

INTRODUCTION TO BOTANY BIO 1110

I. Course information:

BIO1110: Designed to provide a foundation for more advanced courses in biology and related sciences. Structure, physiology, reproduction, diversity, evolution, and ecology of plants as a basis for understanding the broader principles of biology. Surveys important groups of plants, fungi, and algae.

Instructor: Dr. Bernard Goffinet

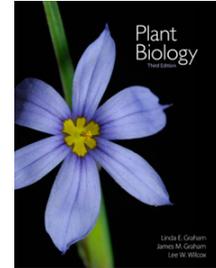
Office: Biology-Pharmacy Building, room 300 (room next to elevator, and thus not in the main wing of the building)

Phone: 486-5290

e-mail: bernard.goffinet@uconn.edu (**write BIO 110 in subject line otherwise you may not get a response**)

Textbooks: Lecture: *Plant Biology*. Graham, Graham and Wilcox. Pearson, Prentice Hall. Third Edition. (ISBN 978-0-9863935-0-1). The text (802 pages) is available for \$40 in electronic format (ca. 70 MB) at: http://www.ljlmpress.com/plant_biology.html

Laboratory: Biology 1110, *Laboratory Manual, Introduction to Botany, Fall 2015, Dept. of Ecology and Evolutionary Biology.*



Lectures are held in **Laurel Hall 205**.

Laboratories are held in TLS 309 on Wednesday from 12.20-3.20 PM, 3.35-6.35PM and Thursday from 12.30-3.30PM.

Laboratory Teaching Assistants:



Lauren Stanley:

Office Biology Pharmacy 310

(860) 486 4154

lauren.stanley@uconn.edu



Charles Delavoi:

Office Biology Pharmacy 316

(860) 486 6306;

charles.delavoi@uconn.edu

II. Science course satisfying General Education requirements should ensure that students:

- *Become articulate;*
- *Acquire intellectual breadth and versatility;*
- *Acquire critical judgment;*
- *Acquire moral sensitivity;*
- *Acquire awareness of their era and society;*
- *Acquire consciousness of the diversity of human culture and experience;*
- *Acquire a working understanding of the processes by which they can continue to acquire and use knowledge*

For CA3, courses (Science and technology) should:

- *Explore an area of science or technology by introducing students to a broad, coherent body of knowledge and contemporary scientific or technical methods;*
- *Promote an understanding of the nature of modern scientific inquiry, the process of investigation, and the interplay of data, hypotheses, and principles in the development and application of scientific knowledge;*
- *Introduce students to unresolved questions in some area of science or technology and discuss how progress might be made in answering these questions; and*

INTRODUCTION TO BOTANY BIO 1110

- *Promote interest, competence, and commitment to continued learning about contemporary science and technology and their impact upon the world and human society.*
- Laboratory courses in this category must teach fundamental principles of the biological and/or physical sciences through hands-on participation.

III. For students with disabilities:

Please contact me during office hours to discuss academic accommodations that may be needed during the semester due to a documented disability. If you have a disability for which you wish to request academic accommodations and have not contacted the Center for Students with Disabilities (CSD), please do so as soon as possible. The CSD engages in an interactive process with each student and reviews requests for accommodations on an individualized, case-by-case basis. The CSD collaborates with students and their faculty to coordinate approved accommodations and services. The CSD is located in Wilbur Cross, Room 204 and can be reached at (860) 486-2020 or at csd@uconn.edu. Detailed information regarding the process to request accommodations is available on the CSD website at www.csd.uconn.edu.

IV. Advice:

- Lecture attendance:** You should attend all lectures. A recent study demonstrates that **multitasking** during lectures (i.e., **texting and engaging in social media**) leads to students to have to then devote more time to studying and typically leads to **a lower grade** (for details see: <http://today.uconn.edu/2015/07/multitasking-increases-study-time-lowers-grades/>). If you have to miss a lecture you should consult one of your classmates to get the lecture notes.
- Lab attendance:** Laboratories are considered an integral part of this course; hence attendance is mandatory. Absences should be justified. **Unjustified or inappropriately justified absences from 3 or more lab sessions will lead to failure of the WHOLE CLASS, not just the laboratory portion of it.**
- Preparation for class:** read each chapter before coming to lecture; you should have a good idea of what topics will be addressed in class prior to the lecture.
- After each class:** While the material is still fresh after the lecture you should go over your notes and confirm that you understand the points made in class. If you have any questions you should consult with the instructor (take advantage of this offer and make an appointment) or the TAs. Standard expectations for a 4-credit course are that you will spend 4 hours per week outside of class studying the material.
- Textbook:** Plant Biology is a great introduction to botany. We will not cover all chapters nor will we cover all points made in all chapters. The textbook should be viewed as a reference for illustrations, terminology, and definitions. Every person has a different style for learning, and for explaining concepts. Styles of the instructor differ from that of the authors of the text. The two should complement each other, meaning you should read the chapters covered in class. The book includes a very good glossary (starting p. 623) that you should use since understanding the terminology is essential to understanding the material. At the end of the book you will also find an index (p. 641), which you should also use, especially to find additional facts about certain topics that may be found in chapters other than the ones you are reading.
- Preparation for exams:** All material covered in class and the corresponding material in the textbook is considered exam material. You should not limit yourself to reading the lecture hand-outs (slides). The hand-outs should be viewed as a guide only. Integrate your lecture notes with the text from the book.
- Midterm:** Only one exam is schedule during the semester: the midterm. **If you pass the midterm your final will be shorter**, i.e., you will avoid a cumulative final exam.
- Final exam:** is **cumulative unless** you passed the midterm with a score of 60% (D) or higher, in which case your final exam would ONLY include material covered from lecture 19 onward. In other words: if you pass the midterm, your final exam will last one hour; if you failed the midterm, your final exam will last two hours and cover the entire lecture material. If you earned a C on the midterm and would like to improve your score, you may, BUT you would have to send the instructor a written request with the understanding that your midterm retake will count, regardless of it being higher or lower than your original score.
- Extra credit:** no work is assigned during the semester for extra credit; the grade is based solely on the lecture exams, and quizzes, reports and exam in the laboratory portion of the course. As per the undergraduate catalogue (p. 27): "An instructor may neither accept additional work nor give additional

**INTRODUCTION TO BOTANY
BIO 1110**

examinations once the grade in the course has been submitted.” This means that your final grade is final, unless an error occurred.

- j. **How to earn a B or A?** Ideally you should read the summary or even better the entire chapter prior to lecture. After each lecture, you should review the lecture material. Each chapter is concluded with sections entitled “Highlights”, “Review questions” and “Applying concepts”. I would encourage you to form study-groups and to go over the review questions. Feedback from classmates may help you to evaluate how accurate, explicit and comprehensive your answer is. If you have any questions regarding the material you should consult your TA or make an appointment to see the instructor. To insure the effectiveness of their help, you should contact them ideally as the problems arise, and hence well before the exams.

DO NOT DELAY working on the material. The **midterm is mandatory and is scheduled for October 18th**. Working regularly is the key to your success in this class and success will lead to a shorter final exam.

- k. **Office hours:** By appointment only (send an e-mail to bernard.goffinet@uconn.edu, or talk to me before/after class); you are **strongly encouraged** to see the instructor if you have a question that you have tried to answer, and that your peers in your study group can't answer.
- l. **Academic misconduct:** For a definition of Academic Misconduct and its consequences see Section VI of “The Student Conduct Code” available at http://www.dosa.uconn.edu/student_code.html - by clicking on **Appendix A: Academic Integrity in Undergraduate Education and Research**. The text reads: “Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, and examinations); any attempt to influence improperly (e.g. bribery, threats) any member of the faculty, staff, or administration of the University in any matter pertaining to academics or research; presenting, as one's own, the ideas or words of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in *The Student Code*.”

To avoid any misunderstanding, you must have your cell phone turned off and have nothing else on your desk during the entire duration of the exams, including tests in the laboratory, except for a calculator, when needed and approved by the instructor or TA.

V. Grades: Your test results and grades will be posted on HuskyCT.

The final grade is based 50% on your performance with each the lecture and laboratory material.

| <u>Lecture</u> | <u>Points</u> | <u>Laboratory</u> | <u>Points</u> |
|---|---------------|-------------------------|---------------|
| | | Quizzes | 100 |
| Midterm: | 125 | Reports | 50 |
| Final exam (2 nd half of semester lectures): (see explanation II.h above) | <u>125</u> | Final exam (cumulative) | <u>100</u> |
| Total: | 250 | Total: | 250 |

Total out of 500

Note: the midterm covers lectures 1-18. It is mandatory; you have to be present. If you failed the midterm you must take it again at the time you take the final.

**INTRODUCTION TO BOTANY
BIO 1110**

The midterm will comprise questions testing your knowledge (memorization), your understanding of the material, and your ability to apply that knowledge to new problems.

To obtain an A you must master all 3 parts. Perfect memorization will guarantee a C+ or B- grade only.

Grade scaling: the final grade will conform to your final score. If you are ever in doubt you can calculate your percentage at any point in the semester to get a sense how you are doing. If you are concerned see the instructor as soon as possible.

| Your total score (X) | grade | your percentage (Y%=X/5) |
|----------------------|----------|--------------------------|
| 450-500 points | A | 90%<Y≤100% |
| 400-449 points | B | 80%<Y≤89% |
| 350-399 points | C | 70%<Y≤79% |
| 300-349 points | D | 60%<Y≤69% |
| Less than 300 | F | Y≤59% |

Curving or no curving?

Typically the average in this class varies between a C and a C⁺. The distribution of grades will NOT be adjusted in order for the average to be within the C to C⁺ range. This means that if the average is lower (e.g. a C⁻) grades will NOT be inflated, and if the average is higher (e.g., a B), the grades will be NOT be deflated. In essence this means that your grade reflects your performance only and not your performance in comparison of that of your classmates.

| Week | Lecture | Date | Topic | Laboratories |
|--------|---------|---------|---|-------------------------------|
| Week 1 | 1 | Aug. 28 | A survey of topics covered and Plant diversity | Field exercise and greenhouse |
| | 2 | Aug. 30 | Chap. 2: Plants and people | |
| | 3 | Sep. 1 | Chap. 5: Cell structure | |
| Week 2 | | Sep. 4 | Labor day | Microscope and Plant cells |
| | 4 | Sep. 6 | Chap. 5: Cell structure | |
| | 5 | Sep. 8 | Chap. 3: Atoms, Molecules, and Water — The Basis of Life | |
| Week 3 | 6 | Sep. 11 | Chap. 4: Molecules of life | Photosynthesis + Hormone |
| | 7 | Sep. 13 | Chap. 6: Photosynthesis | |
| | 8 | Sep. 15 | Chap. 6: Photosynthesis | |
| Week 4 | 9 | Sep. 18 | Chap. 6: Respiration | Plant anatomy 1 |
| | 10 | Sep. 20 | Chap. 9: Plant structure: organs, tissues and growth | |
| | 11 | Sep. 22 | Chap. 10 (part): Stem structure | |
| Week 5 | 12 | Sep. 25 | Chap. 11 (part): Root structure | Plant anatomy 2 |
| | 13 | Sep. 27 | Chap. 12 (part): Leaf structure | |
| | 14 | Sep. 29 | Chap. 10–12 (part): Stems, roots, leaves and plant nutrition | |
| Week 6 | 15 | Oct. 2 | Stems, roots, leaves and plant nutrition (cont.) | Transpiration |
| | 16 | Oct. 4 | Chap. 13: Plant behavior | |
| | 17 | Oct. 6 | Chap. 14 (part): Plant reproduction and life cycles | |
| Week 7 | 18 | Oct. 9 | Chap. 18: Naming and organizing plants and microbes | Algae + Hormone |
| | 19 | Oct. 11 | Chap. 19 (part): origin of life and Chap. 20: Protists and the origin of Eukaryotic cells | |
| | 20 | Oct. 13 | Chap. 22: Seedless non-vascular plants | |
| Week 8 | 21 | Oct. 16 | Chap. 22: Seedless vascular plants | Seedless plants |
| | 21 | Oct. 18 | Midterm (lectures 1-18) | |
| | 22 | Oct. 20 | Chap. 23: Gymnosperms, the first seed plants | |

**INTRODUCTION TO BOTANY
BIO 1110**

| | | | | |
|--|----|---------|--|--|
| Week 9 | 23 | Oct. 23 | Chap. 24: Angiosperm (flowering plant) diversity | Gymnosperms + Biodiversity Research Collection tour |
| | 24 | Oct. 25 | Chap. 24: Angiosperm (flowering plant) diversity | |
| | 25 | Oct. 27 | Chap. 25: Flowering plant and animal coevolution | |
| Week 10 | 26 | Oct. 30 | Chap. 21: Fungi and lichens | Angiosperms |
| | 27 | Nov. 1 | Chap. 7: DNA and RNA | |
| | 28 | Nov. 3 | Chap. 7: Protein synthesis | |
| Week 11 | 29 | Nov. 6 | Chap. 8: Cell division (Mitosis) | Fungi and fermentation |
| | 30 | Nov. 8 | Chap. 14 (part) Meiosis | |
| | 31 | Nov. 10 | Chap. 15: Genetics and laws of inheritance | |
| Week 12 | 32 | Nov. 13 | Chap. 15: Genetics and laws of inheritance | Cell division |
| | 33 | Nov. 15 | Chap. 16: Genetic engineering | |
| | 34 | Nov. 17 | Chap. 17: Biological evolution | |
| NOV. 22-28: THANKSGIVING RECESS | | | | |
| Week 13 | 35 | Nov. 27 | Chap. 26: Principle of ecology and the biosphere | Genetics |
| | 36 | Nov. 29 | Chap. 27 Arid ecosystems | |
| | 37 | Dec. 1 | Chap. 28: Arid ecosystems | |
| Week 14 | 38 | Dec. 4 | Chap. 29: Aquatic ecosystems | Lab final |
| | 39 | Dec. 6 | Chap. 30: human impacts and sustainability | |
| | 40 | Dec. 8 | Chap. 30: human impacts and sustainability | |