

INTRODUCTION TO PLANT BIOLOGY BIOLOGY 130 – FALL 2017

SECTIONS	1 - 2	DISCUSSION	M/W, 8 :00 – 9:15, SCI D101
PROFESSOR	ROBERT BELL	LAB	1: T/R, 8:00 – 9:50, TNR 153 2: T/R, 10:00 – 11:50, TNR 153
OFFICE	TNR 476	EMAIL	rbell@uwsp.edu
PHONE	715-346-2074	OFFICE HOURS	M/W 11:00 – 12:00 T 12:00 – 1:00 and by appt.
TEXTBOOK	<u>PLANT BIOLOGY</u> by Graham, Graham, and Wilcox, 2 nd edition (REQUIRED, BOOKSTORE RENTAL)		
LAB MANUAL	<u>ESSENTIALS OF BOTANY</u> (REQUIRED, \$26.75 - PURCHASE FROM BOOKSTORE, DO NOT BUY A USED COPY).		
COURSE DESCRIPTION	<u>General biological principles</u> ; emphasis on growth, reproduction, structure, and functions of plants, fungi, protists, and prokaryotes; morphological studies of typical plants.		
COURSE POINTS	The course grade is based on 800 possible points. The classroom component has 420 points (4 – 100 point unit exams, 20 points from other assignments); the laboratory component has 380 points (7 – 40 point quizzes, 1 – 50 point lab report, 1 – 50 point common plant ID exam). Several bonus point opportunities may be available.		
SCALE	Your grade is based on 800 possible points, the grading scale is: 800-744 (93%) A 663-640 (80%) B- 519-496 (62%) D+ 743-720 (90%) A- 639-600 (75%) C+ 495-440 (55%) D 719-696 (87%) B+ 599-560 (70%) C < 439 (<55%) F 795-664 (83%) B 559-520 (65%) C-		
UNIT EXAMS	Unit examinations may consist of multiple choice, fill in the blank, labeling diagrams or short answer discussion questions. All unit exams are scheduled outside of the regular class periods (see below). Alternative exam times will be allowed for those that have a legitimate exam conflict (work, child care, health issues, for example) and contacting Dr. Bell before the exam.		
UNIT EXAM PREPARATION	A review sheet will be distributed prior to each unit exam. There will also be optional review sessions (see lecture schedule).		

UNIT EXAM DATES

Exam #1: Thursday, 28 September, 6:00 – 8:00pm, SCI D101

Exam #2: Thursday, 26 October, 6:00 – 8:00pm, SCI D101

Exam #3: Thursday, 16 November, 6:00 – 8:00pm, SCI D101

Exam #4: Monday, 18 December, 12:30 – 2:30pm, SCI D101

OTHER ASSIGNMENTS

There will be other writing assignments, problems, chapter or outside readings, internet research, or unannounced quizzes totaling 20 points.

LABORATORY QUIZZES AND EXAMS

There are 9 laboratory quizzes (see schedule). Each lab quiz, except two, covers the previous three labs. The quizzes consist of lab material images and questions related to the lab exercises. Each quiz is worth 50 points. Quiz 7 and Quiz 9 cover two labs plus additional, assigned work items. I will count your 7 highest scores. This means you can miss/drop 2 of these 9 exercises. There are no lab quiz make-ups.

There is an end-of-semester lab experiment report, worth 50 points. This experiment covers many weeks and will be discussed often, report guidelines are also distributed. Due near end of semester.

A common plant identification exam will be given twice during the semester (see schedule below). It consists of images of fifty plants selected from the list provided and each exam is different. The common plant exam is worth 50 points. You may take the exam twice and I will count your high score.

ADVICE FROM DR. BELL

Tip #1: The best strategy you can use to do well in this course is to be in your seat every period. My exams are drawn entirely from class materials. Getting the material from my perspective is more effective than copying someone's notes or reading the book. I will add material not in the book and will not cover all that's in the book.

Tip #2: Take advantage of my office time. You can't wear out your welcome. Please come in as soon as you have any questions with material, don't wait until after the first exam.

Tip #3: Please turn off your phone every time you enter my class and please do all you can to resist the urge to visit it during class.

DISHONESTY

Academic dishonesty will not be tolerated and students involved will be identified to the administration for possible punitive actions. The following link takes you to the UWSP Community Rights and Responsibilities document that delineates your rights and responsibilities as part of this academic community (<http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>).

TENTATIVE LECTURE CALENDAR

<u>DATE</u>	<u>TOPICS</u>	<u>CHAPTERS</u>
09/06	Intro/Review (Syllabus, definition, levels, themes)	1, 2
09/11	Intro/Review (DNA)	6, 7
09/13	Intro/Review (meiosis, life cycles, diversity)	13, 17, 8
09/18	Plant Organization (meristems, cell types, tissues)	8
09/20	Plant Organization (stems)	10
09/25	Plant Organization (stems)	10

UNIT #1 **REVIEW: WEDNESDAY, 27 SEPTEMBER, 6:00 – 8:00pm, SCI D101**
EXAM: THURSDAY, 28 SEPTEMBER, 6:00 – 8:00pm, SCI D101

09/27	Plant Organization (leaves, water potential)	11, 9
10/02	Plant Metabolism (water movement, food movement)	9
10/04	Plant Metabolism (general metabolism)	5
10/09	Plant Metabolism (respiration)	5
10/11	Plant Metabolism (photosynthesis)	5
10/16	Plant Metabolism (photosynthesis)	5
10/18	Plant Metabolism (photosynthesis)	5
10/23	Diversity (genetics)	14, 15

UNIT #2 **REVIEW: WEDNESDAY, 25 OCTOBER, 6:00 – 8:00pm, SCI D101**
EXAM: THURSDAY, 26 OCTOBER, 6:00 – 8:00pm, SCI D101

10/25	Diversity (genetics)	14, 15
10/30	Diversity (prokaryotes)	18
11/01	Diversity (fungi)	20
11/06	Diversity (fungi)	20
11/08	Diversity (fungi, protists)	20, 19
11/13	Diversity (protists)	19
11/15	Diversity (protists)	19

UNIT #3 **REVIEW: WEDNESDAY, 15 NOVEMBER, 6:00 – 8:00pm, SCI D101**
EXAM: THURSDAY, 16 NOVEMBER, 6:00 – 8:00pm, SCI D101

11/20	Plant Kingdom (introduction, bryophytes)	21
11/22	Plant Kingdom (bryophytes, vascular introduction)	21, 22
11/27	Plant Kingdom (seedless vasculars)	22
11/29	Plant Kingdom (seedless vasculars, seed plant introduction)	22, 23
12/04	Plant Kingdom (gymnosperms, flowers)	23, 24
12/06	Plant Kingdom (flowers, double fertilization)	24
12/11	Plant Kingdom (seeds, fruits, germination)	24
12/13	TBA	

UNIT #4

REVIEW: TBA

EXAM: MONDAY, 18 DECEMBER, 12:30 – 2:30pm, SCI D101

TENTATIVE LABORATORY CALENDAR

<u>DATE</u>	<u>LAB</u>	<u>TOPIC</u>
09/05	--	No Lab Meeting
09/07	--	<u>Lecture in Lab – atoms, bonds, molecules</u>
09/12	1	<u>Lecture in Lab – DNA, mitosis</u> Introduction to the Botany Lab and Microscopes I Begin Plant Breeding Experiment (count trichomes, select populations)
09/14	2	<u>Lecture in Lab – meristems, cell types, tissues</u> Microscopes II Continue Plant Breeding Experiment (pollinate)
09/19	3	Plant Cells
09/21	4	QUIZ #1 (1, 2, 3, syllabus) Mitosis and Asexual Reproduction
09/26	5	Meristems, Cell Types, Herbaceous Stems
09/28	6	Twigs and Woody Stems
10/03	7	QUIZ #2 (4, 5, 6) Modified Stems, Root Anatomy, Modified Roots
10/05	8	Leaf Anatomy, Modified Leaves
10/10	9	Water Relations
10/12	10	QUIZ #3 (7, 8, 9) Enzymes and Digestion, Respiration
10/17	11	Light and Photosynthesis
10/19	12	Control of Plant Growth – Experimental Setup
10/24	13	Gas and Photosynthesis Continue Plant Breeding Experiment (harvest, plant)
10/26	12	QUIZ #4 (10, 11, 13) Control of Plant Growth – Results and Analysis

10/31	14	Molecular Plant Genetics
11/02	15	Plant Genetics Continue Plant Breeding Experiment (count trichomes)
11/07		QUIZ #5 (12, 14, 15)
	16	Bacteria
11/09	17	Fungi
11/14	18	More Fungi
11/16		QUIZ #6 , (16, 17, 18)
	19	Cyanobacteria and algal diversity
11/21	20	Green algal diversity, lichens
11/23	--	No Classes, Thanksgiving Break
11/28		QUIZ #7 (19, 20, draft lab report table and figures)
	21	Bryophytes
11/30	22	Fern Allies, Ferns
12/05	23	Gymnosperms
12/07		QUIZ #8 (21, 22, 23)
	24	Angiosperms and Flowers
12/12		COMMON PLANT EXAM #1
	25	Seeds, Seed Germination, Fruits
12/14	--	QUIZ #9 (24, 25) COMMON PLANT EXAM #2 ALL ASSIGNMENTS DUE

THESE SITES CONTAIN VALUABLE INFORMATION FOR QUIZZES AND PLANT ID.

This site contains images from the labs <http://www.uwsp.edu/biology/courses/botlab/>

This site contains common plant images <http://www.uwsp.edu/biology/courses/plantid/>