SYLLABUS

BIOL 154: Introduction to Botany (4 credits)

Class Dates: August 25 to December 10, 2010

Course Description:

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.

Instructor: Dr. Alexey Shipunov

Office: Moore 229
Office Hours: Wednesdays and Fridays, 9 a.m. to 11 a.m.
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Lectures: Mondays, Wednesdays and Fridays, 8:00 a.m. to 8:50 a.m., Moore 16

Textbook: Plant Biology (Rost et al., 2nd ed., Thompson / Brooks / Cole publ.)

Laboratories: Mondays, Moore 210

Grading:

- Five exams are given during the semester. Only the four 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 textbook and additional information will be supplied.

- 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 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.

- It is expected that you have reviewed the lecture contents before you come to lab. This will be assessed in short tests (3 to 5 short-answer questions) on Monday mornings before you have lab that day. This procedure will help you to benefit from the labs and get prepared for the exams.

- A total of 600 points can be earned and are distributed as follows:
  Four best exams: 400 points
  Monday tests: 50 points
  Laboratory: 150 points
  Grading points may vary between exams, tests, and labs. Letter Grades: A > 90%, B > 80%, C > 70% D ≥ 60%, F < 60%. A minimum of one letter grade will be deducted from the grade for academic dishonesty / plagiarism.

Tentative Course Schedule

Lab.	Lect.	Chapter	Topic	Week	Day	Date
-	1	1.2	Importance of plants	1	W	8/25
-	2	3.2-3.4	Cells, organelles	1	F	8/27
-	3	3.5,3.6	Organelles, cytoskeleton	2	M	8/30
	4	4.1,4.2	Cells, tissues, plant body	2	W	9/1
-	5	4.2	Cells, tissues, plant body	2	F	9/3
-	-	-	-	3	M	9/6
-	6	4.3	Meristems	3	W	9/8
-	7	5.1-5.3	Shoot system, secondary growth	3	F	9/10
1	8	5.3	Anatomy of wood	4	M	9/13
-	-	-	**Exam 1**	4	W	9/15
-	9	6.1	Leaves	4	F	9/17
2	10	6.2-6.4	Leaf adaptations and modifications	5	M	9/20
-	11	7.1-7.3	Roots	5	W	9/22
-	12	7.4	Root structure	5	F	9/24
3	13	10.1-10.4	Photosynthesis, chloroplasts	6	M	9/27
-	14	10.5	Photosynthesis: Conversion of light energy	6	W	9/29
-	15	10.6	Photosynthesis: C3 pathway	6	F	10/1
4	16	11.1, 11.2	Water transport	7	M	10/4
-	-	-	-	7	W	10/6
-	-	-	**Exam 2**	7	F	10/8
-	17	11.3, 11.4	Mineral transport, phloem transport	8	M	10/11
5	18	12.1	Mitosis and meiosis	8	W	10/13
-	19	12.2	Diploid and haploid generations	8	F	10/15
-	20	13.1, 13.2	Flowers (1)	9	M	10/18
6	21	13.3., 13.4	Flowers (2)	9	W	10/20
-	22	14.1, 14.2	Seeds, germination	9	F	10/22
-	23	14.3	Fruits	10	M	10/25
7	24	14.4	Seed dispersal	10	W	10/27
-	-	-	**Exam 3**	10	F	10/29
-	25	21.1,21.6	Protists and fungi	11	M	11/1
8	26	21.8	Algal reproduction	11	W	11/3
-	27	22.1,22.2	Bryophytes (1)	11	F	11/5
-	28	22.3-22.5	Bryophytes (2)	12	M	11/8
9	29	23.3	Ferns, horsetails and allies	12	W	11/10
-	30	24.1-24.3	Gymnosperms (1)	12	F	11/12
10	31	24.6	Gymnosperms (2): Conifers	13	M	11/15
-	32	24.7	Gymnosperms (3): Life cycle of *Pinus*	13	W	11/17
-	-	-	**Exam 4**	13	F	11/19
11	33	25.1	Angiosperms (1): Enclosed seeds	14	M	11/22
-	34	25.2	Angiosperms (2): Origin	14	W	11/24
-	-	-	-	14	F	11/26
12	35	25.3	Angiosperms (3): Rise to dominance	15	M	11/29
-	36	25.4	Angiosperms (4): Life cycle	15	W	12/1
-	37	25.5	Angiosperms (5): Diversity	15	F	12/3
-	38	25.5	Angiosperms (6): Diversity	16	M	12/6
-	39	25.6	Angiosperms (7): Plant geography	16	W	12/8
-	40	25.6	Angiosperms (8): Plant geography	16	F	12/10
-	-	-	**Exam 5**	17	W	12/15