

**PLSC 250: World Food and Fiber Plant Production, Spring 2023**  
University of Tennessee, Knoxville

**COURSE INFORMATION**

**Meeting Time:** Monday, Wednesday, and Friday from 9:10 to 10:00 am

**Location:** Room 113 Plant Biotechnology Building (PBB)

**Course Credit:** 3.0 Hours GenEd / VolCore Natural Science (NS)

**Faculty Contact Information**

Amanda Spangler

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112 Plant Biotech Building

865-974-7182

Office Hours: by appointment  
on Zoom



Dr. John Stier

Associate Dean & Professor

[jstier1@utk.edu](mailto:jstier1@utk.edu)

126 Morgan Hall

865-974-7493

Office hours: by appointment



**GTA Contact Information:** JD Zimmerman ([jzimme19@vols.utk.edu](mailto:jzimme19@vols.utk.edu))

**Welcome Statement**

We are Amanda Spangler and Dr. John Stier, and we will be your instructors for the course. We are looking forward to getting to know you this semester! This class will have scheduled assignments, quizzes, and exams.

This is not a self-paced course. It's important that you manage your own time each week to know when assignments, and any other weekly course obligations, are due. This will involve regularly logging into Canvas to check communications, monitoring your campus email address, and interacting with your classmates, myself, and course materials.

We look forward to working with you this semester and getting off to a strong start!

**Instructor Availability**

Please email Amanda Spangler with updates, questions, or concerns. I will typically respond within 24 hours during the week and 48 hours on the weekend and holidays. I will notify you if I will be out of town and if connection issues may delay a response.

## COURSE DESCRIPTION

Introduction to important world crops and production systems. Emphasis on plant terminology, origin, distribution and use, world agroecosystems, environmental and economic sustainability, current technology in crop production.

### Student Learning Outcomes

Upon completing this course, students will be able to:

1. Describe plant terminology, the characteristics of major food and fiber plants, general production practices, and major areas of production.
2. Explain how climate, land, water, and social settings interact to determine food production systems, through study of major agroecosystems of the world.
3. Have knowledge of how the primacy of the need to produce adequate food has affected societies and cultural traditions, and how technological changes have altered this relationship.
4. Understand and be able to explain sustainability issues in food production systems, including water and air pollution, depletion of nonrenewable inputs and land degradation.

## LEARNING ENVIRONMENT

This is an in-person class. Participation in each class is crucial to fulfilling class purposes. Students are expected to attend each class. Students have the option to participate in two in-person outdoor labs in the UT Grow Lab. Many of your assignments will be administered through Canvas, the University of Tennessee's Learning Management System. Additional [Canvas](#) and [Zoom](#) resources are available for students unfamiliar with these online environments. If you need any equipment to complete the online components of this course, you can [borrow equipment from Pendergrass Library](#).

## HOW TO BE SUCCESSFUL IN THIS COURSE

Students are expected to attend each class, and they are encouraged to prepare for class by reading the sections of the textbook outlined in the semester calendar. Follow along with the semester calendar to be aware of upcoming assignments and assessments. Reach out to the instructor as soon as possible with any questions, ideas, or concerns about the class.

### Learner Expectations

- Be prepared for all classes
- Be respectful of others
- Actively contribute to the class and learning activities
- Commit to setting and meeting high expectations for yourself

- Stay up-to-date on materials posted to the course Canvas site
- Read and (if necessary) respond to communications from the instructor
- Completely read and follow all instructions given for assignments and assessments
- Ask the instructor for clarification when needed
- Abide by the [UT Student Code of Conduct](#).

### **Instructor Expectations**

- Start and end class on time
- Be prepared for all classes
- Evaluate all fairly and equitably
- Be respectful of all students
- Create and facilitate meaningful learning activities
- Clearly and effectively communicate course expectations and content
- Be open to constructive input from students in the course
- Abide by the University codes of conduct

## **COURSE REQUIREMENTS**

### **Texts, Resources, and Materials**

Recommended (but not required) readings will be from McMahon et al.'s *Plant Science: Growth, Development, and Utilization of Cultivated Plants* (6th edition) ISBN-13: 978-0135184820. Textbook is available at a discounted rate from VolBooks (VitalSource) on Canvas, for purchase from the VolShop, online retailers, and [on reserve in Pendergrass Library](#). You may use the 5<sup>th</sup> edition if preferred, however, you are responsible for making sure that you are reading from the correct section of the textbook.

### **Required Equipment**

Students must have a working computer in order to complete assignments. If you need any equipment to complete this course online, you can [borrow equipment from Pendergrass Library](#). Students may be able to participate in class by using resources available in an [on-campus computer lab](#).

### **Course Resources**

#### **Canvas**

This course will use Canvas via [Online@UT](#). As a student registered for this course you are automatically loaded into the course Canvas site, and it should appear on your homepage. I will post course announcements and materials on the Canvas site. Many assignments and some assessments must be submitted online through Canvas. Refer to assignment sheets and instructor updates for more information.

#### **Zoom**

We will be using [LiveOnline@UT \(Zoom\)](#) for virtual office hours, for some group meetings, and, when determined necessary by the instructor or University, online class sessions.

## Technical Support

For technical issues, contact the OIT HelpDesk by phone at (865) 974-9900 or at the [Walk-in HelpDesk](#). For IT and Computing issues, use the online [Contact Form](#). **Again, if you need any equipment to complete the online portion of this course, you can [borrow equipment from Pendergrass Library](#).**

## COURSE COMMUNICATIONS POLICY

### Classroom Etiquette

All online and offline communication should adhere to [UT's Principles of Civility and Community](#).

### Announcements

Announcements will be used to communicate with you about course logistics. All students are responsible for logging into Canvas on a daily basis to check for course updates. The three most recent announcements are posted at the top of the course home page. Students should check their [Canvas notification settings](#) to ensure they receive instructor announcements.

### Discussions

We may have in-person and virtual discussion groups in this class. When engaging in class discussions, remember to: respect each other's ideas, feelings and experience; be courteous and considerate; and explore disagreements and support assertions with data and evidence.

### Email

All students are provided with a working university email address. The instructor will use university email to communicate course information. Students are responsible for staying up-to-date on email communications. For assistance with email, please visit [help.utk.edu](http://help.utk.edu). Thank you for your attention to detail and professional courtesy in all communications regarding the class, including email.

## COURSE ATTENDANCE AND PARTICIPATION POLICY

Participation in each class is crucial to fulfilling class purposes. **Students are expected to attend all classes.** Students may not be distracted or distracting during class.

### Technology

Cell phones, tablets, and laptops should be used for notetaking purposes only, but may not be used for recording audio or visuals. Sharing audio or visual files may violate University policy, copyright laws, or other restrictions. Smart phones and other technology will be turned off and remain in backpacks or purses during quizzes and exams. Use calculators and not smart phones during exams.

## Readings

It is important that any recommended reading assignments be completed prior to the lecture period. You will get much more out of the lectures if you have prepared yourself ahead of time with the and come prepared to ask any questions you may have regarding the material.

## Outdoor Labs

Students have the option to gain practical experience growing crops on scheduled in-person lab days. Class will be held regardless of weather conditions. Students should dress appropriately for the weather and the work. Students are required to wear closed-toe and closed-heel shoes on all lab days and they are advised to wear durable clothing that can get dirty on outdoor workdays.

## Guest Speakers

We are extremely fortunate to host guest speakers for many class sessions. These are professionals in their field, and their input often replaces recommended reading from the textbook. You are expected to be respectful, take notes, and ask speakers thoughtful questions.

## Campus Closures

If the university closes campus for any reason, including [inclement weather](#), students who are unable to attend, submit assignments, or otherwise participate in a class session will not be penalized.

# ASSIGNMENTS, ASSESSMENTS, AND EVALUATIONS

## Exams

Students will be evaluated on their progress through **two regular exams that are worth 75 points each and one cumulative final exam that is worth 150 points**. No make-up exams or quizzes will be given unless a student has a valid excuse as recognized by the University.

## Case Study

The case study for this class is a descriptive analysis of the major crops produced by a country. Students will conduct an in-depth investigation of the agricultural system of their assigned country, including the agroecosystems, soils, and major crops, as well as what amount of the major crops are consumed in the country versus exported. Students will present their findings to the class as well as submit a written report. **The presentation is worth 25 points and the report is worth 85 points**. Student work is expected to meet the content and formatting requirements outlined in the assignment sheets.

## Quizzes

Regularly scheduled quizzes will be worth **10 points**. Scheduled quizzes will be given at the beginning of class following announcements and may cover material presented in class and

assigned readings (if any). Your participation in the scheduled Outdoor Labs in the UT Grow Lab will also count as a quiz grade.

At the end of the semester, your three lowest quiz grades will be dropped, including any missed quizzes or outdoor labs. Dropping of the three lowest scores is intended to hold students harmless if a quiz needs to be missed due to an illness or other excused absence. **No make-up quizzes will be given.**

### **Participation**

The participation grade will be a combination of attendance and engagement.

Attendance will be evaluated and scores will be related to the grading scale, e.g., 93+% attendance will be worth **25 points**. Thus, students may have at least 3 days unexcused absences without grade penalty, assuming the student is not scheduled to take a quiz, exam, or present their case study. For excused absences, students should contact the instructor as soon as possible (it's understood that in certain emergencies such contact may occur after the situation occurs). Excused absences (e.g., illness) will not be counted against the attendance record.

Engagement will be evaluated based on regular participation in the class, e.g., asking or answering questions. Regular means spread across the semester and on average about once every 2 weeks.

### **Question Development**

One week prior to each exam, students will **submit two questions with answers** based on topics covered in class since the beginning of class or, after the first exam, since the previous exam. They may be short answer (1-2 sentences) or multiple choice. If multiple choice, there should be three answers. **Each question submitted is worth 5 points**. Students will receive an extra 5 pts for any question that ends up being used verbatim for exams or quizzes.

### **Academic Honesty and Student Conduct**

For this course, academic integrity includes, but is not limited to, not receiving unauthorized assistance to complete an assignment and selling or purchasing course assignments or assessments. All work submitted by students should be generated by the students themselves. Another person or entity should not create any portion of an assignment for the student.

Academic honesty will apply in accordance with policies found in [Hilltopics](#), the official student handbook of the University of Tennessee. Students must adhere to the principles and rules of the University and pursue academic work in a straightforward and truthful manner, free from deception or fraud.

## GRADING CRITERIA

### Points possible

Assignment	Points Possible
Regular Exams (2)	150 pts (75 pts ea.)
Final Exam	150 pts
Case Study	110 pts (85 pts report + 25 pts presentation)
Quizzes (10 with 3 lowest grades dropped)	70 pts
Question Development	20 pts
<b>Total Points Available</b>	<b>500 pts</b>

### Grading Scale

Final grades will be assigned in accordance with the UT grading scale. For further explanation about student [UT Grades and GPA](#) or other policies related to academic standing, please reach out to [OneStop](#).

Letter Grade	Percentage	Projected Points
A	More than 93 %	465 to 500 pts
A-	90 to less than 93 %	450 to 464 pts
B+	87 to less than 90 %	435 to 449 pts
B	83 to less than 87 %	415 to 434 pts
B-	80 to less than 83 %	400 to 414 pts
C+	77 to less than 80 %	385 to 399 pts
C	73 to less than 77 %	365 to 384 pts
C-	70 to less than 73 %	350 to 364 pts
D	60 to less than 70 %	300 to 349 pts
F	Less than 60 %	299 pts and below

## CAMPUS SYLLABUS

Dear Student,

The purpose of this **Campus Syllabus** is to provide you with important information that applies to all UTK courses. Please observe the following policies and familiarize yourself with the university resources listed below. At UT, we are committed to providing you with a high-quality learning experience. I want to wish you the best for a successful and productive semester.

- Dr. John Zomchick, Provost and Senior Vice Chancellor

### **Academic Integrity**

Each student is responsible for their personal integrity in academic life and for adhering to UT's Honor Statement. The Honor Statement reads: "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."

### **Your Role in Improving the Course Through Assessment**

At UT, it is our collective responsibility to improve the state of teaching and learning. During the semester you may be requested to assess aspects of this course, either during class or at the completion of the class, and through the TNVoice course evaluation. Please take the few moments needed to respond to these requests as they are used by instructors, department heads, deans and others to improve the quality of your UT learning experience.

### **Students with Disabilities – <http://sds.utk.edu>**

The University of Tennessee, Knoxville, is committed to providing an inclusive learning environment for all students. If you anticipate or experience a barrier in this course due to a chronic health condition, a learning, hearing, neurological, mental health, vision, physical, or other kind of disability, or a temporary injury, you are encouraged to contact [Student Disability Services](#) (SDS) at 865-974-6087 or [sds@utk.edu](mailto:sds@utk.edu). An SDS Coordinator will meet with you to develop a plan to ensure you have equitable access to this course. If you are already registered with SDS, please contact your instructor to discuss implementing accommodations included in your course access letter.

### **Accessibility Policy and Training – <http://accessibility.utk.edu>**

The University of Tennessee, Knoxville, provides reasonable accommodations for individual students with disabilities through its office of [Student Disability Services](#). The university is also committed to making information and materials accessible, when possible. Resources and assistance to support these efforts can be found at <http://accessibility.utk.edu/>.



**Wellness** – <http://wellness.utk.edu/> and <http://counselingcenter.utk.edu/>

The [Center for Health Education and Wellness](#) empowers all Volunteers to thrive by cultivating personal and community well-being. The Center can answer questions about general wellness, substance use, sexual health, healthy relationships, and sexual assault prevention. The [Student Counseling Center](#) is the university's primary facility for personal counseling, psychotherapy, and psychological outreach and consultation services.

Any student who has difficulty affording hygiene products, groceries, or accessing sufficient food to eat every day is urged to contact the [Big Orange Pantry](#) for support. The Big Orange Pantry, located in Greve Hall, is a free resource for all students, faculty, and staff, no matter how great or small their need is. Students who need emergency financial assistance can also request funding from the [Student Emergency Fund](#).

Students who are experiencing non-academic difficulty or distress and need assistance should call 974-HELP or [submit an online referral](#). The 974-HELP team specializes in aligning resources and support to students experiencing mental health distress.

**Emergency Alert System** – <http://safety.utk.edu/>

The University of Tennessee is committed to providing a safe environment to learn and work. When you are alerted to an emergency, please take appropriate action. Learn more about what to do in an emergency and sign up for [UT Alerts](#). Check the emergency posters near exits and elevators for building specific information. In the event of an emergency, the course schedule and assignments may be subject to change. If changes to graded activities are required, reasonable adjustments will be made, and you will be responsible for meeting revised deadlines.

## **COVID-19 Guidelines**

[CDC guidance](#) recognizes the changing dynamics of living in a world with COVID-19. It rates COVID-19 community levels as low, medium, and high, with recommendations at each level about the use of masks and other precautions. At all levels of community spread, staying up-to-date with vaccination is the best way to protect yourself from serious illness and to limit the spread of COVID-19. Wearing a mask is always an option for any individual who chooses to do so, and the CDC recommends that those with high risk of severe illness talk with their health care providers. If you are sick, please stay in, avoid being around others as much as possible, and contact your health care provider for any symptoms that are worsening, moderate to severe, or concerning to you. For more information about vaccination or to self-report an illness and receive support, visit <http://studenthealth.utk.edu/CommunityHealth>. For more information about COVID-19, visit <http://studenthealth.utk.edu/covid-19>.

## KEY CAMPUS RESOURCES FOR STUDENTS

- [974-HELP](#) (developed to help distressed or distressing students reach their academic goals and to help maintain a safe community and learning environment for all students)
- [Center for Career Development](#) (Career counseling and resources, HIRE-A-VOL job search system)
- [Computer Labs](#)
- [Course Catalogs](#) (Listing of academic programs, courses, and policies)
- [COVID-19 Information and Support](#) (Visit the site for a list of resources)
- [Herbert Virtual Learning Commons](#) (Academic support, tools for individual study, wellness resources, and study groups)
- [Hilltopics](#) (Campus and academic policies, procedures and standards of conduct)
- [Judith Anderson Writing Help Center](#) (Writing support, navigating the writing process, and writing guides)
- [OIT HelpDesk](#) (865) 974-9900
- [Schedule of Classes/Timetable](#)
- [Student Counseling Center](#) (Visit the site for a list of services)
- [Student Health Center](#) (Visit the site for a list of services)
- [Student Success Center](#) (Academic support resources)
- Study Spaces (Check out this [Map of Quiet Indoor and Outdoor Study Spaces on Campus](#) to learn where you can find a distraction-free spot to attend online classes.)
- [Undergraduate Academic Advising](#) (Advising resources, course requirements, and major guides)
- [University Libraries](#) (Access to library resources, databases, course reserves, and services)

**This document is subject to change at any time at the discretion of the instructor**

## COURSE SCHEDULE

In addition to the schedule provided below, the Canvas Calendar is a great way to view everything you have to do for all your courses in one place. Each calendar view shows any assignments or events that have been added.

Week	Date	Topics to be Covered	Suggested Reading / Assignments Due	
1	M	1/23	First day of class: Syllabus and Introductions	
	W	1/25	Crop Origins, Plant Classification, and Overview of Plant Structure	Ch. 10, pp. 210-228 Ch. 6, pp. 86-112
	F	1/27	Soils Overview	Ch. 5, pp. 69-83 Ch. 14, pp. 284-297 <b>Welcome Quiz</b>
2	M	1/30	Soil Fertility and Water	Ch. 12, pp. 257-266 Ch. 13, pp. 268-280 Ch. 14, pp. 297-309
	W	2/01	Intro to Agroecosystems, Temperate Ecosystems <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 2, pp. 19-34 Ch. 4, pp. 49-67
	F	2/03	Temperate and Semi-Arid Ecosystems <i>Dr. John Stier, Herbert College of Agriculture</i>	<b>Quiz 1</b>
3	M	2/06	Arid, Mediterranean, and Tropical Ecosystems <i>Dr. John Stier, Herbert College of Agriculture</i>	
	W	2/08	Annual Crop Production Systems	Ch. 16, pp. 362-386 Ch. 19, pp. 444-452
	F	2/10	Plant Breeding / Biotechnology Overview <i>Dr. Virginia Sykes, Department of Plant Sciences</i>	Ch. 9, pp. 176-178, 204-207; Ch. 10, p. 228
4	M	2/13	Rice <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 10, pp. 225-226 Ch. 17, pp. 403-406
	W	2/15	Maize <i>Dr. Dennis West, Department of Plant Sciences</i>	Ch. 10, pp. 224-225 Ch. 17, pp. 401-403 <b>Exam 1 Questions</b>
	F	2/17	Wheat <i>Dr. Dennis West, Department of Plant Sciences</i>	Ch. 10, p. 224 Ch. 17, pp. 410-411 <b>Quiz 2</b>
5	M	2/10	Grain Sorghum and Millets <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 17, pp. 406-407
	W	2/22	Sugar Cane and Sugar Beets <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 17, pp. 407-409
	F	2/24	<b>EXAM 1</b>	
6	M	2/27	Oil Crop Overview, Oil Palm <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 3, pp. 42-43 Ch. 17, pp. 411-413

	W	3/01	Olives, Peanuts <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 17, p. 413
	F	3/03	Soybeans <i>Dr. Vince Pantalone, Department of Plant Sciences</i>	Ch. 10, p. 226 Ch. 17, pp. 414-415
7	M	3/06	Cotton, Flax, Hemp <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 17, pp. 415-419
	W	3/08	Forages <i>Dr. John Stier, Herbert College of Agriculture</i>	Ch. 18, pp. 423-441 <b>Quiz 3</b>
	F	3/10	<i>Outdoor Lab: UTK Grow Lab</i>	<b>Case Study Report Draft</b>
8	<b>M</b>	<b>3/13</b>	<b>No Class - Spring Recess</b>	
	<b>W</b>	<b>3/15</b>	<b>No Class - Spring Recess</b>	
	<b>F</b>	<b>3/17</b>	<b>No Class - Spring Recess</b>	
9	M	3/20	Case Study Presentations	
	W	3/22	Case Study Presentations	
	F	3/24	Case Study Presentations	
10	M	3/27	Case Study Presentations Study Abroad Opportunities <i>Gracie Pekarcik, Smith Center for International Sustainable Agriculture</i>	<b>Case Study Report</b>
	W	3/29	Organic and Sustainable Practices <i>Dr. David Butler, Department of Plant Sciences</i>	Ch. 19, pp. 448-450 Ch. 20, pp. 492-494
	F	3/31	Soil-Borne Vegetables	Ch. 19, pp. 465-470
11	M	4/03	Fruiting Vegetables pt. 1	Ch. 19, pp. 453-457 <b>Quiz 4</b>
	W	4/05	Fruiting Vegetables pt. 2	Ch. 19, pp. 453-457
	F	4/07	Leafy Vegetables	Ch. 19, pp. 458-465
12	M	4/10	Tree Fruit Cultural Practices	Ch. 20, pp. 473-518
	W	4/12	Temperate Fruit Crops pt. 1	<b>Quiz 5</b>
	F	4/14	Temperate Fruit Crops pt. 2	
13	M	4/17	Nut Crops <i>Dr. David Lockwood, Department of Plant Sciences</i>	Ch. 26, pp. 669-686
	W	4/19	Subtropical Fruit Crops <i>Dr. David Lockwood, Department of Plant Sciences</i>	<b>Exam 2 Questions</b>
	F	4/21	Tropical Fruit Crops <i>Dr. David Lockwood, Department of Plant Sciences</i>	Ch. 21, pp. 520-528, 537-555 <b>Quiz 6</b>
14	M	4/24	Special Topics, TBD	
	W	4/26	Special Topics, TBD	
	<b>F</b>	<b>4/28</b>	<b>EXAM 2</b>	
15	M	5/01	Protected Culture and Controlled Environment Ag <i>Dr. Carl Sams, Department of Plant Sciences</i>	Ch. 19, pp. 444-452(72

	W	5/03	Technological Change in Crop Production	
	F	5/05	<i>Outdoor Lab: UTK Grow Lab</i>	
16	M	5/08	Future of Agriculture: Issues of Population, Cropland Adequacy, Water, Land Degradation, and Climate Change <i>Dr. John Stier, Herbert College of Agriculture</i>	<b>Quiz 7</b>
	M	5/15	<b><u>FINAL EXAM (5) 10:30 a.m. – 12:45 p.m.</u></b>	

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