



Principles of Plant Science (BOT 3015)

Fall 2023

Tuesday/Thursday 12:00 – 1:20 pm
Classroom Building 2 (CB2), Room 207

Instructor: Federico Borghesi

Email address: Federico.Borghesi@ucf.edu

Communication Policy

- ***Office hours:*** Open virtual office hours will be conducted via Webcourses Chat on the following days:
 - Monday & Wednesday: 9:00 -10:00 am
 - Tuesday & Thursday: 3:00 – 4:00 pm
- The open office hours are for general course and content questions, and chat messages will remain visible to all students.
- Students wishing to discuss personal issues (such as grades) should request an individual Zoom meeting via email.
- ***E-mail communication:*** E-mail is the fastest and preferred way to communicate with me. Please do NOT use Webcourses messages!
- On weekdays, all attempts will be made to answer emails within 24 hours.
- Faculty can ONLY communicate with students via UCF email
- Please include the course name in the subject line of your email, and sign with your full name and UCF ID#
- Emails should be written in a professional and respectful manner – Florida has a very broad open records law (F.S. 119) so all emails sent to UCF email may be subject to public disclosure

Course Description

- *Credit hours:* 3
 - *Prerequisites:* BSC 2011C
 - BOT 3015 is an introductory exploration of core botanical concepts. It will provide students with an initial understandings of plant structure, growth, function and diversity. This course will serve as a foundation for more advanced classes in topics such as plant anatomy, plant physiology, and systematics.
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Expected Learning Outcomes

If you complete the course work successfully and effectively, you can expect to be able to:

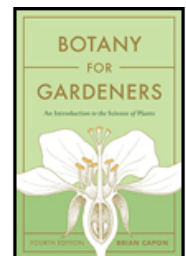
- **describe** the different parts of a plant, their composition, role and the different forms they can take;
- **identify** key challenges faced by plants in their environments and the potential adaptations they have developed to overcome them;
- **explain** the role of different plant hormones in the growth of plants and their response to environmental stimuli;
- **describe** basic plant metabolism with regards to photosynthesis;
- **explain** the mechanisms behind water uptake and transport in plants
- **describe** plant reproductive strategies, including flower characteristics and modes of dispersal;
- **identify** the major groups of land plants, their evolutionary history, and the features that distinguish the major lineages.

General Course Structure

- *Section 1* - Structure and growth of plants
 - Cells & growth
 - Morphology & anatomy
- *Section 2* – Ecology and adaptations
 - Abiotic challenges
 - Biotic interactions
- *Section 3* – Physiology
 - Hormones, growth and tropisms
 - Water and mineral uptake
 - Photosynthesis
- *Section 4* – Reproduction and evolutionary history
 - Plant reproduction, flowers and fruits
 - The plant kingdom

Course Materials

- “*Botany for Gardeners – An Introduction to Plant Sciences, 4th edition*” by Brian Capon, ISBN 978-1643261430
- iClicker REEF Polling (Student app subscription)
- Compiled Open Education Resources (OER) material for each lecture can be found as PDF on Webcourses.
- While this is NOT an online course, you are expected to have reliable internet access.



Webcourses@UCF

- Access Webcourses: <https://webcourses.ucf.edu> and enter your NID and password.
 - For technical support:
 - <https://cdl.ucf.edu/support/> or call 407-823-0407 or email: webcourses@ucf.edu
 - **Important:** *adjust your Webcourses settings to allow notifications or check the Announcement section regularly.*
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iClicker

- We will use **iClicker REEF polling** for a number of different activities in class, including *reading/preparedness questions* at the beginning of each lecture and *lecture-break* questions to gauge understanding during the lecture).
 - Combined, iClicker activities will account for 14% of the final grade, so make sure you set up your account in a timely fashion and have access to the *iClicker Student* app during class (via smartphone, tablet, or laptop).
 - **You can find detailed instructions for setting up your iClicker on Webcourses.**
 - For more details on the different activities that will include use of the iClicker app, please see description under “Activities” below.
 - **Important:** *we will be using the iClicker app – physical remotes will NOT work!*
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Academic Activity Assignment

- **Due date:** Friday, August 25th at 5:00 pm.
 - To document that you began this course for the purpose of financial aid distribution, please read pages 11-16 of ‘Botany for Gardeners’ (available as PDF in Webcourses), and answer the questions of the “**Botany and Me**” activity on Webcourses.
 - **Important:** This assignment is *required* even if you do not receive financial aid.
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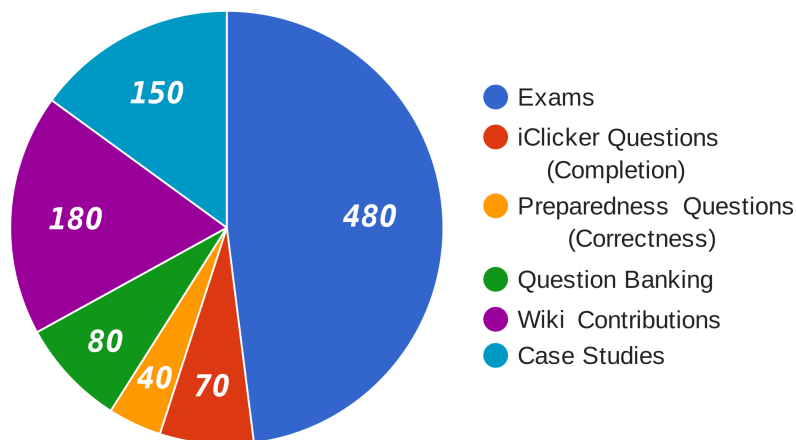
Attendance Policy

- This class meets **in-person** during our scheduled course days and time (T-Th from 12:00 to 1:20 pm in Classroom Building 2, room 207), unless conditions warrant a university approved change in course format.
 - While attendance is NOT mandatory, iClicker activities constitute 14% of the final grade and can ONLY be completed if you are present in the classroom. The 3 days with the lowest iClicker question scores are dropped automatically. You will receive an iClicker grade of ‘0’ for any missed days – in other words, up to 3 days can be missed without penalization to your iClicker Question grade.
 - Regardless if you are in attendance or not, students are expected to be fully aware of any information given in lecture and complete assignments accordingly.
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Grading

- The final grade for the course will be awarded using the scale below by calculating the percentage of your total earned points during the semester out of the 1000 possible.
- Final grade percentages will be rounded up from half-points (0.5) to the highest whole number (e.g. an 89.6% would round to a 90%). Anything below half-point, will be rounded down (e.g. an 89.4% will be rounded to 89%).
- Grades posted in Webcourses are NOT to be considered official grades.

Course Grade: 1000 points



Grade scale

A	90 - 100%
B+	87 - 89%
B	80 - 86%
C+	77 - 79%
C	70 - 76%
D+	67 - 69%
D	60 - 66%
F	<60%

- **Withdrawal Date: Friday, October 27 11:59 pm**
 - Students MUST initiate the withdrawal themselves.
 - Late and Medical Withdrawals and Incompletes are granted only for very compelling (and documented) reasons.
- **Extra Credit:** there will be NO extra credit opportunities offered in this course.
- **Make-up work:** Make-ups for missed exams or assignments must be approved at the discretion of the instructor and require documentation.
 - Authorized University Events: Students who represent the university in an authorized event (e.g. student-athletes) and who are unable to meet a course deadline due to conflict with that event must provide documentation in advance to arrange a make-up.
 - Personal reasons: If you miss an exam for a reason beyond your control (illness/hospitalization/court), you must notify the instructor as soon as possible, with a corresponding document (e.g. signed document from doctor, legal notice, etc).

Exams

- You MUST turn in **3 empty scantrons** before September 14th to be used during the exams (free scantrons can be obtained through the [Student Government](#)).
 - On exam days, you MUST bring a pencil and your student ID.
 - Students with approved accommodations for exams are required to take their exams at Student Accessibility Services (SAS) on the same day exams are given to the class.
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Activities



Reading/preparedness questions

(40 points)

Each lecture will begin with 2-3 iClicker questions on the assigned reading. Your first attempt is graded for **completion**. You will then have 1-2 minutes to discuss answers with your neighbors. Finally, you will get a second chance to answer the same questions – this time graded for **correctness**.



iClicker questions

(70 points)

During each lecture, there will be 2-3 *lecture-break* iClicker questions to gauge your understanding. Together with the reading/preparedness questions, they will be graded for **completion** – you need to answer all but 2 questions to receive full credit for the day. This means, if there are 6 questions during the day, you need to answer at least 4.



Question banking

(80 points)

As you study the material, you will need to create multiple choice questions that could be used in an exam. You need to submit **1 question per section** (see General Course Structure above) to webcourses (for a total of 4 questions). You will get 20 points per question.

At least 40% of exam questions will come from the question bank.



Wiki contributions

(180 points)

As a *collaborative study tool*, we will build wiki pages for the course. You will need to make at least **4 significant contributions** through the semester (45 points each). A significant contribution means: (a) adding 3-4 sentences of original text; or (b) adding a figure with its description; or (c) making at least 5 content corrections – including linking material. See Webcourses for more instructions!



Case studies

(150 points)

Before each exam, we will have a worked ‘case study’ exercise. On day 1 of the case study, you will discuss with your neighbors and answer a few iClicker questions (10 points for completion). You will then have to complete a series of exercises on Webcourses. On day 2 of the case study, we will review the answers. Each exercise will add to 50 points.



Exams

(480 points)

There will be 3 exams (non-cumulative) through the semester – see schedule. These will consist of 36 **multiple-choice** – 32 on basic knowledge (4 points each) and 4 worked questions (similar to case study). Each exam totals 160 points, and you are required to bring a scantron.

Course Schedule

Week	Section	Date	Topic	Reading
1	Intro	Aug 22	Introduction to class	Syllabus & pg 11-16
	Section 1	Aug 24	Growth and cells	17-26
2		Aug 29	Underground: seeds and roots	27-41
		Aug 31	Aboveground: shoots and leaves	42-58
3		Sept 05	Anatomy: intro + stems	58-75
		Sept 07	Anatomy: roots + leaves	75-83
4		Sept 12	Cell types / Case Study 1	83-87
		Sept 14	Case Study 1 / Exam 1 review	
5	Exam	Sept 19	EXAM 1	
	Section 2	Sept 21	Evolution and human influence	88-98
6		Sept 26	Abiotic challenges (extreme environments and light)	98-104 & 118-126
		Sept 28	Abiotic challenges (water + food)	127-135
		Oct 03	Biotic interactions (defenses)	104-118
7		Oct 05	Biotic interactions (symbiosis and parasitism)	135-143
8	Section 3	Oct 10	Plant hormones - growth	144-147 & 158-162
		Oct 12	Plant hormones (response to stimuli)	147-158 & 162-167
9		Oct 17	Water movement / Case study 2	167-176
		Oct 19	Case study 2 / Exam 2 review	
10	Exam	Oct 24	EXAM 2	
	Section 3	Oct 26	Mineral nutrients / soil	176-184
11		Oct 31	Light and photosynthesis	184-192
	Section 4	Nov 02	Flowers and pollination	193-212
12		Nov 07	Fruits and seed dispersal	212-221
		Nov 09	Heredity and life cycles	221-224
13		Nov 14	Seedless vascular plants / Case study 3	224-228 & PDF
		Nov 16	Case study 3 / Gymnosperms 1	228-231 & PDF
14		Nov 21	Gymnosperms 2	PDF
		Nov 23	THANKSGIVING BREAK!	
15		Nov 28	Angiosperms 1	PDF
		Nov 30	Angiosperms 2 / Exam 3 review	PDF
Final	Exam	Dec 07	EXAM 3 (10 am to 12:50 pm)	

Links to Important Resources



407-823-5555
(or 911)



[Student Handbook](#)



[UCF Cares](#)



[Accessibility](#)



[Academic Resources](#)

UCF Policy Statements

Academic Integrity

The Center for Academic Integrity (CAI) defines academic integrity as a commitment, even in the face of adversity, to five fundamental values: honesty, trust, fairness, respect, and responsibility. From these values flow principles of behavior that enable academic communities to translate ideals into action.

<http://academicintegrity.org/>

UCF Creed: Integrity, scholarship, community, creativity, and excellence are the core values that guide our conduct, performance, and decisions.

1. Integrity: I will practice and defend academic and personal honesty.
2. Scholarship: I will cherish and honor learning as a fundamental purpose of my membership in the UCF community.
3. Community: I will promote an open and supportive campus environment by respecting the rights and contributions of every individual.
4. Creativity: I will use my talents to enrich the human experience.
5. Excellence: I will strive toward the highest standards of performance in any endeavor I undertake.

The following definitions of plagiarism and misuse of sources come from the Council of Writing Program Administrators <<http://wpacouncil.org/node/9>> and have been adopted by UCF's Department of Writing & Rhetoric.

Plagiarism

In an instructional setting, plagiarism occurs when a writer deliberately uses someone else's language, ideas, or other original (not common-knowledge) material without acknowledging its source. This definition applies to texts published in print or on-line, to manuscripts, and to the work of other student writers.

Misuse of Sources

A student who attempts (even if clumsily) to identify and credit his or her source, but who misuses a specific citation format or incorrectly uses quotation marks or other forms of

identifying material taken from other sources, has not plagiarized. Instead, such a student should be considered to have failed to cite and document sources appropriately.

Responses to Academic Dishonesty, Plagiarism, or Cheating

UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see

<http://goldenrule.sdes.ucf.edu/zgrade>.

For more information about UCF's Rules of Conduct, see <http://www.osc.sdes.ucf.edu/>.

Unauthorized Use of Class Materials

There are many fraudulent websites claiming to offer study aids to students but are actually cheat sites. They encourage students to upload course materials, such as test questions, individual assignments, and examples of graded material. Such materials are the intellectual property of instructors, the university, or publishers and may not be distributed without prior authorization. Students who engage in such activity are in violation of academic conduct standards and may face penalties.

Unauthorized Use of Class Notes

Faculty have reported errors in class notes being sold by third parties, and the errors may be contributing to higher failure rates in some classes. The following is a statement appropriate for distribution to your classes or for inclusion on your syllabus:

Third parties may be selling class notes from this class without my authorization. Please be aware that such class materials may contain errors, which could affect your performance or grade. Use these materials at your own risk.

In-Class Recording Policy

Outside of the notetaking and recording services offered by Student Accessibility Services, the creation of an audio or video recording of all or part of a class for personal use is allowed *only* with the advance and explicit written consent of the instructor. Such recordings are only acceptable in the context of personal, private studying and notetaking and are not authorized to be shared with *anyone* without the separate written approval of the instructor.

Course Accessibility Statement

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need specific access in this course, such as accommodations, should contact the professor as soon as possible to discuss various access options. Students should also connect with [Student Accessibility Services](#) (Ferrell Commons, 7F, Room 185, sas@ucf.edu, phone (407) 823-2371). Through Student Accessibility Services, a Course Accessibility Letter

may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable.

Campus Safety Statement

Emergencies on campus are rare, but if one should arise in our class, we will all need to work together. Everyone should be aware of the surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Please make a note of the guide's physical location and consider reviewing the online version at http://emergency.ucf.edu/emergency_guide.html.
- Familiarize yourself with evacuation routes from each of your classrooms and have a plan for finding safety in case of an emergency. (Insert class-specific details if appropriate)
- If there is a medical emergency during class, we may need to access a first aid kit or AED (Automated External Defibrillator). To learn where those items are located in this building, see <http://www.ehs.ucf.edu/AEDlocations-UCF> (click on link from menu on left). (insert class specific information if appropriate)
- To stay informed about emergency situations, sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on "Student Self Service" located on the left side of the screen in the tool bar, scroll down to the blue "Personal Information" heading on your Student Center screen, click on "UCF Alert", fill out the information, including your e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- If you have a special need related to emergency situations, please speak with me during office hours.
- Consider viewing this video (<https://youtu.be/NIKYajEx4pk>) about how to manage an active shooter situation on campus or elsewhere.

Deployed Active Duty Military Students

If you are a deployed active duty military student and feel that you may need a special accommodation due to that unique status, please contact your instructor to discuss your circumstances.