

# BIOL 154—Introduction to Botany (4 credits)

Alexey Shipunov

Fall 2013



## SYLLABUS

**Class Dates** : August 28 to December 13, 2012

### Course Description and Objectives :

This course will introduce the principles of plant structure, function, and diversity as evolved over time. You will gain a better understanding of plant life, diversity and distribution on this planet and learn to appreciate plants as elaborate and beautiful organisms, which are a significant part of our culture. You will learn about historical experiments and persons, who had a significant impact on the field and get introduced to current findings. In the labs you will observe plant structure and gain experience on how to collect and analyze experimental data.

### Seven Central Concepts :

photosynthesis, symbiogenesis, general life cycle, multi-tissued organisms, origin of plant organs, seed, flower

**Instructor** : Dr. Alexey Shipunov

**Office** : Moore 229

**Office Hours** : Mondays, Wednesdays and Fridays, 11 am to 12 am

**Phone** : 858-3116

**E-mail** : alexey.shipunov@minotstateu.edu

**Lectures** : Mondays, Wednesdays and Fridays, 10:00 am to 10:50 am, Moore 16

**Textbook** : “Plant Biology” (Rost et al., 2 ed., Thomson Brooks/Cole)

**Web site** : [http://ashipunov.info/shipunov/school/biol\\_154/](http://ashipunov.info/shipunov/school/biol_154/)

Please note that lecture slides from the Web site are NOT containing all information which is given on lectures.

**Laboratories** : Monday and Wednesday 3 to 4:50 pm, Moore 210 (please check the time for your section).

Some labs will be outdoor.

### Grading :

**Four** exams are given during the semester. Only **three** best exams contribute to the final grade. Missed exams count zero points. There are **no make-up** exams. First exams will be based on graded curve; I will use trimmed maximum approach. To prepare for the exam, you should: (1) go through lecture slides; (2) clarify remaining questions with textbook; (3) and use external sources (like Wikipedia) to explore the rest. Exam sheets will contain multiple choice questions (for use with a scantron) and short answer questions (they may give much more points than multiple choice). Several slots will be available for the other type of exam based on electronic essay.

There are five legitimate reasons for absence on exam or lab: (1) emergency situations, (2) attested medical conditions, (3) military duty, (4) participation in MSU sports events, and (5) dependent sick leave. Absence from exams or laboratories needs to be announced to the instructor in advance.

Receiving zero points for **more than one laboratory** results in a failed course. Grading of laboratories is based on reports and/or drawings. Written reports and/or drawings are prepared and finished during laboratory sessions and passed to the instructor right after the particular laboratory session.

I strongly recommend attending lectures regularly. Lecture contents will supersede the textbook. At the end of every lecture I will give one short test question to answer.

A total of  $\approx 540$  points (the actual total could be different) can be earned. Points will be distributed as follows (values may vary):

**Lecture tests** :  $\approx 60$  points (1–3 points per question)

**Three best exams** :  $\approx 240$  points (exam distribution curves will be graded)

**Laboratories** : 240 points (12 labs, 20 points per lab)

**Letter Grades** : A  $\geq 90\%$ , B  $\geq 80\%$ , C  $\geq 70\%$  D  $\geq 60\%$ , F  $< 60\%$  of a total.

**Academic Honesty** : Honesty and integrity are central to academic life at Minot State University. Cheating may affect the student in accordance with the grading policy: a minimum of one letter grade will be deducted from the grade for academic dishonesty / plagiarism.

**Disability Needs** : In coordination with Disability Support services, reasonable accommodations will be provided for qualified students with disabilities. Please contact the instructor during the first week of class to make arrangements. Additional information is available from MSU Disability Support Services.

**Tentative Course Schedule** :

|         |                   |   |
|---------|-------------------|---|
| Week 1  | Aug 28, 30        | Intro to intro; no lab  |
| Week 2  | Sep 4, 6          | Chemistry of life, photosynthesis; no lab                       |
| Week 3  | Sep 9, 11         | Photosynthesis; Lab 1   |
| "       |                   | <b>1st exam: September 13</b>                                   |
| Week 4  | Sep 16, 18, 20    | Symbiogenesis and plant cell; Lab 2                             |
| Week 5  | Sep 23, 25, 27    | Mitosis and meiosis; Lab 3                                      |
| Week 6  | Sep 30, Oct 2, 4  | Multicellularity and life cycle; Lab 4                          |
| Week 7  | Oct 7             | Life cycle; no lab  |
| "       |                   | <b>2nd exam: October 11</b>                                     |
| Week 8  | Oct 14, 16, 18    | Plant tissues; Lab 5  |
| Week 9  | Oct 21, 23, 25    | Plant organs: leaf, stem, root; Lab 6                           |
| Week 10 | Oct 28, 30, Nov 1 | Plant organs: leaf, stem, root; Lab 7                           |
| Week 11 | Nov 4, 6          | ; Lab 8 (Monday)  |
| "       |                   | <b>3rd exam: November 8</b>                                     |
| Week 12 | Nov 13, 15        | Plant organs: leaf, stem, root; Lab 8 (Wednesday)               |
| Week 13 | Nov 18, 20, 22    | Mosses and ferns. Taxonomy; Lab 9                               |
| Week 14 | Nov 25, 27        | Water flow, branching and thickening; Lab 10                    |
| Week 15 | Dec 2, 4, 6       | Seed plants; Lab 11   |
| Week 16 | Dec 9, 11, 13     | Flowering plants, flower, fruit; Lab 12                         |
|         |                   | <b>4th Exam: Thursday December 19, 10:00–10:50 am, Moore 16</b> |

*Please note that the schedule is a subject to change. Only exam dates are fixed.*