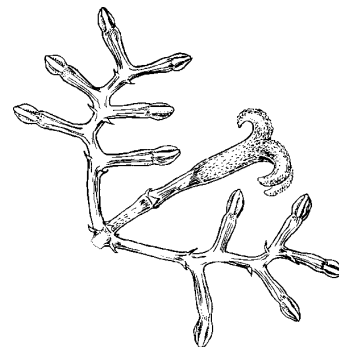


# BIOL 448—Systematic Botany (4 credits)

Alexey Shipunov

Fall 2011



## SYLLABUS

**Class Dates** : August 24 to December 9, 2011

### Course Description :

Systematic Botany will cover a diversity of plants in two ways. First, we will approach a diversity of North Dakota plants, learn the most important plant families of the state, determine most common plant genera and species, with the emphasis on plants of ecological, economical and cultural importance. The second part of a course is a “Diversity of Life”, it will cover plant and plant-related groups of living things from the very top levels (kingdoms and domains) to the level of class (like brown algae or conifers) and sometimes order (mostly for vascular plants). This part will emphasize the evolution of life, general principles of diversity and contemporary methods of taxonomy (like molecular phylogenetics). Labs will also be different and have an extensive research component. While we still have living plants outdoor, the labs will be excursions with herbarium collection. We also assess the diversity of most common local plants in order to create a beginner’s field guide. As winter approaches, we will move to the indoor plant determination and databasing, and finally to phylogenetic methods.

**Instructor** : Dr. Alexey Shipunov

**Office** : Moore 229

**Office Hours** : Wednesdays and Fridays, 10 a.m. to 12 a.m.

**Phone** : 858-3116

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

**Lectures** : Mondays, Wednesdays and Fridays, 2:00 p.m. to 2:50 p.m., Moore 213

**Textbook** : There are two books, for each half of course:

1. Handbook of North Dakota plants (O. A. Stevens, any edition, NDSU)
2. Kingdoms and domains: an illustrated guide to the phyla of life on Earth (Margulis & Chapman, 4th ed., Academic Press)

**Web site** : [http://ashipunov.info/shipunov/school/biol\\_448/](http://ashipunov.info/shipunov/school/biol_448/)

While lecture slides will be made available on the Web site, they will NOT contain all information given on lectures.

**Laboratories** : Thursdays 1:00 p.m. to 3:50 p.m., Moore 213 (and/or in the field).

### 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.

There are five legitimate reasons for absence: (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. I strongly recommend attending lectures regularly. Lecture contents will not exactly follow the reference books and additional information will be supplied.

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

In addition, at the end of every lecture I will give one short test question to answer.

A total of  $\approx 600$  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** :  $\approx 300$  points (exam distribution curves will be graded).

**Laboratories** : 240 points (20 points per lab)

**Letter Grades** :  $A \geq 90\%$ ,  $B \geq 80\%$ ,  $C \geq 70\%$ ,  $D \geq 60\%$ ,  $F < 60\%$  of a total. A minimum of one letter grade will be deducted from the grade for academic dishonesty / plagiarism.

#### **Tentative Course Schedule :**

Week 1	Aug 24, 26	Introduction; forbs: Compositae; Lab 1
Week 2	Aug 29, 31, Sep 2	Forbs: Sympetalae; Lab 2
Week 3	Sep 7	Forbs: Sympetalae; Lab 3
"		<b>1st exam: September 9th</b>
Week 4	Sep 12, 14, 16	Forbs: Choripetalae, Polycarpicae and Monocotyledoneae; Lab 4
Week 5	Sep 19, 21, 23	Ferns and allies; Trees and shrubs: Fagaceae, Betulaceae, Salicaceae, etc.; Lab 5
Week 6	Sep 26, 28, 30	Grasses, rushes and sedges; Lab 6
Week 7	Oct 3	Aquatic plants; no lab
"		<b>2nd exam: October 7th</b>
Week 8	Oct 10, 12, 14	Monera: Bacteria and Archaea; Lab 7
Week 9	Oct 17, 19, 21	Protista: Panmycota; Lab 8
Week 10	Oct 24, 26, 28	Protista: Palplantae; Lab 9
Week 11	Oct 31, Nov 2	Protista: Excavata; Lab 10
"		<b>3rd exam: November 4th</b>
Week 12	Nov 7, 9	Overview of kingdoms and phyla; Lab 11
Week 13	Nov 14, 16, 18	Mosses, Ferns and allies; Lab 12
Week 14	Nov 21, 23	Gymnosperms; no lab
Week 15	Nov 28, 30, Dec 2	Angiosperms; no lab
Week 16	Dec 5, 7, 9	Angiosperms; no lab
		<b>4th Exam: Tuesday December 13th, 12:00–12:50 a.m., Moore 213</b>

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