

# **INTRODUCTORY PLANT SCIENCE**

## **HORT 100G/AGRO 100G**

**Fall 2009**

### **General Information:**

This course is designed to offer the student a general introduction to the principles of plant growth and development as they apply to a wide range of agronomic and horticultural crops and the industries related to production, marketing, and utilization of those crops. The course is also designed to engage students in the world of plants and the science of studying them.

### **Course Catalog Description:**

Introductory course presenting the physical, biological, and chemical principles underlying plant growth and development in managed ecosystems. In the laboratory portion of the class, students perform experiments demonstrating the principles covered in lecture. The course uses economic plants and agriculturally relevant ecosystems to demonstrate basic principles. Appropriate for non-science majors.

### **Class Meeting Dates & Times:**

**Lecture:** MWF 12:30-1:20pm, room 336 Gerald Thomas Hall (GTH)

#### **Labs:**

Wednesday: 1:30-3:20pm W139 Skeen Hall

Wednesday: 3:30-5:20pm W138 Skeen Hall

Thursday: 1:30-3:20pm W138 Skeen Hall

Friday: 1:30-3:20pm W138 Skeen Hall

### **Instructor & Teaching Assistants:**

Dr. Mark E. Uchanski

Assistant Professor of Horticulture

N-350 Skeen Hall

575-646-1914 • [uchanski@nmsu.edu](mailto:uchanski@nmsu.edu)

Office hours: By appointment (see below)

The best idea is to talk to me before or after class or make an appointment. I will always be a little early for class, and will try to stay for a while after lecture. If that will not work, make an appointment with me, send an e-mail, or message me on Blackboard, or leave me a phone message (575-646-1914).

### **Teaching Assistants:**

Rachael Gibson: N345 Skeen Hall, [ragibs@nmsu.edu](mailto:ragibs@nmsu.edu)

Antonio (Tony) Rios: N329 Skeen Hall, [tonyrios@nmsu.edu](mailto:tonyrios@nmsu.edu)

Ashish Sexana: Skeen Hall, [sashish@nmsu.edu](mailto:sashish@nmsu.edu)

### **Textbook & Course Web Site:**

Poincelot, Raymond P. Sustainable Horticulture: Today and Tomorrow. Prentice Hall. New Jersey: Upper Saddle River, 2004.

The textbook is **OPTIONAL**, but can be used as additional/supplemental reading. If you would like, you can purchase a copy at the bookstore on campus. Or, there will also be a copy of the text on reserve at the Zuhl Library circulation desk. This book can serve as a lecture clarification resource for the semester, though occasionally the text will be supplemented with other handouts, slides, or web pages.

The course web site can be found at <https://learn.nmsu.edu> or just type “learn” into the navigator bar in your browser window. **NMSU no longer uses WebCT!!** If you try to go to WebCT, you should be re-directed to the correct site. The Blackboard site will eventually contain your grades, laboratory hand-outs, and other supplemental materials as the semester progresses. You will need to enter your login name (usually the first eight characters of your NMSU e-mail address, unless you have changed it to something else) and your password. It is the student’s responsibility to check the web site occasionally for important information regarding the course and grades.

### **Classroom Policy:**

You are encouraged to discuss any difficulties that you may have in this course at my office in Skeen Hall, N-350. If you have (or believe you have) a disability and would benefit from classroom accommodation(s), the Services for Students with Disabilities (SSD) Office is located at Corbett Center, room 244. Appropriate accommodations may then be provided to you. All medical information will be treated confidentially.

Regular attendance to lectures is expected. **You will soon discover that much of the material discussed in class will not be found in the handouts or in the book.**

**Academic misconduct:** According to the NMSU Student Code of Conduct (p.3), “Academic misconduct includes, but is not limited to, the following actions: ...Plagiarism, which includes, but is not necessarily limited to, submitting examinations, themes, reports, drawings...undocumented quotations...or other material as one’s own work when such work has been prepared by another person or copied from another person.” **Students caught plagiarizing the work of others or cheating will receive a grade of zero (0) for that assignment. Any student caught plagiarizing a second time will receive a grade of ‘F’ for the entire course. The instructor will strictly enforce this policy and disciplinary action may vary depending on the circumstances of the infraction.** Please familiarize yourself with the NMSU Student Code of Conduct so there are no surprises.

**Cell phones:** Cell phones are now ubiquitous and extremely addictive, especially texting. However, they are a major distraction in the classroom. To minimize this distraction, please turn them to silent in the classroom. During quizzes and exams, cell phones should be shut OFF (not just set to vibrate). The instructor reserves the right to confiscate any phone that is being used at an inappropriate time during the class period. In addition, any exam, assignment or other classroom activity that is being worked on at the time may receive a reduced grade (0).

### **Grading System:**

**Announced Quizzes:** There will be a ten minute quiz given each Friday promptly at the beginning of the hour. Each quiz will cover the material discussed in class that week. Some

quizzes will be “take home.” The only excuse that will be accepted for missing a quiz will be a written one from a physician. If you must miss class on Friday, let me know early and I will arrange for you to take the quiz early. *I will drop the two lowest quizzes.*

**Examinations:** There will be two, one-hour examinations covering all of the material up to the date of each examination. Dates for the examinations are given below. Each exam will be worth 100 points. The **final exam** will be comprehensive and will be worth 150 points. No excuse, except that of a physician, will be acceptable for missing an exam. If you identify a conflict for the final exam, you must notify the instructor before October 16<sup>th</sup>, 2009 so we can make other arrangements. **The final exam will be held on Friday, December 11 2009 from 1-3pm in room 336 GTH.**

**Labs:** To supplement the class lectures, weekly labs will be held. This is the part of the class where you get to experiment, go outside, and see the application of concepts you learn about in lecture. The activities you engage in during the labs should be very helpful and even fun. The instructor and TA’s have put a lot of work into preparing them. Therefore, laboratory attendance is mandatory for all students. With permission, a student may attend another laboratory session, if that section is not full. However, it is the student’s responsibility to notify the instructors. A student who misses three laboratories without a valid excuse will receive a grade of “0” for the laboratory and be dropped two (2) letter grades. Students that miss four (4) laboratories will receive an “F” for that portion of the course.

**Name That Tool Presentation:** To get you better acquainted with the tools and techniques involved in agriculture and horticulture, you and a group of 3-4 other students will present a short (~8 minute) “Name That Tool” PowerPoint talk. You will be presented with a mystery tool two weeks before your talk and it is your team’s task to figure out what it is, what is it used for, the history of its use, and any other interesting information you can find out. You may use other instructors, the internet, the library, etc. as resources, but you cannot use the instructor or the TA’s. Your presentation should be concise, informative, and entertaining (be creative!). This activity will be worth 100 points and presentations will be made in **lab sections** Wednesday-Friday September 16-18.

**Agricultural “Mythbusters” Writing Assignment:** To fulfill the writing component of the class, familiarize yourself with the NMSU library system, and learn more about agriculture and horticulture, you will be responsible for writing an Agricultural “Mythbusters” paper. The paper should be at least six pages long (double spaced, 1” margins, typical font type, and font size of 12), **not** including bibliography, figures, maps, etc. We will provide a grading rubric. You will be asked to grade yourself before turning in each draft. We will use the same rubric for grading your paper. You must use a minimum of 10 recent (past 10 years) references, half of which can be from reliable internet sources. Plagiarism will be taken very seriously so **DO NOT DO IT!** The timetable for your paper is as follows:

Select a topic	September 11	10 pts.
Rough draft due	October 14	40 pts.- will be returned October 30
Final draft due	November 18	50 pts.- will be returned December 2
		<b>100 pts total</b>

Here are a few ideas that can get you started. You may use these as long as somebody else has not already claimed it. First come, first serve. You can always turn paper components in early:

- If an apple a day is good for you, how many does it take to kill you?
- Organic foods taste better (don't they?), but they can't feed the world...or can they?
- Does making ethanol from corn in the United States effect food and gas prices worldwide? Why?
- Does spraying your garden with hot peppers really keep pests away?
- If the human population keeps growing and arable farmland keeps decreasing at their current rates, when will we run out of food?
- If you really were "cool as a cucumber," would you still be breathing?
- Why does steer manure smell so bad when it's fresh and so "sweet" when it's composted?
- Are there really male and female eggplants? If so, which is tastier?
- Wo/man can't live on bread alone, or can he/she?
- Does making ethanol from corn in the United States effect food and gas prices worldwide? Why? What are our other biofuel choices?
- Does tree hugging really make a difference?
- Does talking or singing to your plant really make it grow better?
- Can we genetically engineer a human to make chlorophyll and solve the world's food problems? It isn't easy being green!
- Is US agriculture really feeding the world?
- Why does the European Union generally disagree with the use of genetically modified organisms?
- If the typical adult human body is 58% water, how much fresh water is tied up in humans worldwide? What is the other 42% made of and how does what we eat affect it?
- We will brainstorm other ideas in class...be creative!

**Extra Credit:** There will likely be opportunities for extra credit throughout the semester. Please take advantage of these opportunities early as they will not be offered upon request later in the semester:

- 1. Hort Forum or OASIS meeting attendance:** The Horticulture Forum is an undergraduate student club in the Department of Plant and Environmental Sciences (PES). They hold meetings every two weeks during the semester. They often have free food as an additional incentive. OASIS is the Organization of Aggie Students Inspiring Sustainability and they generally meet every week. For every three consecutive OASIS or Hort Forum meetings that you attend during the semester (documented), you will receive five extra credit points. Their semester meeting schedules will be announced in class.
- 2. Blood donation:** For each unit of blood that you donate during the semester, you will receive five extra credit points. United Blood Services is located on Commerce Dr. close to the postal annex, Sam's Club, etc. After you have made your donation, please show your donation card to the instructor to receive credit. Sorry, plasma does not count.

### **Grading Scale:**

If you are taking this course "Pass/Fail", you must get at least a "C" to receive credit. Late assignments will docked 10% each day they are over-due. Grades will be determined on a total

basis as follows:

10 quizzes @ 10 pts each=	100
2 exams @ 100 pts each=	200
1 final @ 150 pts=	150
13 labs @ 20 pts each=	260
Name That Tool presentation	100
Agricultural Mythbusters paper	100
<b>TOTAL</b>	<b>910</b>

90 – 100% A  
80 – 89 B  
70 – 79 C  
60 – 69 D  
0 – 59 F

**Approximate Lecture Sequence:**

	<b>Chapter(s):</b>
1. Course Introduction and Objectives	-
2. Horticulture and Agriculture: Science, Business, and Art	1, 17, 18
3. Agricultural Production Regions	6
4. Plant Protection	15
5. Classification and Nomenclature	2
6. Structure and Anatomy	3
7. Plant Growth	4
8. Environmental Factors in Plant Growth	6
9. Soils and Soil Management	6
10. Plant Development	5
11. Sexual Propagation	7, 8
12. Asexual Propagation	7
13. Physical Control of Plant Growth	14
14. Plants in the Landscape	12, 16
15. Wrap-up	-

**IMPORTANT DATES:**

September 7	Labor Day Holiday (no lecture)
September 16-18	Name That Tool Presentations in lab (tools will be distributed ~Sept. 2)
October 7	Exam I- 12:30pm 336 GTH
October 14	Agricultural “Mythbusters” rough draft due, last day to drop with a “W”
November 11	Exam II- 12:30-1:20pm 336 GTH
November 20	Agricultural “Mythbusters” final draft due
November 23-27	Thanksgiving/Fall Holiday
December 4	Last day of lecture before final exam week
December 11	Final Exam 1pm, room 336 GTH

**Disclaimer:** I will do my best to keep to this schedule, but there will likely be slight modifications as the semester progresses. I will make you aware of these changes if/when they become necessary.