

## Tropical Cropping Systems - AGR 5277C

Agronomy Department

University of Florida

Fall 2020

- Instructor: Greg MacDonald  
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- Prerequisites: none, but a background in plant science or agriculture will be helpful
- 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: email or call anytime (352) 262-8393, you can text but identify yourself and I will return a text within a reasonable time, and not after 10 pm
- Class Schedule: This is an online course, but NOT a go-at-your-own-pace course. Students are expected to watch the lectures and complete the accompanying assignments during their assigned week (see schedule below). Weekly assignments (quizzes, discussion posts, etc.) will be due as denoted by the instructor.
- Class Participation: We will be a synchronous class, meeting on-line via Zoom or other platform at the regularly scheduled time of Tuesday Period 6 – 1:55 to 2:45pm and Thursday Periods 5 & 6 - 12:50 to 2:45pm. Students are expected to participate in online lectures and discussions of the course. ***These sessions may be audio visually recorded for students in the class to refer back and for enrolled students who***

***are unable to attend live. I will let students know if the session is to be recorded, and most likely we will not be recording sessions.***

Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

- Class Attendance:** 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.
- Grading System:** Exams (3 @ 20% each); home work (10%); country/issue paper (10%); 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.

<b>Point range (%)</b>	<b>Letter Grade</b>	<b>GPA Equivalent</b>
93.0 – 100	A	4
90.0 – 92.9	A-	3.67
87.0 – 89.9	B+	3.33
83.0 – 86.9	B	3
80.0 – 82.9	B-	2.67
77.0 – 79.9	C+	2.33
73.0 – 76.9	C	2
70.0 – 72.9	C-	1.67
67.0 – 69.9	D+	1.33

63.0 – 66.9	D	1
60.0 – 62.9	D-	0.67
< 60	E	0

**Course Evaluation:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

**Student Disabilities:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **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:**

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu](http://www.counseling.ufl.edu)*
  - *Counseling Services*
  - *Groups and Workshops*
  - *Outreach and Consultation*
  - *Self-Help Library*
  - *Wellness Coaching*
- *U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)*
- *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](mailto: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: <http://www.distance.ufl.edu/student-complaint-process>

**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.

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**General Outline and Class Schedule for  
Tropical Cropping Systems**

<b><u>Lecture Topic</u></b>	<b><u>Date(s)</u></b>
Review course outline, syllabus, class format, assignments	September 1
Defining the Tropics, Farming Systems	September 3
Review of Crop Growth/Plant Basics	September 8
School Feeding – Farm and Garden	September 10
Climate, Water, Drought and Irrigation	September 15, 17
Genetic Resources – it’s all in the seed	September 22, 24
Introduction to Soils	September 29
<b>Tropical Soils – guest lecture Dr. Pedro Sanchez</b>	<b>October 1</b>
<b>Test 1</b>	<b>Due October 6</b>
Biotic Stressors	October 6, 8
<b>Social Implications and Gender Equality in Rural Agricultural Development – Guest Lecture - Dr. Mickie Swisher</b>	<b>October 13</b>
School Feeding Project	October 15
Multi/Relay/Double Systems	October 20

## **Guest Lecture – Cropping Systems**

**Dr. Michael Mulvaney**

**October 22**

### **Test 2**

**Due October 27**

Tropical Crops – Grasses

October 27, 29

Tropical Crops – Legumes and other Pulses

November 3, 5

Tropical Crops –Root/Tubers Perennial/Fruit/Oil/Trees

November 10, 12

Tropical Crops – Fiber, Specialty, etc.

November 17, 19

### **Test 3**

**Due November 24**

## **Post-Harvest Losses – Guest Lecture**

**Dr. Steve Sargent**

**November 24**

Post-Harvest Contamination – Mycotoxins

December 1

\*Final Presentations and Paper (due Dec 8)

December 3, 8

*\*see below*

## **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?