**Growing the Guilty Pleasures**

Topics in Sustainable Horticulture

HORT 3480 (3 cr.)

**Class:**

Monday and Wednesday

10:15-11:30 AM

405 Alderman Hall

**Instructor:**

Dr. John Erwin

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**Teaching Assistant:**

Garrett Beier

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**Introduction:**

This course will focus on the production, harvesting, processing and science behind each of the following opportunity crops: hops, specialty greens, mushrooms, coffee, chocolate, and marijuana. Although only some of these are not grown in Minnesota, all of them are processed and sold in Minnesota, and are economically significant. For instance, the Minnesota candy industry alone has a $138 million/year wholesale, which makes it larger than the Minnesota greenhouse industry. Policy issues surrounding crops that do/can have controversial issues around production/processing/use will also be discussed. Guest industry speakers will present at the end of each section to bring issues around starting a business, regulation, and/or opportunities with each crop.

Students will be expected to know the basics of crop production, harvesting and processing procedures. Basics of plant and fungal growth and plant nutrition will also be taught as a context to understand the basis for crop production decisions. Throughout the course, problem solving will be used for teaching concepts as well. Aside from lectures and in-class activities, students may grow potted herb/vegetable crops in the greenhouse.

**Assessments Overview:**

Student evaluation will occur through a) exams, b) homework, and c) in-class group activities. All homework and exams are cumulative; note the value of the exams increase over time to reflect this. Failure to turn in homework will result in a 10% reduction in the maximum grade possible for each assignment per day late.

**Grading:**

 Points

Tests (Test 1 = 100, 2=150, 3=200 points) . . . . 450

Homework (35 points each x 7) . . . . . 245

In-class activities (10 points x 7) . . . . . 70

Total . . . . . . . . . 765 points total

**Class Schedule:**

Date Topic

January 20 Introduction, review of syllabus, Plant Growth I

January 25 Plant Growth II, photosynthesis

January 27 Plant Nutrition II, EC, pH

February 1 Introduction to Hops and Beer making (Dr. Charlie

Rohwer); **Homework #1 Due**

February 3 Hops Production (Dr. Charlie Rohwer)

February 8 Specialty Greens and Microgreens Production I;

**Homework #2 Due**

February 10 Specialty Greens and Microgreens Production II

February 15 Mushroom Physiology (Garrett); **Homework #3 Due**

February 17 Mushroom Production I

February 22 Mushroom Production II – including Outdoor

February 24 Mushrooms in Minnesota (Mississippi Mushrooms);

**Homework #4 Due**

March 2 **Test I (100 points)**

March 7 Coffee Production I

March 9 Coffee Production II

March 21 Coffee harvesting and processing

March 23 Coffee in Minnesota (Five Watt Coffee)

March 28 Chocolate Production I; **Homework #5 Due**

March 30 Chocolate Production II

April 4 Chocolate Harvesting and processing (Tasting)

April 6 Chocolate in Minnesota (Chocolate Celeste);

**Homework #6 Due**

April 11 **Test 2 (150 points)**

April 13 History, Science and Breeding of Marijuana (George

Weiblen, Plant Biology)

April 18 Marijuana Production I

April 20 Marijuana Production II

April 25 Marijuana Products and Processing (Daniel Abate-Pella)

April 27 Policy issues around marijuana (Minnesota Senator

Scott Dibble)

May 2 Other New Crop opportunities; **Homework #7 Due**

May 4 **Test 3 (200 points)**

**University Policy Statements:**

Please refer to

<http://www.policy.umn.edu/Policies/Education/Education/SYLLABUSREQUIREMENTS_APPA.html>

for exact language on the University’s policies related to:

1. Student conduct code
2. Use of personal electronic devices in classroom
3. Scholastic dishonesty
4. Makeup work for legitimate absences
5. Appropriate student use of class notes and course materials
6. Grading and transcripts
7. Sexual harassment
8. Equity, diversity, equal opportunity, and affirmative action
9. Disability accommodations
10. Mental health and stress management
11. Academic freedom and responsibility: for courses that do/do not involve students in research