

BOT2010C Introductory Botany

Fall 2017 - 3 credits

Lecture: Tuesdays and Thursdays, period 5 (11:45 – 12:35), Newins-Ziegler Hall (NZH) rm 112 (1745 MCCARTY DR)

LECTURE (All Sections) T & R Period 5 (11:45 – 12:35),
rm 112 Newins-Ziegler Hall

Section 0608 – Tuesday, period 7-8 (1:55 – 3:50)

Section 17F0 – Tuesday, period 9-10 (4:05 – 6:00)

Section 0607 – Wednesday, period 3-4 (9:35 – 11:30)

Section 0609 – Wednesday, period 6-7 (12:50 – 2:45)

Instructor - lecture

Dr. Lily R. Lewis

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Office and hours: 220 Carr
Hall – T period 6, R period
7, or by appt.

Instructor – Tue. Labs:

Sarah Carey

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Office: 220 Carr Hall
Office hours: By appt.

Instructor – Wed. Labs:

Lindsey Riibe

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Office: 521 Bartram Hall
Office hours: By appt.

Overall the course will be broken up into three main sections:

Part 1: How plants meet their water and nutrient needs (Exam 1).

Part 2: How plants grow and reproduce (Exam 2).

Part 3: Genetics, Evolution, and Diversity of plants (Exam 3).

Throughout our studies in these core areas, we will also explore and gain experience with:

- The scientific method;
- Evaluating different types of science communications (research articles, reviews, perspectives);
- The modern societal relevance of core botanical topics;
- Evaluating social issues such as transgenic crops and climate change;
- Working as part of a team to solve problems;
- Presenting your work orally and in written forms.

Texts and Supplies

Berg, Linda R. 2008. *Introductory Botany: Plants, People, and the Environment*. 2nd edition.

Belmont, Thomson Brooks/Cole.

Laboratory manual for Introductory Botany (BOT2010C), Fall 2017. Available at Target Copy.

Additional reading and in-class exercises printed from the Canvas e-learning site for the course.

Software

EXCEL, with statistics.

WORD or equivalent word-processing software.

Course grades will be determined as follows:

Lecture (~60%)

3 exams @ 75 pts each = 225 pts ~35%

In-class and at-home exercises (10-15pts each) = 150 pts ~24%

Laboratory (~40%)

Pre-lab questions = 50 pts ~8%

Post-lab quizzes and assignments = 110 pts ~17%

1 lab project/symposium = 100 pts ~16%

Total course points = 635

Grade Scale

A: > 90.0

A- : > 87.0 and ≤ 90.0

B+: > 84.0 and ≤ 87.0

B: > 80.0 and ≤ 84.0

B-: > 77.0 and ≤ 80.0

C+: > 74.0 and ≤ 77.0

C : > 70.0 and ≤ 74.0

C- : > 67.0 and ≤ 70.0

D+: > 64.0 and ≤ 67.0

D: > 60.0 and ≤ 64.0

D- > 57.0 and ≤ 60.0

E = <57

Exams: Each of the three exams will be given during the lecture portion of the class, as per the syllabus, that include drawing, labeling, and composing short written answers.

Lecture readings and Assignments: All lecture readings and assignments should be completed prior to coming to lecture. For example, before coming to class on August 24th, you should have already read ch. 1 of your text book. All assignments should be typed, printed, and brought with you to class (10pts). You will have the opportunity to refine or correct your responses over the course of that lecture period (handwritten; 5pts). Initial typed responses and in-class refined responses will be handed in at the end of the lecture period. Each assignment is worth a total of 15pts. If you do not come to class, you will not have the opportunity to submit refined responses (i.e. you forfeit 5pts and the opportunity to improve your understanding of the topic alongside your peers), but you may still submit typed responses.

Laboratory: Your laboratory grade will be based upon pre-lab questions, post-lab quizzes and assignments, and your lab project and its presentation in a course symposium. Please see your lab instructor for details concerning preparation for the lab quizzes and completing assignments. Details regarding the lab project and symposium will be provided as the time approaches. Pre-lab questions and the previous week's post-lab assignments and quizzes will be due at the beginning of your lab section unless otherwise stated.

Course attendance, curves, and make up policy: Attendance is required and essential for success in this course. **Unexcused absences:** If you do not come to class, you will not have the opportunity to submit refined responses (see above) (i.e. you forfeit 5pts), but you may still submit typed responses by the end of that day (for up to 10pts). Late assignments will lose 2pts/day (i.e. if you hand it in a day late, the maximum you can receive is 8pts). If you have a **valid documented excuse and notify us in advance**, you will be permitted to make up missed assignments for the full point value (15pts). There will be NO curve applied to grades.

Career Resources:

Ecological Society of America – Ecology jobs, internships, graduate school positions, etc. If you're looking for summer or post-graduate opportunities in ecology or evolutionary biology, it's a great idea to sign up for this listserv, or occasionally check the archives. Working as an ecological intern is a great way to travel, contribute toward novel research, network, and build new skills (and a stronger resume).

<https://listserv.umd.edu/archives/ecolog-l.html>

<http://www.conservationjobboard.com> is another excellent place to look for similar opportunities.

If you need help developing your application materials (cover letters, resume, CV, etc), the UF Career Resource Center, Reitz Union, 392-1601, is a great place to start.

UF Counseling Services:

Many students experience test anxiety and other stress – related problems. “A Self Help Guide for Students” is available through the Counseling Center (301 Peabody Hall; 392-1575) and at their web site: <http://www.counsel.ufl.edu/>.

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center (UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575). Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Academic Honesty Policy: All students registered at the University of Florida have agreed to comply with the following statement: "I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." In addition, on all work submitted for credit the following pledge is either required or implied: "On my honor I have neither given nor received unauthorized aid in doing this assignment."

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

Plagiarism is a serious violation of the Student Honor Code that includes:

- Submitting all or part of someone else's work as if it is your own
- "Borrowing" ideas or prose without crediting the source
- Submitting duplicate assignments
- Collaboration on assignment when such collaboration is not part of the work
- Failing to cite sources, or citing them improperly

Consequences of plagiarism:

- Failing grade on assignment AND
- Course grade penalty of one letter grade AND
- Report to the Office of the Dean of Students.

Please review plagiarism and how to avoid it:

http://www.uflib.ufl.edu/msl/subjects/images/plagiarism_26_guidelines.pdf

Accommodations for students with disabilities: Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the UF Disability Resources website at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation by the second week of classes. No accommodations are available to students who lack this documentation. It is UF's policy that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean will work with the instructor to accommodate the student.

Course schedule

Day	Date	Lecture Topic	Lecture readings & Assignments Due	T or W Lab	Notes on Lab
T	Aug 22	Introduction		No lab	
R	24	What is a plant?	Ch. 1		
T	29	Photosynthesis	Ch.4 p.64-80	1: Introduction to plants; introduction to growth experiment	
R	31	Photosynthesis & Bioengineering	Bourzac_2017_Bioengineering reading & assignment		
T	Sept 5	Respiration	Ch.4 p.80-87; Ch. 26 p.529-531; Atkin_etal-2010-Respiration-symposium and assignment	2: Photosynthesis and respiration	
R	7	Respiration in a warming climate	Reich_etal_2016_Respiration Acclimation & assignment.		
T	12	Plants respond to El Niño; Begin Nutrient & water transport	Popkin_2017_Massive El Niño sent greenhouse-gas emissions soaring & assignment. Begin readings for 8/14.	3: Plant growth experiment set-up	
R	14	Nutrient and water transport	Ch. 5 p. 90-104; Ch.8 p 150-165; Ch.10 211-217; Ch. 26 p. 534		
T	19	Nutrients from soil & inorganic nitrogen fertilizer	Chapter 10 – p.200-210; Smil_Haber-Bosch_1999 (no assignment)	4: Water in and through Plants	
R	21	Nitrogen acquisition - symbioses	Mus_etal_2016_Microb-plant-symbiosis & assignment.		
T	26	Exam 1 – Review session	TBD	5: Plant interactions	Lab held at NATL
R	28	Exam 1			
T	Oct 3	Mitosis & meristems	Ch. 12 p. 240 -246; Ch. 5 p.105-107	6: Mitosis & Meiosis	
R	5	Meiosis & inheritance	Ch. 12 p. 246-251; Ch. 14		
T	10	Life cycles- Haploid dominant (focus on mosses)	Ch. 22 p.428-438;	7: Plant growth experiment - data collection	Plant growth measurements
R	12	Plant sexual reproduction – sperm transfer & fertilization	Cronberg et al. 2006; Rosenstiel et al. 2012. Assignment includes both readings.		
T	17	Life cycles - Diploid dominant (focus on angiosperms)	Ch.25 p.484-491; Ch. 9 p. 184-184	8: Plant diversity, flowers and fruits	
R	19	Plant sexual reproduction – sperm transfer& fertilization	Zhang_etal_PassiveSperm & assignment		
T	24	Exam 2 – Review	TBD	9: Genetics	

R	26	Exam 2			
T	31	Guest Lecture – Dr. Stuart McDaniel		10: Plant growth experiment - statistics workshop	Bring formatted data and Computer
R	Nov 2	Evolution	Ch. 16		
T	7	Evolution	Ch. 17		
R	9	Tree-thinking	Baum et al Tree thinking and Tree thinking quiz 1 & 2	11: Genetics (week 2)	
T	14	Plant diversity	Gervasi & Schiestl_Evolution_by_Pollinators.pdf and assignment	12: Plant growth experiment – Sci. Com. Workshop	Bring computer with electronic version of poster
R	16	Plant diversity	Sauquet et al. Ancestral flower & assignment.		
T/R	21&23	THANKSGIVING— No Class		No labs	
T	28	Exam 3 – Review session	TBD		
R	30	Exam 3		No labs	
T	Dec 5	Poster symposium		No labs	
R	7	Poster symposium		No labs	