

COURSE NAME; NUMBER; SEMESTER; MEETING DAYS, TIMES, AND PLACE.

Tropical Agricultural Systems

11-020-492; Spring 2017

Monday/Wednesday

Time: First Period: 9.15-10.35 am

Location: Foran Hall Room 191B

CONTACT INFORMATION:

Instructor: Albert Ayeni

Office Location: Foran Hall Rm 268

Phone: 848-932-6289

Email: ayeni@sebs.rutgers.edu

Office Hours: Monday/Wednesday 11.00 am -1.00 pm

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Sakai is the primary mode of communication in this course. Class lectures, announcements and Q&A will be posted regularly throughout the semester
- **Required and Recommended Course materials:** Multiple sources of information will be used in this course including Reputable Internet websites, Rutgers Libraries, country embassies, United Nations Agencies including the FAO, WHO, UNDP, UNESCO, etc.; U.S. State Department, CIA Factbook, personal interviews, etc.

COURSE DESCRIPTION:

Tropical Ag Systems (TAS) is a capstone, integrative educational experience for students concluding their undergraduate studies, enabling them to synthesize information and techniques gained in previous courses. Working cooperatively with peers who have different capabilities and interests and using the case study method, the students in this course devise creative, interdisciplinary solutions to multifaceted problems in the college's mission areas.

As an agricultural and plant science elective, undergraduate and graduate students learn about the tropical systems in which people interact with cropping systems, animals and other components of the food system.

This is an experiential learning course. The organizing theme is a holistic systems approach to evaluating and understanding agricultural and environmental issues in the tropical world. Teams of students will be formed and will be the basis for most course activities and grade evaluation. ***Food Security is the central theme for the Tropical Ag Systems course***

LEARNING GOALS:

1. Learn the concept of learning styles and mind map applications in human systems analysis
2. Learn the distinctive characteristics and attributes of Tropical Agriculture and Food Systems
- 3 Understand the status of Agriculture and Food in the tropics and the interacting factors especially people, climate and the environment
4. Develop an appreciation for the value of working in groups and interacting with peers from different backgrounds

ASSIGNMENTS/RESPONSIBILITIES & ASSESSMENT:

- Working as a team, in consultation with the Instructor, student teams will study in depth and analyze the Ag/Food System of a country/region in Tropical Africa, Tropical America, or Tropical Asia. The team will focus in large part on the current agricultural and environmental conditions in the chosen country/region. In the oral presentation and critiques (45% of total score) student teams will examine food production, marketing and distribution systems; population, the nutrient status of the people, health issues, cultural aspects, and the other components of the Ag/Food System. In each case study, the team will describe the state of Ag/Food of the country/region, itemize various interrelated, interdependent or interacting elements in the Ag/Food system and describe the role of each element in the whole system. The significance and challenges of each element of the Ag/Food system described are to be clearly shown in the presentation, using appropriate facts, figures and data as necessary. The team will also discuss the opportunities created by the challenges identified in each of the Ag/Food Systems considered and explore what interventions (locally and/or internationally derived) could facilitate problem solving in the chosen Ag/Food System. Finally, the team will discuss what potential role the team (individually or as a group) may play to add value to the Ag/Food System considered if given the opportunity to intervene.
- Assessment: Summaries and critiques of class presentations throughout the semester (15%); Critiques of end-of-semester Team presentations (15%); Team (power point) presentation on the Agriculture and Food Systems of a chosen tropical country or region (30%); End of semester Take Home Exam (30%); Class participation (attendance and contribution to class discussions) (10%)

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

ABSENCE POLICY

Class attendance is required in this course. A student may miss up to a maximum of three classes without special permission or reason. Any subsequent absences without a reason attested by a recognized Rutgers authority will attract penalty by way of losing scores attached to class participation up to a maximum of 10% of total score for the course. If you expect to miss more than three classes throughout the semester, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

COURSE SCHEDULE:

- The Tropics: Definition, Geography, Environment, Climate and People
- Learning styles & mind map as useful concepts for systems analysis

- Tropical Agricultural Systems: Description of interacting factors, esp. humans, climate and the environment
- Team work for class presentation (semester-long exercise)
- Invited lectures with focus on factors that affect Food Security in the tropics including: Biotechnology, Climate Change, Culture, Department of Agriculture (APHIS), Education, Gender, Governance, Human Health/Environmental Protection, Information/Communication Technology, Technology and Technology Transfer, etc.
- Class presentation

FINAL EXAM/PAPER DATE AND TIME

A final take home exam (30% of the score for the course) due on the last day of class will be handed out to students a week to the end of class.

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Tropical Agricultural Systems 11:020:492

A Junior/Senior Colloquium and an Agricultural and Plant Science Elective

2017 (Tentative) Course Outline

Classes: Monday/Wednesday First Period - 9.15-10.35 Foran Hall 191B

Instructor: Albert Ayeni (Foran Hall, Room 268, T: 848-932-6289; E: ayeni@aesop.rutgers.edu)

| Class # | Date | Description |
|--|---------|---|
| Module 1: Understanding the Major Components of Tropical Ag Systems | | |
| 1 | Jan 18 | Course introduction, requirements, learning goals and grading. Some definitions including the Tropics; the concept of Systems |
| 2 | Jan. 23 | Elements of Tropical Ag/Food Systems. Student learning team formation initiated Country/region selections for class assignment and final team presentations initiated |
| 3 | Jan 25 | Tropical Regions: Geography & Climate Mind map development is introduced, Information gathering system is described. |
| 4 | Jan 30 | Team assignment (Impact of Geography and Climate on Agriculture in selected countries/regions) |
| 5 | Feb 1 | Tropical Regions: Vegetation & Soils Student team meeting and Mind Map development contd |
| 6 | Feb 6 | Team presentation (Geography and Climate Impact on Agriculture in the tropics) and Team assignment (How Vegetation and Soils impact Agriculture) |
| 7 | Feb 8 | Tropical Regions: Water & Human resources |
| 8 | Feb 13 | Team Presentation (How Vegetation and Soils impact Agriculture) and Team Assignment (How Water and Culture impact Agriculture) |
| 9 | Feb 15 | Tropical Regions: Farming and Agricultural Systems; the Food System Model. |
| 10 | Feb 20 | Team presentation (How Water and Culture impact Agriculture) and Mind map assignment |
| Module 2: Major Tropical Crops & Livestock; and Major Factors that Impact the Tropical Ag Systems | | |
| 11 | Feb 22 | Major tropical crops: Arable crops (Cereals, Legumes, Tubers) |
| 12 | Feb 27 | Livestock and Land issues: Africa Land Rush visit: http://www.businessweek.com/magazine/content/09_49/b4158038757158.htm and http://www.idrc.ca/EN/Documents/LandSeries-IDRC-English-web.pdf Accessed 01/12/2015 |
| 13 | Mar 1 | Major tropical crops: Vegetables |

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| 14 | Mar 6 | Invited Speaker: <u><i>Impact of geoengineering (or small nuclear war) on food production</i></u> Class assignment: Report of speaker's presentation |
| 15 | Mar 8 | Major tropical crops: Fruits Groups meet to develop Mind Map on Class Presentation; Give Mind Map presentation on intended topic for Class presentation; |
| Mar11-19: Spring Break | | |
| 16 | Mar 20 | Invited Speaker: <u><i>Gender role in Food Security for the Tropics: Some Case studies</i></u> Class assignment: Report of speaker's presentation |
| 17 | Mar 22 | Major tropical crops: Industrial crops |
| 18 | Mar 27 | Invited Speaker - <u><i>Environmental Health and Impact on Food Security in the Tropics</i></u> Class assignment: Report of speaker's presentation |
| 19 | Mar 29 | Invited Speaker - <u><i>Impact of Information & Communication Technology on Food Security in the Tropics.</i></u> Class assignment: Report of speaker's presentation |
| 20 | Apr 3 | Invited Speaker - <u><i>Biotech Crops and Impact on Food Security in the Tropics.</i></u> Class assignment: Report of speaker's present |
| 21 | Apr 5 | Invited Speaker: <u><i>The Role of APHIS in the Tropical World & exotic tropical fruits - Bob Tracy, APHIS, USDA</i></u> Class assignment: Report of speaker's presentation |
| 22 | Apr 10 | Invited Speaker: Technology and Technology Transfer in tropical Agriculture Class assignment: Report of speaker's presentation |
| 23 | Apr 12 | Invited Speaker: Education and Food Security in the Tropics Class assignment: Report of speaker's presentation |
| 24 | Apr 17 | Invited Speaker: Culture and Agriculture in the Tropics; Hand out Take Home Exam; Class assignment: Report of speaker's presentation |
| 25 | Apr 19 | Greenhouse tour |
| 26 | Apr 24 | Class presentation: Groups 1 & 2; Presentation critique |
| 27 | Apr 28 | Class presentation: Groups 3 & 4; Presentation critique |
| 28 | May 1 | Deadline for Submission of Take Home Exam |