

VEGETABLE CROP MANAGEMENT

HORT 485

Fall 2009

General Information:

This course is designed to offer the student an introduction to the principles of plant growth and development as they apply to olericulture. Discussions and class activities will range from large-scale, commercial vegetable production to small-scale, sustainable, and organic management systems. The course is also meant to encourage an appreciation of related disciplines including marketing, processing, and utilization of these crops. Students will learn production practices including seeding, transplanting, soil management, fertilization, irrigation, pest control, and harvesting for numerous vegetables through study, practical experience, and field trips to vegetable farms. They will be able to manage and document a vegetable crop plot and to determine the correct production practice given certain cultural scenarios.

Course Catalog Description: 4 cr. (3+2P)

Physiological, environmental, and cultural aspects of vegetable crop production. Co requisite: AGRO/HORT 365 (Principles of Crop Production), or consent of the instructor.

Class Meeting Dates & Times:

Lecture and Discussion: Tuesdays and Thursdays 10:40-11:35am, room 142 Knox Hall

Labs: Tuesdays from 1-4pm (see schedule below)

Instructor:

Dr. Mark E. Uchanski

Assistant Professor of Horticulture

N-350 Skeen Hall

575-646-1914 • 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, leave me a phone message (575-646-1914), or leave a message with our front office staff (575-646-3405).

Textbook & Course Web Site:

Swiader, John M. and George W. Ware. Producing Vegetable Crops. Fifth Edition. Interstate Publishers, Inc. Danville, IL. 2002.

The textbook is **required** and will serve as an excellent additional resource beyond the lectures and labs. It is also a great source of information those of you who plan to pursue vegetable production outside of this class. If requested, I will put a copy of the text on reserve at the Zuhl Library circulation desk or have it available in my office library. 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 handouts, 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.** I will evaluate you on material from class (lecture and lab), not just 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 evaluations and other activities, 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 evaluation, assignment or other classroom activity that is being worked on at the time may receive a reduced grade (0).

Grading System:

Examinations: There will be two, one-hour evaluations administered in this class, although they will not follow a traditional format. Topics covered on the evaluations will be determined as the semester progresses, and tentative dates are included for your reference (below). Each evaluation will be worth 100 points. No excuse, except that of a physician, will be acceptable for missing an evaluation. If you identify a conflict for an evaluation, you must notify the instructor as soon as possible so we can make other arrangements.

Labs: To supplement the class lectures, weekly labs and work sessions 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 has put a lot of work into preparing them. Therefore, laboratory attendance is mandatory for all students. 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.

Vegetable Crop Management Plots and Notebook: Each individual in the class will receive and be asked to manage a vegetable plot at the Hort. Farm during the course of the semester. You will need to choose either an organic management plot or a conventional plot. Due to the cropping time for some species, we will need to plant as soon as possible. You will care for the crop throughout the semester and keep management notes in a field notebook. Each month, you will present a brief progress report that addresses the current status of the crop. At the end of the semester, the final copy of your field notebook will be turned in for a grade. You will receive more detailed information about your plots in the first lab session.

Specialty Crops Writing Assignment: At one time in the not-so-distant past, difficult-to-obtain or unfamiliar crops were only encountered on excursions to exotic parts of the world. Now, they are available at your local grocery store. To dive deeper into vegetable production, you will write a specialty crops research paper and present an oral presentation on your topic. Your paper should address the historical uses of your specialty vegetable crop, its center of origin, domestication, breeding, marketing, production, harvest, and post-harvest considerations. Your final documents will be bound and deposited in the Plant and Environmental Sciences library (N-120 Skeen Hall). You and your parents (or guardians, or whomever) will also receive a copy of your work. 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. I will provide a grading rubric. You will be asked to grade yourself before turning in each draft. I 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 specialty crop	September 10	-
Rough draft due	October 8	40 pts.
Final draft and oral presentation	November 17	60 pts. (30+ 30)
		100 pts total

Service Learning Hours: The best way to learn about vegetable production is to get involved in local production, marketing, and sales. Volunteering your time in exchange for a learning experience is termed “service learning,” and we will use this technique to help local vegetable producers harvest, clean, and sell their products. You will dedicate five (5) hours to service learning during the course of the semester which may include helping at the Las Cruces Farmer’s market, the Sunday Grower’s market at the Mountain View Market, local packing/processing sheds, agritourism venues, harvesting, cleaning, and maintaining research plots, construction projects, etc. I am very flexible and we will discuss more as the semester wears on. Your work must be documented and evaluated by the individual, company, organization, or farm you volunteer for.

Attendance and Participation: Regular attendance to and participation in lectures and labs is expected. Attendance will count for 100 points (>15%) toward your total grade at the end of the semester.

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. Weekend farm tours:** Tours outside of the regular class period will be announced as they are arranged. Points will be assigned individually for each tour.
- 2. Gleaning opportunities:** Vegetable production often leaves behind a large amount of edible, but unmarketable produce. At various points in the semester, organized gleaning efforts will be available for extra points.
- 3. 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:

2 evaluations @ 100 pts each=	200
Attendance and participation	100
Vegetable crop management notebook	100
Specialty crops writing assignment and presentation	100
Service learning hours	75
TOTAL	575

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

Approximate Lecture Sequence:

	Chapter(s):
1. Course Introduction and Objectives	-
2. The Vegetable Industry- Fun Facts	1
3. Classifying Vegetables	2
4. Plant Growth and Development	3
5. Breeding and Improving Vegetable Crops	4
6. Organic, Sustainable, and Conventional	-
7. Crop Establishment	5
8. Soil Management and Nutrition	6
9. Weed Management	7
10. Irrigation and Mulching	8

11. Insects and Diseases	9
12. Post-harvest Handling and Physiology	10
13. Biotechnology and the Future	11
14. Individual Vegetable Crops and Their Culture	12-28
15. Controlled Environment Production	29
16. Small-Scale Production and Use	30
17. Wrap-up	-

IMPORTANT DATES:

September 1	No lecture (free time to work)
September 7	Labor Day Holiday
October 8	Specialty crop writing assignment rough draft due
October 14	Last day to drop with a "W"
October 15	Evaluation I- 10:40-11:35am 142 Knox Hall
November 12	Evaluation II- 10:40-11:35am 142 Knox Hall
November 17	Specialty crop writing assignment final draft due, oral presentations
November 23-27	Thanksgiving/Fall Holiday
December 4	Last day of lecture before final exam week
December 10	Plot reports due, room 142 Knox Hall

Tentative HORT 485 Laboratory Schedule

Tuesdays, 1-4pm

Week 1 (Aug. 25)	Orientation at the Hort. Farm (Fabian-Garcia)
Week 2 (Sept. 1)	Field preparation and plot layout/planting at Fabian-Garcia
Week 3 (Sept. 8)	Work in field plots
Week 4 (Sept. 15)	Work in field plots and specialty crops writing assignment
Week 5 (Sept. 22)	Plot updates
Week 6 (Sept. 29)	Field trip- market tour
Week 7 (Oct. 6)	Field trip- compost facility
Week 8 (Oct. 13)	Field trip- valley tour
Week 9 (Oct. 20)	Plot updates
Week 10 (Oct. 27)	Work on projects
Week 11 (Nov. 3)	Field trip- chile processing
Week 12 (Nov. 10)	Controlled environment production- hoop house construction
Week 13 (Nov. 17)	Field trip- local processing
Week 14 (Nov. 24)	THANKSGIVING break- no lab
Week 15 (Dec. 1)	Wrap-up and clean-up

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