

BIOL 154—Introduction to Botany (4 credits)

Alexey Shipunov

Fall 2015



SYLLABUS

Class Dates : August to December, 2015

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 on this planet and learn to appreciate plants as elaborate and beautiful organisms, which also are a indispensable 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 diversity indoor and outdoor, and gain experience on how to collect and analyze experimental data.

Please note that Introduction to Botany is a **topic class** intended to Biology and Science majors. Chemistry is not a formal prerequisite but will be required, as well as a basic knowledge of math and physics.

Seven Central Concepts : photosynthesis, symbiogenesis, 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 a.m. to 12 a.m.

Phone : 858-3116

E-mail : alexey.shipunov@minotstateu.edu

Lectures : Mondays, Wednesdays and Fridays, 10:00 a.m. to 10:50 a.m., Moore 16

Textbook : A. Shipunov. *Introduction to Botany*. [Electronic resource]. 2015. Mode of access: http://ashipunov.info/shipunov/school/biol_154

Web site : 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 : Wednesday 3 p.m. to 4:50 p.m., Moore 210. While some plants are still available, we will study outdoor (including field trips involving transportation within and/or out of town). As a result, **labs will not exactly correspond with lectures**: our lab sequence is independent.

Grading : **Four equal exams** are given. Missed exams count zero points. There is a possibility for **one make-up** exam. Some exams could be based on graded curve; I will use trimmed maximum approach. To prepare for the exam, you should: (a) go through lecture slides; (b) clarify remaining questions with a textbook; (c) use external sources (like Wikipedia) to explore the rest. Exam sheets will contain multiple choice questions (for use with a scantron) and few short answer questions.

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 must be announced to the instructor in advance.**

Receiving zero points for **more than one laboratory** results in a failed course. Same is true for exams: **two failed exams mean the failed class**. 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 me 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 quiz question** to answer.

A total of ≈ 640 points (the actual total could be different) can be earned (values may vary):

Lecture quizzes : ≈ 60 points (1–3 points per question)

Four exams : ≈ 400 points

Laboratories : 180 points (12 labs, 15 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.

Minot State University interpersonal abuse statement (Title IX) : Minot State University strives to create a campus community free from interpersonal abuse including sexual misconduct. In working to achieve this intent, Minot State University commits to: taking action to stop sexual misconduct; taking action to remedy its effects by providing advocacy, support and appropriate referral services for recipients of the behavior; taking action to prevent recurrences; educating individuals and promoting discussions on interpersonal abuse and violence; and conducting impartial investigation of all reports/notices of sexual misconduct through fair, equitable and prompt procedures. Investigations will be independent of and separate from law enforcement investigations of criminal activity.

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

Week 1	Aug 26, 28	Intro to intro; no lab
Week 2	Aug 31, Sep 2, 4	Chemistry of life, photosynthesis; Lab 1
Week 3	Sep 9	Photosynthesis; Lab 2
"		1st exam: September 11
Week 4	Sep 14, 16, 18	Symbiogenesis and plant cell; Lab 3
Week 5	Sep 21, 23, 25	Mitosis and meiosis; Lab 4
Week 6	Sep 28, 30, Oct 2	Multicellularity and life cycle; Lab 5
Week 7	Oct 5, 7	Life cycle; Lab 6
"		2nd exam: October 9
Week 8	Oct 12, 16	Plant tissues; no lab
Week 9	Oct 19, 21	Plant organs: leaf, stem, root; Lab 7
Week 10	Oct 26, 28, 30	Plant organs: leaf, stem, root; Lab 8
Week 11	Nov 2, 4	Plant organs: leaf, stem, root; Lab 9
"		3rd exam: November 6
Week 12	Nov 9, 13	Plant organs: leaf, stem, root; no lab
Week 13	Nov 16, 18, 20	Mosses and ferns; Lab 10
Week 14	Nov 23, 25	Water flow, branching and thickening; no lab
Week 15	Nov 30, Dec 2, 4	Seed plants; Lab 11
Week 16	Dec 7, 9, 11	Flowering plants, flower, fruit; Lab 12
		4th Exam: Thursday December 17, 10:00–11:50 am, Moore 16