn College does not tolerate cheating, plagiarism, or any other act of dishonesty with regard to the course in which you are enrolled. The following text defines the faculty member's responsibility with regard to the scholastic integrity expectation for this and all courses at Blinn College.

It is the responsibility of faculty members to maintain scholastic integrity at the College District by refusing to tolerate any form of scholastic dishonesty. Adequate control of test materials, strict supervision during testing, and other preventive measures should be utilized, as necessary, to prevent cheating or plagiarism. If there is compelling evidence that a student is involved in cheating or plagiarism, the instructor should assume responsibility and address the infraction. Likewise, any student accused of scholastic dishonesty is entitled to due process as outlined in Blinn College Board Policy FLB (Local). The Scholastic Integrity Policy is located in the [Blinn College Student Handbook](http://www.blinn.edu/student%20handbook.pdf). (<http://www.blinn.edu/student%20handbook.pdf>) In a case of scholastic dishonesty, it is critical that written documentation be maintained at each level throughout the process.

## Students with Disabilities

Blinn College is dedicated to providing the least restrictive learning environment for all students. Support services for students with documented disabilities are provided on an individual basis, upon request. Requests for services should be made directly to the Office of Special Populations serving the campus of your choice. For the Bryan campus, the Office of Special Populations (Administration Building) can be reached at (979)209-7251. The Brenham, Sealy and Schulenburg campuses are served by the Office of Special Populations on the Brenham campus (Administration Building Room 104) and can be reached at (979)830-4157. Additional information can be found at [www.blinn.edu/disability/index.html](http://www.blinn.edu/disability/index.html).

## Final Grade Appeal

If a student wishes to appeal a final grade in a course, Blinn College Board Policy FLDB (Local), Course Grade Complaints, outlines the timeline for the appeal and the four steps in the appeal. This policy is located in the [Blinn College Student Handbook](http://www.blinn.edu/student%20handbook.pdf). (<http://www.blinn.edu/student%20handbook.pdf>)

## Electronic Devices

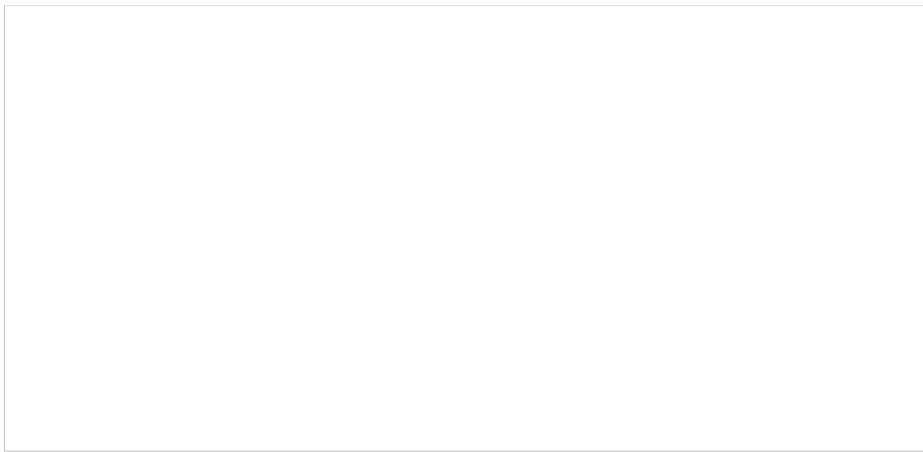
All the functions of all personal electronic devices designed for communication and/or entertainment (cell phones, pagers, beepers, iPods, and similar devices) must be turned off and kept out of sight in all College District classrooms and associated laboratories. Any noncompliance with this policy shall be addressed in accordance with the College District civility policy (administrative policy). This information is contained in Blinn College Board Policy FLB (Local).

## \* Course Policies

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### Additional Notes on Attendance Policy

Attendance Policy at a Glance:



Other absences may be considered excused at the discretion of the faculty member with appropriate documentation. **Missing lecture or lab or both will count as one absence.** In order to be considered as an excusable absence, you must notify me within **24 hours** of being absent.

**If you are more than 15 minutes late to lecture or lab, or if you leave class for an unexcused extended period of time, you will be counted as absent.**

For classes that meet twice a week during the fall or spring semester two absences counts as one week's absence. Students accumulating two week's worth of absences (four unexcused absences) will be dropped.

For classes that meet daily during the Summer I semester, students accumulating three absences (counts as two week's absences) will be dropped from the class and no email notification will be sent.

The last day to drop this semester with a Q is **Friday, November 15, 2013.**

## Other Policies:

**Problem Resolution:** If you have a complaint about your class, you should first request a conference with your instructor to try and resolve the problems or issues. If the problems or issues cannot be resolved at the instructor level, you should request a conference with the Division Chair, Mr. Dwight Bohlmeyer, Science 241, [dbohlmeyer@blinn.edu](mailto:dbohlmeyer@blinn.edu).

**Eating and Drinking:** Eating and drinking are not allowed in classrooms or laboratories.

## Schedule

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Outline of the course content and Schedule (MW)\*:

*Updated: 08/11/13*

Week	Date	Chapter	Lecture Topic	Laboratory Topic
1	08/26	-	First Day	Laboratory Safety & "Whodunit?"
	08/28	1/2	What is Plant Biology?	Lab 1 Using the Microscope/Making Wet Mounts
<i>Unique Features of Plants</i>				



2	09/02	-	<i>Holiday-Labor Day</i>	<i>Holiday-Labor Day</i>
	09/04	2/3	Plant Cells	Lab 1 <i>Cont'd</i> /Sci. Drawings (App II)
3	09/09	4	Tissues	Lab 2 Observing Cells in Action
	09/11	5	Roots	Lab 3 Taking a Closer Look at Roots
4	09/16	6	Stems	Lab 4 Taking a Closer Look at Stems
	09/18	-	Test #1 (1-6)	Lab 7 Testing Biological Molecules
5	09/23	8	Flowers, Fruits, and Seeds	Lab 6 Floral Formula (Library Room L-122)
	09/25	7	Leaves	Lab 5 Taking a Closer Look at Leaves
6	09/30	9	Water in Plants	Lab 8 Observing Diffusion and Osmosis in Action
	10/02	10	Plant Metabolism-Photosynthesis	Lab 7 (Revisited) Testing Unknowns/Review
7	10/07	10	Plant Metabolism-Photosynthesis	Lab 9 Investigating Photosynthesis
	10/09		Plant Metabolism-Respiration	Lab 10 Investigating Aerobic Respiration
8	10/14	-	Test #2 (7-10)	Lab 10 Data/ Lab Exam #1 Review
	10/16	11	Plant Growth	Lab Practical #1
9	10/21	12	Alternation of Generations	Lab 11 Taking a Closer Look at Mitosis and Meiosis
	10/23	13	Genetics	Lab 12 Solving Mendelian Genetics Problems
		<b><i>Diversity and Evolutionary History</i></b>		
10	10/28	13	Genetics/ Gene Expression	Lab 13 Isolating DNA
	10/30	16	Classification & Evolution	<i>Lecture</i> Lichens & Cyanobacteria; <i>Video: Algae</i>
11	11/04	-	Test #3 (11-13, 16)	Lab 14 Surveying Autotrophic Protists
	11/06	18/19	Algae & Fungi	Lab 15 Surveying Other Autotrophs
12 <sup>Q</sup>	11/11	20	The Bryophytes	Lab 16 Comparing Nonvascular Plants
	11/13	21	The Seedless Vascular Plants	Lab 17 Comparing Seedless Vascular Plants

13	11/18 11/20	22	The Seed Plants: Gymnosperms	Lab 18 Taking a Closer Look at Gymnosperms  Lab 19 Taking a Closer Look at Angiosperms
14	11/25 11/27	- -	Test #4 (18/19, 20-22)  <i>Thanksgiving Holiday</i>	Scavenger Hunt/ Lab Exam Review  <i>Thanksgiving Holiday</i>
15	12/02 12/04	23	The Seed Plants: Angiosperms	Lab Practical #2  <i>Video: Botany of Desire</i>
16	12/09	24	Flowering Plants and Civilization	Review and Assessment
	Final Exam	Section 301- December 11, Wednesday, from 10:15 am to 12:15 pm in Lab Room H-108.		

\* In case of course schedule changes, updates will be posted on eCampus and notified in class.

Q-drop, last day to withdraw with a "Q" is Friday, November 15, 2013.