Fall 2020 SYLLABUS

(Syllabus is a guide and is subject to change during the semester)

***Course Title*: Fruit and Vegetable Crops (PLSC 434)**

Course Information:

- A 3 credit hour course
- Class periods: meet Monday & Friday (2:15 to 3:05) virtually on zoom, when meeting. Otherwise, these are asynchronous, videos you will watch.
- Lab periods: meet Wednesday (2:15 pm – 4:20 pm) in Zoom. UNLESS we do actual voluntary field trips. We will try to do them. Otherwise, they will be virtual as well.

Course Description: Botanical description, crop physiology, general cultural practices of warm and cool season vegetables, small fruits, and deciduous tree fruits.

***Instructor*:** Dr. John Cummins

- Office: My cell phone, unless during September, in which I will give more information.
- Phone: 865.228.9789 Email: recon77@utk.edu

Office hours: I will potentially be on campus during September, not sure which days. Otherwise we will do a virtual office. Call or email me first and we will set up a zoom.

Course Objectives:

Fruits and vegetables are essential to the human diet, providing sources of fiber, vitamins, and many medicinal compounds such as the anti-cancer compounds. The U.S. has long been a leader in fruit and vegetable technology. Much of the rest of the world's developed countries are now using similar technology. We can learn to grow, market, or, in general help people grow, and market food for both the above and as horticultural therapy for ourselves.

The goal of this course is for us to examine the sciences and art of pomology (fruit) and olericulture (vegetables) crops. Our overall objective is to become familiarized with the theories, principles and practices utilized in production of these crops. It is the objective of this course to increase the capacity of the student for intelligent decision-making and problem solving based upon scientific knowledge and resources of fruits and vegetables.

Upon completion of the course, the student should be able to:

- Have the knowledge for intelligent decision-making and problem solving involving fruits and vegetables.
- Describe the general cultural practices (for fruit and vegetable production) such as site selection, soil preparation, plant establishment, plant nutrient management, irrigation, cold damage protection, propagation, pruning, and postharvest storage.
- Prepare a business plan proposal for a fruit or vegetable small-farm.

Technology use in the Course:

- Students are expected to take notes from asynchronous videos viewed before any synchronous zoom sessions. Cell phones are to be turned off during exams.

- Students will need access to a word processor, email, and the Internet for this course. Course material will be on Canvas. Please ensure that your UT email address is active because I update students using the email address shown on Canvas. Microsoft Word is the preferred word processor. However, you can use Google Docs as well. You will need Excel to view budgets and Adobe Acrobat reader to view some documents. Lecture/talks will be asynchronous via zoom videos that will be in the assignment and module sections of Canvas. Make sure you do any required quizzes and/or discussions that correspond to the videos.

Text Books (none required):

Vegetable Production and Practices by Gregory E. Welbaum, ISBN-13: 978-1845938024. A new relatively new textbook that Dr. Welbaum developed form his class at VPI. Available as hardback or paperback book or a kindle version.

***Introduction to Fruit Crops*.** By Mark Rieger, Mark. 2006. Dr. Rieger developed this book for his fruit class at Univ. of Georgia. It is now available for **free downloading** at http://www.fruit-crops.com/

Temperate-Zone Pomology: Physiology and Culture, Third Edition 3rd Edition. By Melvin Neil Westwood. This is a classic Pomology text.

Modern Fruit Science. Norm Childers. Another great Pomology text.

Resource materials:

- A good *free* commercial vegetable production resource is the ***2019 Southeastern U.S. Vegetable Crop Handbook*** which can be downloaded from the internet at *https://content.ces.ncsu.edu/southeastern-us-vegetable-crop-handbook*. It is standard for our growers, especially for cultivar recommendations.
- A very good publication on commercial tree fruit production is **Penn *State Tree Fruit Publication Guide* 2018-2019**. It is available from https://extension.psu.edu/tree-fruit-production-guide starting at $15.00.
- Lee Reich puts out some very interesting books. A Cornell Graduate.

- **Vegetable Reference Books**

  A very good reference book for commercial vegetable growers is *Knott's Handbook for Vegetable Growers*, by Donald N. Maynard, George J. Hochmuth. It is the standard for commercial growers.

Class Reading Assignments. Either the web address or the publication will be posted on Canvas. The information in reading assignments should be read **before** class to facilitate class zoom discussion. Questions on reading assignments will be included on quizzes.

Off-Campus Field Trips. Hopefully, we can have some of these. Students will have to use their own private vehicle. You must present to the instructor, one-week prior to the field trip or other off-campus activity, a valid driver's license and proof of current liability insurance (a **UTK requirement**). This can be done via private zoom. If you plan on coming, be ready to help with a virtual showing for those that can not make it and let me know ahead of time so I can get an idea of numbers.

***Field Tips/Laboratories*:** Be prepared to **take notes** on paper notebooks in order to prepare reports. You are encouraged to take photos during the field trips (if the producers allows) and incorporate those into your report (with captions "grouped" to the pictures). Clothing may be soiled, therefore, dress appropriately. Please note that students may cut themselves in propagation or pruning labs (If we do one). **Please inform the instructor** if extra precautions need to be taken for you.

Student Disability Services: If you require special accommodations, please inform me and also contact the Student Disability Services at 865-974-6087, email: https://sds.utk.edu/ .

Students are reminded of the **UT Academic Integrity Statement**:

"An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity."

Each paper, lab report, review or similar written assignment needs to be original work. Other course materials are not acceptable because each course has different course objectives and learner outcomes.

***Academic Dishonesty*:** Students found cheating or receiving unauthorized assistance will have their exams or papers confiscated at the time of the infraction; they will be subject to an "F" for the course, and the matter will be referred to the Office of Student Conduct for further action. Students should refer to Hilltopics for University policies and procedures

***Classroom/Student Conduct*:** Cell phones should **not** be used during exams. Use calculators, but **no cell phones** during exams.

***Lab/Homework*: (This only applies IF we can swing it).**

- **Field trip reports:** Reports are due one week (***7 days***) after the field trip. Grades will be penalized if late (10%/day late of the possible points). We will respond acknowledging receipt of the paper so that you know that we have it.
- Reports should include 1) name of farm, 2) location, 3) owner or presenter of information, 4) information on production, 5) information on marketing technique, 6) what you liked and/or disliked about the operation, and 7) what you learned from

the visit. Please incorporate pictures (with captions grouped to the picture) into the report. Report should be 600-700 words.

- **Alternative to field trip reports:** If a student cannot participate in a field trip, then inform me on the previous Friday prior to the field trip and an article will be provided for the student to write a critique (1,000 to 1200 words). The reports are due ***7 days*** after I provide the article.
  - The following is a definition of a critique: "A critique is a careful analysis of an argument to determine what is said, how well the points are made, what assumptions underlie the argument, what issues are overlooked, and what implications are drawn from such observations. It is a systematic, yet personal response and evaluation of what you read" http://www.hws.edu/academics/ctl/pdf/critique.pdf

Homework Problems:

- One homework problem will be to design a vegetable garden for a site for one and then a second garden on the same plot of land, going through the cultural steps of planning the garden, crop rotation, fertility, soil and weed management, and cost of establishment. Information of area size, soil type, pH, fertility, sun exposure, etc. will be provided.
- ***Plan a drip irrigation system:*** *for the garden above****. (25 bonus points)***
- ***Fruit/Vegetable crop production:*** Develop a farm plan for a fruit or vegetable crop. More information will be provided.

***Exams*:**

- Exams cover material presented in class, quizzes, labs/field trips and reading assignments.
- Graduate students will be given a different exam than undergraduate students.
- Including the final exam, there are 3 exams.
- No make-up exams or quizzes will be given unless a student has a valid excuse as recognized by the University. Such excuses are: 1) a death in the family, 2) a medical illness of a severity that prevents a student from attending class, 3) a University-sponsored activity or event that requires that a student miss class.

Grading scale: Final grades will be based on **a percentage** of **total available points** offered during the semester.

Undergraduate students		
Grade	**% Basis**	Points (**if** 1,000 point basis)
A	94.0 - 100 %	940-1000
A-	90.0 - 93.9 %	900-934
B+	86.7 – 89 9 %	867-899
B	83.4 – 86 6 %	834-866
B-	80.0 – 83 3 %	800-833
C+	76.7 – 79 9 %	767-799
C	73.4 – 76 6 %	734-766
C-	70.0 – 73 3 %	700-733
D+	66.7 – 69 9 %	667-699
D	63.4 – 66 6 %	634-666
D-	60.0 – 63 3 %	600-633
F	<60.0 %	<600

Source	**Potential Points**	**Category points**
Regular semester exams	2 (150 pt. each) = 300 points	300
Final Exam	150 points	150
Quizzes (10)	10 points each	100
Field trip reports • Vineyard visit (Spouts Spring) • Comb's Farm (commercial peppers, tomatoes, beans, pumpkins) • UT Kitchen • Cummins' orchard, neighborhood garden (maybe, if garden there)	 ~~25 points~~ ~~25 points~~ ~~25 points~~ 25 points	100
~~Garden Plan Design~~	~~100~~ points	100
Grape Discussion in groups (25), Presentation (25)	50 points	
Botany Discussion (25), Presentation (25)	50 points	100
~~Fruit/Vegetable Farm Plan (economics)~~	150 points	150
Total points		**1000**