PLB117: Plants and Society
Course Syllabus Fall 2012

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Office hours: Monday, Tuesday and Thursday, 10 am-11am
Lectures: Tuesday and Thursday 9:00am to 9:50am, Lawson 161
Teaching Assistants:
Laboratories: Life science II, rm 404

001: T 10-11:50	004: W 9-10:50	008: R 10-11:50
003: T 2-3:50	005: W 11-12:50	

Textbooks: Levetin, E. and McMahon K. 2006. Plants and Society, 6th edition. McGraw-Hill publishers, Boston. 524pp. Required*.
Levetin, E., McMahon, K., Reinsvold, R. 2002. Laboratory manual for applied botany. McGraw-Hill publishers, Boston. 264 pp. Required*.
* These books are sold as a bundle at the student center bookstore and other local bookstores. There are detachable pages in the lab manual, you should not use a previously used lab manual unless all pages are present and all worksheets are blank.

Course Goals and Objectives:

Science, especially the field of plant biology is becoming increasingly important to modern society. Hot political topics of genetically engineered food, failing ecosystems, global warming, new pharmaceutical or alternative medicines, and even human cloning and stem cell research are all being discussed in the public forum.

You, as responsible citizens in a democracy, will need to vote intelligently on these and other biological issues and decide the future of the nation. This class will hopefully serve to open your eyes and give you some of the background knowledge necessary to choose your future well. To this end, the objectives are to:

1) Articulate the importance of plants and products derived from plants (e.g. paper, soap, oils, plastics, dyes, and fuels) to human society from biological and social perspectives in both historical and modern contexts.

2) Demonstrate an understanding of the basic principles of the scientific process and method for the field of biology using the plant as a model organism.

3) Illustrate an awareness of science topics in the media, and the primary sources of scientific information online and in scientific journals.

4) Understand the botanical aspects and origins of important food and medicinal plants.

5) Be able to describe the concept of an ecosystem and demonstrate a basic understanding of ecology.

6) Gain firsthand experience with the core skills of a scientist (observation, analysis, measurement, classification, inference and prediction) through guided laboratory exercises.

On Lecture and Laboratory attendance:

At this point in your educational development, you must take an increasing responsibility for learning. In the sciences, at the university level, the lectures, the textbooks and the reading and laboratory exercises are provided for you (in exchange for your tuition) to help you learn. However, only you are in charge of what you want to learn, we will not force-feed you information, or keep strict discipline on attendance. We are only here to help you learn, and to test your knowledge.

Complete attendance of all lectures is highly recommended, both so that you will have an idea of what to study from the text, and also it is a lot easier to hear me talk about it than try to read it on your own. Lectures are also a good place to ask questions about things you do not understand. In my 15 year experience as a lecturer, there is a strong correlation between lecture attendance and getting a good or even passing grade. It is really easy to slip, and miss a few or even a lot of lectures, it is also fairly easy to fail, and there is no safety net to catch you. In short, if you want to pass this course, especially if science is not your strong suit, I would attend all the lectures.

The laboratories are another matter. You will be completing in-class assignments and worksheets with materials that will only be available for that laboratory. Thus each lab missed will cost you dearly in marks, so you must attend them all. If you cannot attend for reasons outside your control, contact me or your lab TA and we will try to fit you into another session that week.

On conduct during labs and lectures: Please turn off all pagers, cell phones, anything else that makes noise, personal stereos, and headphones. You can record the lectures on a personal voice recorder placed on your desk or near the front of the room. Keep quiet during the lecture, and raise you hand or wave if you have a question.

On plagiarism: *In the era of web information, cutting and pasting, and word processing it is very tempting and easy to plagiarize. This includes lifting whole paragraphs, or even a single sentence. Plagiarism inhibits learning. You need to be able to express your own thoughts and ideas in writing, which is part of the educational experience at SIUC and in this course. Your answers on worksheets and exams must be your own, and may be subject to electronic comparison to other work. If you have difficulty writing, please visit me at office hours or after class for additional help.*

Current Science Essay: One of the most important ways plants intersect society is through journalism. You will be given an assignment to read/watch both media based and scientific journal materials and write a 2-3 page report as though you were writing a column for the New York Times, Southern Illinoisan or Chicago Tribune. Your writing must be current, scientifically sound, informative and readable by the average American. You will submit a short outline, including your sources (scientific papers, books, news articles, Reuters or AP) by **Oct** , and the full essay by **Nov** . You are required to submit both electronic (doc or txt file) and print copies of your work.

Exams: Lecture exams will be given three times during the course, each covering lectures and labs from that section, with a comprehensive final exam given during exam week. You have 50 minutes to complete the exam. Please show up a little early on exam days, no extra time will be given if you are late. Bring a #2 pencil and your SIUC photo-ID. Each exam will come with a few bonus questions, but please answer the core questions first before you try the bonus. If you have a scheduling conflict and cannot attend an examination you must give written notice to the course instructor 10 days prior to the exam date for review. Make up examinations are subject to university policy and the instructors discretion. Emergency absence is also subject to university rules, please contact your instructor as soon as possible if an emergency occurs which will result in absence from an exam.

Grading: Your grade for this course will be based on both laboratory exercises and exams. The point breakdown is as follows

Lecture Exams (2)	200 points
Current Science Essay	100 points
Final comprehensive exam	200 points
Laboratory assignments	300 points
Total	800 points

Grades will not be subject to test score adjustments (curved), you are tested against the material, not fellow students.

Lecture syllabus PLB117 autumn 2009
Tue & Thurs 9:00 am Lawson 161

Date	Topic	Text Chapters
Aug 21	Introduction	1
Aug 23	How to study science, Biology basics	2 esp. figures 2.3, 2.10
Sept 1	Anatomy of plants and stem cells	3 esp. figure 3.1, 3.5
Sept 3	Cloning and Plant Development	3 also figure 6.2
Sept 8	Physiology, water vs. blood	4 pp 50-55
Sept 10	Energy and metabolism	4 pp 55-70
Sept 15	The scientific method, Hormones	6 pp 96-97
Sept 17	Flowers and meiosis	5 esp. figures 5.7, 5.8 & CL 5.2
Sept 22	**First Lecture Exam**	
Sept 24	Genetics and the plant genome	7 do CL7.1 genetics probs.
Sept 29	Fruits and seeds	6 esp. fig 6.1
Oct 1	Human nutrition from plants	10 read CL10.1
Oct 6	The origins of agriculture and human migration	11 esp. fig 11.6
Oct 8	Evolution of the plant kingdom	8,9 esp. fig 9.1 and CL9.1
Oct 13	The grass family	12
Oct 15	Legumes and biofuels	13
Oct 20	Starchy Staples	14
Oct 22	Spices and stimulants	16, 17
Oct 27	**Second Lecture Exam**	
Oct 29	Modern agriculture and land use	15 pp 241-253
Nov 3	Genetically modified foods	15 pp 253-264
Nov 5	Cloth, paper and wood	18
Nov 10	Medicinal Plants	19, 21
Nov 12	Psychoactive plants	20
Nov 17	World Biomes	26 pp 483-492
Nov 19	Ecology I: Ecosystems	26 pp 472-477
Nov 24	*Thanksgiving Holiday*	
Nov 26	*Thanksgiving Holiday*	
Dec 1	Ecology II: Invaders and restorers	
Dec 3	Ecology III: Carbon and global warming	26 pp 478-483
Dec 8	Famine and environmental biology	Handouts
Dec 10	Review and question period	
Dec 17	**Final Comprehensive Exam 8:00am to 10:00am**	

Laboratory syllabus PLB117 Autumn 2009
Weekly, Life sciences II, room 404

Week of	Topic	Exercise numbers
Aug 24	1: Cellular life	1A-D
Sept 1	2: Cellular processes	2A-E
Sept 7	3: Tissues and paper	3A-B
Sept 14	4: Wood	15A,B,E
Sept 21	5: Roots	4A-B
Sept 28	6: Plant Variation	4C, handouts
Oct 5	7: Flowers and fruits	6A, 7A&B
Oct 12	8: Grocery store botany	8A, (10 as homework)
Oct 19	9: Grasses and bread making	11A-B(turn in food lab)
Oct 26	10: Legumes and symbiosis, soap making	12A,B,D (report due)
Nov 2	11: Food from underground, plant plastic	13A-E
Nov 9	*Veterans day holiday*	
Nov 16	12: The Spices	14A,C
Nov 23	*Thanksgiving Holiday*	
Nov 30	13: The Fungi	18A-B
Dec 7	14: Medicinal and Poisonous plants	16, 17

There will be a worksheet worth 20 points due in-class for every lab, and a 20pt take home assignment (food log and calculation of diet) do not miss your labs. There are no make-up labs and no labs will be dropped. If you absolutely cannot attend a lab due to *dire emergency* or *legal requirement to be elsewhere*, contact your instructor in advance (if possible), and arrangements may be made for an alternative assignment.

Emergency Procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.