

# BIOL 154—Introduction to Botany (4 credits)

Alexey Shipunov

Fall 2018



## SYLLABUS

*Class Dates* August to December 2018

*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.

*7 Central Concepts* **photosynthesis, symbiogenesis, life cycle, multi-tissued organisms, origin of plant organs, seed, flower**

*Learning Outcomes* (1) Identify and describe plant cells, tissues and organs and explain their functional and adaptive significance; (2) Explain basic physiological processes including photosynthesis, respiration, growth and development; (3) Demonstrate knowledge of plant reproductive biology; (4) Relate evolution and the diversity of plants and their life cycles.

*Instructor* Dr. Alexey Shipunov

*Office* Moore 229, or University Greenhouse

*Office Hours* Any time agreed on by appointment; also, my office door is always open to students

*Phone* 858-3116

*E-mail* [alexey.shipunov@minotstateu.edu](mailto:alexey.shipunov@minotstateu.edu)

*Lectures* Mondays, Wednesdays and Fridays, Moore 16

*Textbook* A. Shipunov. *Introduction to Botany*. [Electronic resource]. 2015–onward. Mode of access: [http://ashipunov.info/shipunov/school/biol\\_154](http://ashipunov.info/shipunov/school/biol_154). Note that textbook is still under development so regularly update your copy.

*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* Room: Moore 210. However, while 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. **You must have the lab print out when you arrive in class.**

*Grading* **Four equal exams** are given. Missed exams count zero points. There is a possibility for **one make-up** exam.

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 (to use with a scantron) and some 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  $\approx 640$  points (the actual total could be different) can be earned (values may vary):

**Lecture quizzes** :  $\approx 40$  points (1–3 points per question)

**Four exams** :  $\approx 400$  points

**Laboratories** : 200 points

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

## TENTATIVE COURSE SCHEDULE AND IMPORTANT DATES

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

Week 1	Intro to intro
Week 2	Chemistry of life, photosynthesis; lab
Week 3	Photosynthesis
Week 4	Symbiogenesis and plant cell; lab
<b>1st exam: September 17</b>	
Week 5	Mitosis and meiosis; lab
Week 6	Multicellularity and life cycle; lab
Week 7	Life cycle; lab
Week 8	Plant tissues
<b>Assessment Day: October 8</b>	
<b>2nd exam: October 15</b>	
Week 9	Plant organs: leaf, stem, root; lab
Week 10	Plant organs: leaf, stem, root
Week 11	Plant organs: leaf, stem, root; lab
Week 12	Plant organs: leaf, stem, root; lab
<b>3rd exam: November 14</b>	
Week 13	Mosses and ferns
Week 14	Water flow, branching and thickening; lab
Week 15	Seed plants; lab
Week 16	Flowering plants, flower, fruit
<b>4th Exam: Wednesday December 12, 11 a.m., Moore 16</b>	

## University Policies

### University Sanctioned Events Policy

Minot State University has a commitment to students who represent the University in official capacities. University-sanctioned activities include events that are required or encouraged by a class, program, club, or athletic team. When a student has a scheduled absence due to a university-sanctioned activity, it is the student's responsibility to communicate with the faculty member prior to his or her absence.

Faculty members should have a procedure for student absences in each syllabus that details the method and advance time for students to communicate their absence. If a student notifies the professor in accordance with the faculty member's policy, students should be allowed to complete class work. If a student does not communicate with the faculty member in advance of the absence, it is up to the faculty member's discretion whether to allow the student to complete the work. If disputes arise with this policy within the semester, students should contact in progressive order, the faculty member, department chair, Assistant Vice President for Academic Affairs, and Vice President of Academic Affairs.

## **Academic Honesty Policy with Penalty for Violating the Policy**

*See the information in the Undergraduate Catalog and in the Graduate Catalog; also see the Student Handbook.*

## **Disability Statement**

In coordination with the Disability Support Service, reasonable accommodations will be provided for qualified students with disabilities (LD, Orthopedic, Hearing, Visual, Speech, Psychological, ADD/ADHD, Health Related, TBI, PTSD and Other). Please meet with the instructor during the first week of class to make arrangements. Accommodations and alternative format print materials (large print, audio, disk or Braille) are available through the Disability Support Service, located on campus in the lower level of Lura Manor, or by calling 701-858-3371 or by e-mail at [evelyn.klimpel@minotstateu.edu](mailto:evelyn.klimpel@minotstateu.edu).

## **Non-discrimination Statement**

Minot State University subscribes to the principles and laws of the state of North Dakota and the federal government pertaining to civil rights and equal opportunity, including Title IX of the 1972 Education Amendments. Minot State University policy prohibits discrimination on the basis of race, gender, religion, age, color, creed, national or ethnic origin, marital status, sexual orientation, gender identity, or disability in the recruitment and admission of students and the employment of faculty, staff, and students, and in the operation of all college programs, activities, and services. Evidence of practices which are inconsistent with this policy should be reported using the Student Complaint and Anti-Discrimination Form located here: <https://form.jotform.com/72996849416981>.

## **Title IX Statement**

Title IX policies help protect/assist students who have experienced sexual discrimination or violence.

### **Title IX Option 1**

In the event that you choose to write or speak about having survived sexualized violence, including rape, sexual assault, dating violence, domestic violence, or stalking, Minot State University policy requires that, as your instructor, I share this information with Lisa Dooley, Title IX coordinator. Lisa or one of the Deputy Title IX coordinators will contact you to let you know about accommodations and support services at MSU as well as options for holding accountable the person who harmed you. You are not required to speak with them.

If you do not want the Title IX coordinator notified, instead of disclosing this information to your instructor, you can speak confidentially with the following people on campus and in the community. They can connect you with support services and help explore your options now, or in the future:

- MSU Counseling Center, 701 858 3371
- 24-7 Crisis Center and Shelter: Domestic Violence Crisis Center, 701 548 2480
- 24-7 Rape Crisis Line: Domestic Violence Crisis Center, 701 857 2500
- Campus Ministry (Wellness Center, 2nd floor)

### **Title IX Option 2**

MSU faculty members are "mandatory reporters," which means that once we are apprised of violence or harassment based on sex and gender, we are required to report the incident to the Title IX office on campus, regardless of whether the student wants this information reported or not. It may very well be that you would like the information reported, but you do not know whom to approach about this information, in which case our mandatory reporting requirements will

be desirable to you. However, if you just wanted to talk about an incident but do not want it reported, neither you nor I have any choice in this matter, and once divulged, I must report it. This is just to let you know about the kinds of requirements under which we all are operating.

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to accountability and support. If you or someone you know has been harassed on the basis of sex and gender or assaulted, you can find the appropriate resources on/off Minot State University's campus.

These resources include:

- Minot State University Information Counseling Services (confidential): Lura Manor-south lower level, 701 858 3371
- Campus Ministry (confidential): Wellness Center, 2nd floor
- Health Services: Lura Manor-south lower level
- Campus Security: 701 500 2423

Local Community Resource Information:

- Domestic Violence Crisis Center (confidential): 24-hour Crisis Line, 701 857 2200
- 24-7 Rape Crisis Line, 701 857 2500
- Minot Police Department: 911 / 701 852 0111

### **Title IX Option 3**

Minot State University does not discriminate on the basis of sex or gender in any of its education or employment programs and activities, and it does not tolerate discrimination or harassment on the basis of sex or gender. If you or someone you know would like help related to an experience involving sexual or gender-based harassment, sexual assault, sexual exploitation, stalking, intimate partner violence, or retaliation for reporting one of these type of prohibited conduct, please contact the Title IX Office at 701 858 3447 or report online at <http://www.minotstateu.edu/title9/keep-u-safe/forms.shtml>.

The Title IX Office can assist students who need help with academics, housing, or other issues.

Students may also contact the Counseling Center, a confidential resource, for advocacy and other support related to nonconsensual sexual intercourse or power-based personal violence at 701 858 3371.