COURSE SYLLABUS

PSSC 274 GREENHOUSE MANAGEMENT

Fall 2016    Lecture & Lab: Friday 12:00 (Noon) – 5:00 pm
Instructor: Jean Miller   Meeting Location: Farm Greenhouses: Farm Headhouse
Email: jsmiller1@csuchico.edu   Office hours: F 11:00 – 12:00, Farm Headhouse

COURSE DESCRIPTION
This course is a survey of the greenhouse industry. Emphasis will be placed on analysis, design, construction and operation of greenhouses and other structures. The relationship of light, temperature, moisture, aeration, and humidity to plant growth will be explored. Greenhouse heating, cooling and environmental control systems will be covered, as well as greenhouse soils, irrigation, fertilization and marketing. Emphasis will be placed on potted plants grown for foliage or flowers, vegetables and bedding plant production.

REQUIRED MATERIALS
Ball Redbook, Volume 1: Greenhouses and Equipment, 18th edition and Ball Redbook, Volume 2: Crop Production, 18th edition; available at BMU Bookstore. If you buy an older edition, it may not have the same information discussed in class.

Calculator, basic but not your cell phone.

COURSE REQUIREMENTS
All assigned reading should be completed in advance of lecture so that lectures and labs will be more meaningful.

There will be a short quiz at the beginning of each class. The quiz will cover the preceding Friday’s lecture or lab material. If you arrive late, you will not be able to take the quiz. No make-up quizzes will be given.

There will be three exams (2 mid-terms- 100 points each, 1 cumulative final- 150 points) consisting of questions and problems derived from lectures, labs, quizzes, readings, discussions and assigned problems used during the course. Exams will include (but not be limited to) multiple choice, true-false, matching, and short-answer questions. Missed exams count as zero. Make-up exams are by arrangement and will be granted only for documented emergencies.

There will be a crop report presentation by each student during the last two labs of the semester. The presentation format will be power point, limited to 10 minutes and students can use lab time, if available, to prepare it.

Class participation is expected and required in lecture and lab. An activity card or completed lab assignment (10 points each) will be handed in by each student at the end of each lab. Regular attendance is necessary to your success in this class. Students are not allowed to come and go during class session. Any student who leaves before class is dismissed will receive a zero on that week’s lab attendance.
COURSE GRADING
Due to privacy concerns, grades will only be discussed in person between the instructor and the student, (not through email or by phone).

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points possible</th>
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<tbody>
<tr>
<td>Mid-term Exams, 2 @ 100 points each</td>
<td>= 200</td>
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<tr>
<td>Cumulative Final Exam</td>
<td>= 150</td>
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<tr>
<td>Quizzes and assignments, 11 @ 10 points each</td>
<td>= 110</td>
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<tr>
<td>Lab Activities/Attendance, 14 @ 10 points each</td>
<td>= 140</td>
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<tr>
<td>Crop Report Presentation</td>
<td>= 100</td>
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<tr>
<td>Grand Total</td>
<td>= 700</td>
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Individual student grades will be based on the following percentages of the total possible points: (Percentage rounded to closest whole number)

- 100 – 94%   A
- 89 – 87%   B+
- 82 – 80%   B-
- 75 – 73%   C
- 69 – 67%   D+
- 66 – 60%   D
- Less than 60% F

MISCELLANEOUS INFORMATION
- Friday lecture and lab are held at the University Farm on Hegan Lane. Lecture will begin promptly at 12:15 to allow for arrival time if students have a class on campus from 11 to 11:50. You must arrange for your own transportation to get to the farm (carpooling is great!). Biking takes 30 to 40 minutes.
- Students will provide their own transportation for any off campus field trips.
- The 3 hour lab is usually held outdoors and in the greenhouses. Wear appropriate clothing and footwear. Closed-toe shoes are required.
- Students are expected to clean up at the end of lab and could have points deducted for not helping.

Expected Student Conduct and Classroom Disruption:
If your behavior is distracting to the professor or students, you will be verbally asked to cease that behavior or leave the facility. Any noises from electronic devices will be considered a class distraction. Students are expected to turn off all electronic devices during class time. All class participants are expected to exhibit respectful behavior to other students and the professor.

Plagiarism:
The students, faculty, administrators and staff of CSU, Chico are committed to a culture of honesty in which members of the community accept responsibility to uphold academic integrity in all they say, write and create.
**GREENHOUSE MANAGEMENT SCHEDULE: Fall 2016**

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic</th>
<th>Lab</th>
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<tbody>
<tr>
<td>Aug. 26</td>
<td>Introduction to the course; Overview of the greenhouse industry</td>
<td>Tour greenhouses; Poinsettias; Propagation; Potting up plants</td>
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<tr>
<td>Sept. 2</td>
<td>Greenhouse design and construction</td>
<td>Seed sowing; Construction costs; Poinsettia pinching</td>
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<td>Sept. 9</td>
<td>Greenhouse cooling and heating</td>
<td>Greenhouse calculations</td>
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<td>Sept. 16</td>
<td>Greenhouse media</td>
<td>Media analysis</td>
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<td>Sept. 23</td>
<td>Greenhouse irrigation</td>
<td>Irrigation systems and designs</td>
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<td>Sept. 30</td>
<td>Review, 1st exam</td>
<td>Field trip: Richvale (Lundberg)</td>
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<tr>
<td>Oct. 7</td>
<td>Fertilization</td>
<td>Fertilization lab; Set up hydroponics; Tomato grafting</td>
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<td>Oct. 14</td>
<td>Light and temperature</td>
<td>Field trip: Oroville (Western Tree)</td>
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<tr>
<td>Oct. 21</td>
<td>Plant growth regulators (PGR)</td>
<td>Field trip: Gridley (Agromillora); PGR calculations and applications</td>
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<td>Oct. 28</td>
<td>Pest identification, Integrated Pest Management</td>
<td>Insect ID; Trap placements</td>
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<tr>
<td>Nov. 4</td>
<td>Review, 2nd exam</td>
<td>Disease ID; Pest scouting and monitoring; Trap observations</td>
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<td>Nov. 11</td>
<td>No Lecture (Veteran’s Day)</td>
<td>No Lab</td>
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<td>Nov. 18</td>
<td>Production methods, Hydroponics, Aquaponics</td>
<td>Field trip: Chico (hydroponic stores)</td>
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<td>Nov. 25</td>
<td>No Lecture (Thanksgiving week)</td>
<td>No Lab</td>
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<td>Dec. 2</td>
<td>Marketing</td>
<td>Presentation of crop reports</td>
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<tr>
<td>Dec. 9</td>
<td>Marketing</td>
<td>Presentation of crop reports</td>
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<tr>
<td>Dec. 12 - 16</td>
<td>Final: exact date to be announced</td>
<td>No Lab</td>
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Greenhouse Management- PSSC 274
Oral Presentation & Power Point Guidelines

- Each student will research the production of a greenhouse crop (list discussed) and provide a 10 minute power point oral presentation to the class.
- Topic must be approved by 3rd week of class.
- Presentations will be scheduled for weeks 15 and 16 during laboratory hours.
- Note the differences, if any, of small, medium or large growers.
- You will be graded upon your ability to research and cite sources properly, understand & communicate the information, and proper use of greenhouse terminology. See point values below.

**Components of the presentation:**

10 pts- Provide an overview on the history of the use of the crop.
10 pts- Present economic value of the crop
35 pts- Discuss the cultivation of the crop including:
    Propagation technique(s)
    Best media
    Fertilization program
    Irrigation schedule (moisture)
    Temperature
    Light
    Plant growth regulators used (if any)
    Time to finish crop (scheduling)
    Average cost of production
15 pts- Provide an overview of any insect and disease problems. Include:
    How they are identified (What they look like –pictures required)
    When they become a problem (at what stage of production)
    How to best manage them (typical management tactics)
10 pts- Discuss different marketing strategies: small, medium and large growers
10 pts- Citing: Use journals, books, and credible (up-to-date) websites. Do not get all of your information from one source (like our text book) and DO NOT PLAGIARIZE. Cite all sources using APA format and use quotes if you do not rephrase using your own words.
10 pts- Presentation delivery and style (did you practice? edit?). Points will be deducted for presentations exceeding 15 minutes or shorter than 10 minutes.

**Provide an electronic copy of your presentation on scheduled date of presentation.**

We will go over my expectations in class. This is a 100 point assignment!