

Tropical Cropping Systems

AGR 5277C / AGR 4932

Agronomy Department - University of Florida

Fall 2019

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- Class Schedule: Tuesday Period 7 (1:55 – 2:45pm), Thursday Periods 6-7 (12:50-2:45 pm)
- Location: McCarty A – room 3096
- Course Website: Canvas site; course material will be provided in class and via email
- Course Description: This **3 credit** course will provide students with a better appreciation of and competencies needed for a fundamental understanding of tropical cropping systems. Students will gain basic knowledge of the major tropical food crops (biology, production, and utilization), tropical environments and ecology, and tropical cropping systems. Cropping systems will be discussed within the context of agricultural development, focusing on current management practices, constraints to production, and food security. Historical and current models for rural agricultural development will also be discussed, including holistic approaches to crop production and the role of technology in tropical cropping systems.
- Course Objective: The objective of this course is to provide students with an understanding of tropical cropping systems using a multi-disciplinary approach covering a broad range of topics in the areas of agronomy, ecology, and the social sciences.
- Office Hours: By appointment – send email or see me after class to schedule a time.
- Class Attendance: Attendance is not mandatory for all lectures but students must be present for discussions of papers, presentations and guest lecturers as a portion of your grade will be based on participation.
*“Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.”*

Textbooks: No textbook required but students will be provided with assigned readings from various sources including websites, journal articles, reports of development organizations such as the FAO, World Bank and USAID.

Assessments and Grading: Exams (2 @ 30% each); home work (8%); country paper (12%); class participation (10%). Exam dates indicated in the Course Topical Outline section of this syllabus. Exam questions will come from in class readings, lecture notes, and discussions.

Course Grading Scale: For University of Florida grading policy see:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

The following grading scale will be used in this class.

A = 100-93% A- = 90-92.9%
B+ = 89.9-87% B = 86.9-83%
B- = 82.9-80 C+ = 79.9-77 %
C = 76.9 -73% C- = 72.9-70%
D+ = 69.9-67% D = 66.9-60%
E<60%

Course Evaluation: “Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.”

Student Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic Honesty

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report

any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Cell Phone, Laptop, etc. Policy

Please restrict the use of these devices for classwork while in class unless taking notes. Taking pictures of slides is strictly forbidden and considered an infringement of copyright.

UF Counseling Services and Student Resources

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575

University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>

Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.
- Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints Campus:
https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

Software Use

All faculty, staff and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

We, the members of the University of Florida, pledge to hold ourselves and peers to the highest standards of honesty and integrity.

General Outline and Class Schedule for Tropical Cropping Systems

<u>Lecture Topic</u>	<u>Date(s)</u>
Review course outline, syllabus, class format, assignments	August 20
Defining the Tropics, Farming Systems	August 22
Review of Crop Growth/Plant Basics	August 27
Field trip to Plant Science Research and Education Center	August 29
Climate, Water, Drought and Irrigation	September 3, 5
Genetic Resources – it’s all in the seed	September 10
Introduction to Crop Production – getting dirty...	September 12
Introduction to Soils	September 17
Tropical Soils – guest lecture Dr. Pedro Sanchez	September 19
Types of Cropping Systems, Intercropping/Relay/Multi	September 24
Biotic Stressors	September 26
Test 1	October 1
Social Implications and Gender Equality in Rural Agricultural Development – Guest Lecture - Dr. Mickie Swisher	October 3
In-class project - to be determined.....	October 8
Guest Lecture – Cropping Systems Dr. Michael Mulvaney	October 10
A Day at the Farm.....	October 15

IFAS Global – The role of UF in Ag Development Rose Koenig and Kathy Colverson	October 17
Biotic and Abiotic Stressors	October 22, 24
Tropical Crops – Grasses	October 29, 31
Tropical Crops – Legumes and other Pulses	November 5, 7
Tropical Crops –Root/Tubers Perennial/Fruit/Oil/Trees	November 12
Tropical Crops – Fiber, Specialty, etc.	November 14
Test 2 – Take Home, due 21	
Post-Harvest Losses – Guest Lecture Dr. Steve Sargent	November 19
Post-Harvest Contamination – Mycotoxins	November 21
Overview of Research and Outreach Systems In Development	November 26
Final Paper Due* (no class – Dr. MacDonald out of town)	December 3

**see next page*

Presentation and Paper Assignment

Each of you will choose a region/village/ecological area that you will be asked to develop an agricultural improvement plan. The paper should be 10-20 pages and have multiple written and web sources. You are asked to include the following topics:

- a. Brief history of agriculture and agricultural development
- b. Current agricultural production practices
- c. Climate using current models of temperature, rainfall patterns, etc.
- d. Soils data – maps, etc.
- e. Demographics and social implications and constraints to agricultural production
- f. What crops can be grown – must include a systems approach with.....
 - i. Agronomic crop – low value
 - ii. Horticultural crop – high value
 - iii. Perennial tree crop
 - iv. Livestock and/pasture systems
- g. Irrigation, fertility and pest limitations
- h. Market potential, including value added markets
- i. What is your strategy for agricultural development?