

**INTRODUCTION TO PLANT BIOLOGY (BIO 130)  
SPRING 2013**

- Instructor:** PhD. Virginia Freire  
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- Office hours:** T and R from 10:00 to 12:00  
I encourage you to take advantage of office hours. Different meeting times can be arranged upon request.
- Lectures:** SCI A208  
M and W from 15:35 to 16:50 in  
Outlines, Power Points, review questions and exam samplers are available in D2L.
- Laboratories:** TNR 153  
Section 11: T/R from 13:00 to 14:50  
Section 12: T/R from 15:00 to 16:50
- Textbook:** Biology of Plants by P. H. Raven, R. F. Evert and S. E. Eichhorn, 8<sup>th</sup> Edition. (Required, rental from bookstore).
- Lab Manual:** Essentials of Botany (Required, purchase from bookstore).
- Course goal:** To introduce basic principles of structure, growth, reproduction, function, evolution and adaptation of plants and a broad survey of diversity that includes bacteria, fungi like organisms, fungi, algae and plants. The course will have an emphasis on sustainability and environmental issues will be discussed.
- Attendance:** To succeed in this course it is strongly recommended to attend lectures and laboratories. Exams/quizzes are based only on material covered in class or laboratory. There is no substitute for taking your own notes, listening closely and asking questions. Extra credit and homework assignments are announced during lecture/lab time.
- Makeup lecture exams will be given at the instructor's discretion and only in the case of excused absence. Valid reasons for excused absence are **documented** health emergencies; death of immediate family members or UWSP sponsored events. **Sleeping late is not a valid reason!!** Please inform me before the exam you will be missing when possible. **There are no makeup quizzes.**
- Conduct:** **An environment of respect is expected in the classroom.** Comments about lecture/lab material are encouraged but **disruptive behavior will not be tolerated.** Be considerate to your classmates and step outside the classroom if you want to have a conversation. Please turn off or mute your cell phone. No cell phone conversations or texting are allowed during meeting times. Plagiarism on any assignment will not be tolerated. For any questions on your rights and responsibilities, please check: <http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx>
- Grading:** Grades will be posted in D2L. Check them any time at:  
<http://www.uwsp.edu/d2l/Pages/default.aspx>  
There is no correction factor but the points needed for the highest grade in the class to be a perfect score will be added to everybody.  
**Students with a 93% average (92.4% will not do!) at the end of the course are exonerated from the final exam and will get an A. Study hard from the beginning!!**

**Exams:** There will be 3 lecture exams and a comprehensive final exam. All exams are multiple choice. Only the final exam is comprehensive.

**Quizzes:** There will be 6 laboratory quizzes as scheduled. The quiz with the lowest grade will be dropped. **There will not be makeup quizzes.** Each quiz will evaluate the material from the previous four laboratories. The quizzes cover only laboratory contents and are mainly multiple choice. Some of them will be group activities or take home assignments.

**Open labs:** There are open labs from 6 to 8 p.m. on Mondays and Thursdays in rooms CNR 153 and CNR 157. Feel free to come at those times to review the material covered during lab. To help you study for the quizzes, there is an unlabelled bank of images from the material covered in each laboratory at: <http://www4.uwsp.edu/biology/courses/botlab/default.htm>.

**Common plant identification test:** There will be a plant identification test to familiarize you with the plants most commonly found in the Stevens Point area. To prepare for this test, review the web page: <http://www4.uwsp.edu/biology/courses/plantID/index.htm>. The exam will be offered in two parts on different dates (see in laboratory schedule below). **Part I includes all seedless plants, gymnosperms, woody dicots and dicot herbs a (to garlic mustard). Part II includes: dicot herbs b, dicot herbs c and monocots.**

**Extra credit:** There will be opportunities to obtain bonus points to be added to your final grade! You can accumulate **up to 25 extra credit points**. Examples of extra credit assignments could be: attending botanical talks, reading and discussing book chapters or magazine articles, watching a video and writing your reaction, short research assignments, etc.

|                |  |                   |
|----------------|--|-------------------|
| <b>Points:</b> | Lecture exams (1-3 = 100 points each)          | 300 points        |
|                | Final exam                                     | 150 points        |
|                | Laboratory quizzes (50 points each)            | 250 points        |
|                | Common plant ID exam I and II (50 points each) | <u>100 points</u> |
|                | Total  | 800 points        |

**Scale:** Your grade is based on a total of 800 points. The grading scale for the course is:

|           |       |    |
|-----------|-------|----|
| 800 – 744 | (93%) | A  |
| 743 – 720 | (90%) | A- |
| 719 – 696 | (87%) | B+ |
| 695 – 664 | (83%) | B  |
| 663 – 640 | (80%) | B- |
| 639 – 600 | (75%) | C+ |
| 599 – 560 | (70%) | C  |
| 559 – 520 | (65%) | C- |
| 519 – 496 | (62%) | D+ |
| 495 – 440 | (55%) | D  |
| < 440     |       | F  |

## TENTATIVE LECTURE SCHEDULE

| DATE  | TOPIC  | BOOK CHAPTER |
|-------|--|--------------|
| 01/23 | Syllabus, general information. Introduction.               | 1            |
| 01/28 | The cell.  | (2)*, 3      |
| 01/30 | Cell cycle, mitosis, meristems                             | 3, 23        |
| 02/04 | Cells and tissues of the plant                             | 23           |
| 02/06 | Cells and tissues of the plant                             | 23           |
| 02/11 | The shoot, primary structure and development (stems)       | 25           |
| 02/13 | Secondary growth in stems, wood.                           | 26           |
| 02/18 | The root, structure and development                        | 24           |
| 02/20 | The shoot, primary structure and development (leaves)      | 25           |
| 02/25 | <b>Lecture exam I</b>                                      |              |
| 02/27 | Movement of water and solutes in plants                    | 30           |
|       | Soil, plant nutrition                                      | 29           |
| 03/04 | The flow of energy, respiration                            | (5)*, 6      |
| 03/06 | Photosynthesis, light and life                             | 7            |
| 03/11 | Photosynthesis, light and life                             | 7            |
| 03/13 | Regulating Growth and Development                          | 27           |
|       | External factors and plant growth                          | 28           |
| 03/18 | DNA, Genetics and heredity                                 | 8, 9         |
| 03/20 | DNA, Genetics and heredity                                 | 8            |
| 04/01 | Gene expression  | 9            |
|       | Recombinant DNA technology                                 | 10           |
| 04/03 | <b>Lecture exam II</b>                                     |              |
| 04/08 | Systematics, Prokaryotes, Cyanobacteria                    | 12, 13       |
| 04/10 | Fungi: zygote, sac, club and imperfect fungi.              | 14           |
| 04/15 | Fungi: zygote, sac, club and imperfect fungi.              | 14           |
|       | Protists: slime mold, egg fungi, euglenoids, diatoms, etc. | 15           |
| 04/17 | Green, Brown and red algae                                 | 15           |
| 04/22 | Green, Brown and red algae                                 | 15           |
|       | Lichens, Introduction to plants                            | 15, 16       |
| 04/24 | Bryophytes   | 16           |
| 04/29 | Seedless vascular plants                                   | 17           |
| 05/01 | Gymnosperms  | 18           |
| 05/06 | Angiosperms  | 19, 20       |
| 05/08 | <b>Lecture exam III</b>                                    |              |
| 05/17 | <b>Final exam (12:30 to 14:30)</b>                         |              |

\* indicates chapters for background information.

## LABORATORY SCHEDULE

| DATE  | TOPIC  |
|-------|--|
| 01/29 | Introduction to the Botany lab and microscopy.                             |
| 01/31 | Microscopic measurements.  |
| 02/05 | The plant cell.  |
| 02/07 | Mitosis and reproduction.  |
| 02/12 | <b>Quiz #1.</b> Meristems, cell types, herbaceous stems.                   |
| 02/14 | Woody stems and wood anatomy.  |
| 02/19 | Modified stems, root anatomy, modified roots.                              |
| 02/21 | Leaf anatomy, modified leaves.   |
| 02/26 | <b>Quiz #2.</b> Plant water relations.                                     |
| 02/28 | Enzymes and digestion, respiration.  |
| 03/05 | Light and photosynthesis.  |
| 03/07 | <b>Common plant ID exam part I.</b> Control of plant growth (preparation). |
| 03/12 | Gas exchange and photosynthesis.   |
| 03/14 | <b>Quiz #3.</b> Control of plant growth.                                   |
| 03/19 | Molecular plant genetics.  |
| 03/21 | <b>Common Plant ID exam part II.</b>                                       |
| 04/02 | Plant genetics, propagation and breeding.                                  |
| 04/04 | Bacteria.  |
| 04/09 | <b>Quiz # 4.</b> Chytrids, zygote fungi, sac fungi                         |
| 04/11 | Club fungi, deuteromycetes, fungus like organisms                          |
| 04/16 | Cyanobacteria, algal diversity.  |
| 04/18 | Green algae, lichens.  |
| 04/23 | <b>Quiz #5.</b> Bryophytes.  |
| 04/25 | Fern allies and ferns.   |
| 04/30 | Gymnosperms.   |
| 05/02 | Angiosperms and the flower.  |
| 05/07 | Seeds, seed germination, fruits.   |
| 05/09 | <b>Quiz # 6.</b>   |