PLB 400 - PLANT ANATOMY
SPRING SEMESTER 2015
GENERAL INFORMATION

SCHEDULE: Lecture: TR 9:00-9:50 am, Room 430 Life Science II
Lab: R, F 10:00-11:50, Room 423, Life Science II

INSTRUCTOR: Dr. Karen Renzaglia

OFFICE: Room 459C, Life Science II **Phone:** 536-2331

EMAIL: renzaglia@siu.edu (put **Plant Anatomy** in subject line)

OFFICE HOURS: MW 3:00-4:00 or by appointment

GRADUATE ASSISTANT: Jason Henry, henryj@siu.edu

OFFICE HOURS: M 12:00-1:00 and Th. 1:00-2:00

DESCRIPTION: Introduction to the structure, growth and development of the shoot, root and reproductive systems of plants, with emphasis on vascular plants.

TEXT: *Esau's Plant Anatomy, 3rd Edition,* Ray F. Evert. 2006. A. John Wiley and Sons, Inc. Publication.

GRADING: The grade scale for the course (lecture and lab combined) will be:
A = 90+%, B = 80 - 89%, C = 70 - 79%, D = 60 - 69%, F = less than 60%

EXAMS: There will be three "mid-term" exams. These exams will be worth 100 points each and will cover only the portion of the material since the last exam.

FINAL: A comprehensive final worth 100 points will be given during finals week. Date TBA

TEAM PROJECT: This will be an exploratory project that will be conducted by pairs of students and will result in a presentation. Details of what this project entails are provided on a separate sheet.

ATTENDANCE: It is your choice to attend classes. Be aware of the fact that some of the material presented will not be in any chapter of the book. Also note that there is a high correlation in this course between final grade and number of classes attended. Stated another way, those who attend class generally perform at a higher level. Unannounced extra point quizzes will be given if attendance appears to suffer due to mid-semester apathy.

COURSE EVALUATION WILL BE BASED ON THE FOLLOWING:

3 Exams (100 points each) (Half written and half practical)	300 points
Lecture Final	100 points
Laboratory Notebooks	100 points
Team Project	100 points
Total points:	**600 points**

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COURSE OUTLINE

DATE	TOPIC	CHAPTER
Jan. 19	**Introduction**	
	LAB 1: Primary plant body	1
Jan. 21	**General structure and development of seed plants**	
	LAB 2: Cell structure and content	2
Jan. 26	**Plant cell- protoplasmic system and "ergastic" substances**	**3**
	LAB 2: Cell structure and content	4
Jan. 28	**Cell wall (primary - development, structure and composition)**	
	LAB 3: Cells with primary walls: Parenchyma and collenchyma	7
Feb. 2	**Cell wall (secondary - development, structure and composition)**	
	LAB 4: Sclerenchyma **Sclerenchyma**	8
Feb. 4	**Examination of Plant Cell Structure at Microimaging and Analysis Center**	**handout**
Feb. 9	**Meristems**	5
	LAB 5: Shoot and root meristems	**6**
Feb. 11	***EXAM I - 50 pts. Written and 50 pts. Practical***	
Feb. 16	**Stelar and nodal anatomy**	
	LAB 6: Stelar types	10
Feb. 18	**Xylem**	
	LAB 7: Xylem	
Feb. 23	**Phloem**	13
	LAB 8: Phloem	
Feb. 25	**Epidermis and trichomes**	9, 16
	LAB 9: Epidermis and trichomes	
March 1	**Secretory structures and laticifers**	17
	LAB 10: Secretory structures and laticifers	
March 3	**Primary growth**	pages 145-150
	LAB 11: Leaves	
March 8	**Leaf: general structure & specialized leaves**	notes
	LAB 12: Leaves, continued	
March 10:	***EXAM II - 50 pts. Written, 50 pts. Practical***	

March 15, 17 SPING BREAK

March 22:	**Field trip to coal mine**		
March 24	**Roots**	notes	
	LAB 13: Roots		
March 29	**Secondary growth**	12	
	LAB 14: Secondary growth: Vascular cambium and its derivatives		
March 31	**Secondary xylem**	11	
	LAB 15: Wood anatomy		
April 5	**Wood Anatomy**		
	More Wood anatomy		
April 7	**Secondary phloem and Periderm**		14, 15
	LAB 16: Secondary phloem and periderm		
April 12	**Field trip**		
April 14	**Spores and gametophytes**	notes	
	LAB 17: Spores and gametophytes		
April 19	**Embryo sac and pollen development**	notes	
	LAB 18: The angiosperm life cycle		
April 21	***EXAM III - 50 pts. Written, 50 pts. Practical***		
April 26	**Floral anatomy**	**notes**	
	LAB 19: Flowers		
April 28	Embryos, seeds and fruits	notes	
	LAB 20: Embryos, seeds and fruits		
May 5	Preparation for presentation		
May 7	Project presentation		

May 12: FI*NAL EXAM - Comprehensive*
LAB NOTEBOOKS ARE DUE