

# Systematic Botany. Lecture 1

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Minot State University

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# Outline

## Course in general

Description

Tools

Grading

Course schedule



# Course in general

## Description



# Course description

Systematic Botany will cover a diversity of plants in North Dakota. 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.



# Instructor

- ▶ Dr. Alexey Shipunov
- ▶ Office: Moore 229
- ▶ Office Hours: Wednesdays and Fridays, 9 am to 11 am
- ▶ Phone: 858-3116
- ▶ E-mail: [alexey.shipunov@minotstateu.edu](mailto:alexey.shipunov@minotstateu.edu)



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

**Laboratories** Thursdays, 1 p.m. to 3:50 p.m., Moore 213 and outdoor  
Labs will have an extensive research component. While we still have living plants outdoor, the labs will be excursions with herbarium collection. As winter approaches, we will move to the indoor plant determination, databasing and phylogenetic methods.



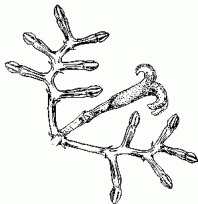
# Course in general Tools



# Web site

Shipunov, A. 2011—onwards. Systematic Botany [Electronic resource].  
Mode of access: [http://ashipunov.info/shipunov/school/biol\\_448/index.htm](http://ashipunov.info/shipunov/school/biol_448/index.htm)

## BIOL 448: Systematic Botany



Class materials:

- [Syllabus](#) (PDF, 0.15 Mb)
- [All points and grades](#) (Excel, 0.1 Mb)

Folders:

- [Old materials \(2011\)](#)

[Back](#)

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





# North Dakota plant checklist

## Flora of North Dakota: Checklist



Version 2013/04/25

[Citation] Shipunov, A. Flora of North Dakota: Checklist. 2012—onwards. <http://ashipunov.info/shipunov/fnddb/index.htm>

The checklist as a [book in PDF format](#), with maps and images (60 Mbl)

SEARCH NAMES CONTAINING  SHOW  SPECIES

Family	Species	Counties
Acoraceae	<i>Acorus americanus</i> , sweetflag	BOTTINEAU, MCHENRY
Acoraceae	<i>Acorus calamus</i> , calamus	BOTTINEAU, GRAND FORKS, MCHENRY, PIERCE, RANSOM, TOWNER. Introduced.
Aizoaceae	<i>Tetragonia tetragonioides</i> , New Zealand spinach	
Alismataceae	<i>Alisma gramineum</i> , narrowleaf water plantain	ADAMS, BARNES, BENSON, BILLINGS, BOTTINEAU, BOWMAN, BURKE, BURLEIGH, CASS, CA' EDDY, EMMONS, FOSTER, GOLDEN VALLEY, GRAND FORKS, GRANT, GRIGGS, HETTINGER, KI MCHENRY, MCINTOSH, MCKENZIE, MCLEAN, MERCER, MORTON, MOUNTRAIL, NELSON, OI RANSOM, RENVILLE, RICHLAND, ROLETTE, SARGENT, SHERIDAN, SIOUX, SLOPE, STARK, STE WALSH, WARD, WELLS, WILLIAMS
Alismataceae	<i>Alisma plantago-aquatica</i> , European water plantain	ADAMS, BARNES, BENSON, BILLINGS, BOTTINEAU, BOWMAN, BURKE, BURLEIGH, CASS, CA' EDDY, EMMONS, FOSTER, GOLDEN VALLEY, GRAND FORKS, GRANT, GRIGGS, HETTINGER, KI MCHENRY, MCINTOSH, MCKENZIE, MCLEAN, MERCER, MORTON, MOUNTRAIL, NELSON, OI RANSOM, RENVILLE, RICHLAND, ROLETTE, SARGENT, SHERIDAN, SIOUX, SLOPE, STARK, STE WALSH, WARD, WELLS, WILLIAMS. Introduced.

<http://ashipunov.info/shipunov/fnddb/>



## References

- ▶ Van Bruggen, Th. 1996. **The vascular plants of South Dakota**. 3rd ed. University of South Dakota, Vermillion, SD.
- ▶ Larson, G.E. 1993. **Aquatic and wetland vascular plants of Northern Great Plains**. USDA Forest Service, Fort Collins, CO.  
[http://www.fs.fed.us/rm/pubs\\_rm/rm\\_gtr238.pdf](http://www.fs.fed.us/rm/pubs_rm/rm_gtr238.pdf)
- ▶ **Flora of North America** [ongoing]. <http://efloras.org>
- ▶ **Flora of Great Plains**. 1986. Kansas State University, Lawrence, KS.
- ▶ Johnson, J.R. & Larson, G.E. 2007. **Grassland plants of South Dakota and Northern Great Plains**. South Dakota State University, Brookings, SD.
- ▶ Wall, P.W. & Ford, B.A. 2012. Biol 3242. **Vascular flora of Manitoba**. University of Manitoba, Winnipeg.
- ▶ Hickey, M. and King, C. 2000. **The Cambridge illustrated glossary of botanical terms**. Cambridge University Press, Cambridge.
- ▶ Judd W. S. et al. 2008. **Plant Systematics. A phylogenetic approach**. Sinauer Associates, Sunderland, MA.



# MISU Herbarium Database

misu ☆ Working... dactylorhiza@gmail.com

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Σ

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	accession	family	genus	species	species.au	variety.sut	later.delet	pretype	township.n	country	state	county	acronym	latitude	longitude	datum
2	0-1	Aceraceae	Acer	negundo				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2147	101.5805	
3	0-2	Aceraceae	Acer	negundo				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2325	101.2963	
4	0-3	Aceraceae	Acer	negundo				Exsiccata		United Sta	North Dak	Divide	CMSC	48.7636	103.2951	
5	0-4	Aceraceae	Acer	negundo				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2325	101.2963	
6	0-5	Alismataci	Alisma	gramineur			M. Gabel,	Exsiccata		United Sta	North Dak	Ward	CMSC	48.2325	101.2963	
7	0-6	Alismataci	Alisma	gramineur			M. Gabel,	Exsiccata		United Sta	North Dak		CMSC	48.217	102.3264	
8	0-7	Alismataci	Alisma	gramineur				Exsiccata		United Sta	North Dak	Mountrail	CMSC	48.5402	102.6393	
9	0-8	Alismataci	Alisma	subcordatu				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2325	101.2963	
10	0-9	Alismataci	Alisma	subcordatu				Exsiccata		United Sta	North Dak	Mountrail	CMSC	48.5402	102.6393	
11	0-10	Alismataci	Alisma	subcordatu				Exsiccata		United Sta	North Dak	Burke	CMSC	48.993	102.4021	
12	0-11	Alismataci	Alisma	subcordatu				Exsiccata		United Sta	North Dak	Burke	CMSC	48.5628	102.646	
13	0-12	Alismataci	Alisma	subcordatu				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2147	101.5805	
14	0-13	Alismataci	Sagittaria	cuneata			M. Gabel,	Exsiccata		United Sta	North Dak	Ward	CMSC	48.2325	101.2963	
15	0-14	Alismataci	Sagittaria	cuneata				Exsiccata		United Sta	North Dak	Mountrail	CMSC	48.5402	102.6393	
16	0-15	Alismataci	Sagittaria	cuneata				Exsiccata		United Sta	North Dak	Mountrail	CMSC	48.5402	102.6393	
17	0-16	Alismataci	Sagittaria	cuneata				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2147	101.5805	
18	0-17	Amaranthi	Amaranthu.	albus				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2461	101.3006	
19	0-18	Amaranthi	Amaranthu.	graecizans				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2364	101.0900	
20	0-19	Amaranthi	Amaranthu.	retroflexus				Exsiccata		United Sta	North Dak	Bottineau	CMSC	48.9775	100.3546	
21	0-20	Amaranthi	Amaranthu.	retroflexus				Exsiccata		United Sta	North Dak	Ward	CMSC	48.1820	101.2963	
22	0-21	Amaranthi	Amaranthu.	retroflexus				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2147	101.5805	
23	0-22	Amaranthi	Amaranthu.	retroflexus				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2461	101.3006	
24	0-23	Amaranthi	Amaranthu.	tuberculatu				Exsiccata		United Sta	North Dak	Ward	CMSC	48.2676	101.3296	
25	0-24	Anacardi	Rhus	trilobata				Exsiccata		United Sta	North Dak	Williams	CMSC	48.1073	103.7353	
26	0-25	Anacardi	Rhus	trilobata				Exsiccata		United Sta	North Dak	McLean	CMSC	47.6145	102.1475	
27	0-26	Anacardi	Rhus	trilobata				Exsiccata		United Sta	North Dak	Mountrail	CMSC	47.9823	102.5463	

<https://docs.google.com/spreadsheet/ccc?key=0AiGGcszcAIxMdHRiSjZralNoVF9VeWl0b21zTG16MVE#gid=0>



# Course in general Grading



# Exams

- ▶ 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.
- ▶ All exams will include plant identification.



# Labs

- ▶ This is a **laboratory course**, meaning that receiving zero points for more than one laboratory results in a failed course.
- ▶ Grading of laboratories is based on collection performance, reports and/or drawings.
- ▶ Collections and/or written reports are prepared and finished during laboratory sessions and passed to the instructor after the particular laboratory session.



# Absence

There are five legitimate reasons for absence on labs and exams:

1. emergency situations,
2. attested medical conditions,
3. military duty,
4. participation in MSU sports events,
5. dependent sick leave.

Absence from exams or laboratories needs to be announced to the instructor in advance.



# Lectures

- ▶ I strongly recommend attending lectures regularly.
- ▶ One of three lecture hours will be devoted to the guided plant determination, and another hour may be used to extend field trips.





# Points

A total of 480 points can be earned and are distributed as follows:

**Three best exams** : 240 points

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

Grading points may vary between exams and labs.



# Letter grades

- ▶  $A \geq 90\%$
- ▶  $B \geq 80\%$
- ▶  $C \geq 70\%$
- ▶  $D \geq 60\%$
- ▶  $F < 60\%$

A minimum of one letter grade will be deducted from the grade for academic dishonesty / plagiarism.



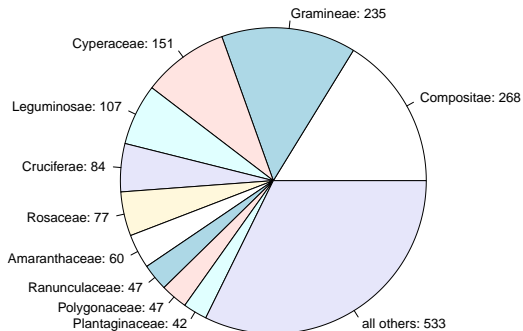
# Course in general

## Course schedule



# Tentative course sequence

1. Plant morphology
2. Determination of families
3. Most important families:



# Summary

- ▶ BIOL 448: download the syllabus from the Web site ([http://ashipunov.info/shipunov/school/biol\\_448/](http://ashipunov.info/shipunov/school/biol_448/)).



# For Further Reading



A. Shipunov.

*Systematic Botany* [Electronic resource].

2011—onwards.

Mode of access:

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

