

Course Syllabus - ACCEPtS

PSS 8123 – Sustainable Agroecology (Three Credits) – Spring semesters

Instructor: TBA

Office: Dorman Hall 104

Phone: 662-325-2311

Email: TBA

Course description: Crop Ecology involves the study of interactions between crops and abiotic and biotic environments. Emphasis will be placed on quantitatively examining theory and principles for production, stability, and sustainability of agricultural ecosystems. Course content is intended to encourage student advancement in literacy, numeracy, written and oral communication, and independence of thought.

Course objective: The ultimate goal of the course is for students to be able to use tools of crop ecology to come up with new ways to address the ever-changing challenges of agricultural production.

Expected Learning Outcomes:

A student completing this course is expected to be able to:

- Describe how plant adaptations to environment affect crop selection, growth, and yield
- Describe crop responses to radiation quality, quantity, and photoperiod.
- Describe plant adaptation and acclimation to temperature.
- Explain crop adaptation and acclimation to precipitation.
- Outline crop interactions with pests.
- Quantify services provided by agroecosystems including food, fiber, and fuel production, water quantity and quality, nutrient cycling, climate regulation and biodiversity.
- To use the tools of crop ecology to develop new ways to address the ever-changing challenges of agricultural production.

Class Schedule: Online.

Office Hours: Generally, before class is the best time to meet with the instructor. I am available at other times and I strongly encourage you to schedule an appointment with me if you need any assistance or clarification of course content.

Course Textbook: I will be using the following textbook throughout the semester for this class:

“Agroecology: The Ecology of Sustainable Food Systems” by Stephen R. Gliessman, 3rd edition.
CRC Press, 2015

I would strongly encourage every student to have a copy of this book by the start of class. I will also be using the following book as a resource:

“Crop Ecology: Productivity and Management in Agricultural Systems” by D. J. Conner, R.S. Loomis, and K.G. Cassman. Cambridge University Press, 2011.

Instructional Approach: Dr. Phillips will present the majority of all instructional content. If you are having difficulty with the course or need assistance, do not wait until late in the semester to contact the

instructor. The sooner we begin to address the problem, the more likely you will receive a satisfactory outcome.

Exams will be given during lecture period as scheduled in your syllabus. They will emphasize material covered in the syllabus, but some material on each exam will be comprehensive. Exams will be closed book and any necessary formulas or equations will be provided on the exam. You will be expected to complete each exam in the time designated.

Attendance: Student class attendance will be noted. Students are responsible for all material covered in lecture and all assigned materials. Attendance is important in mastering the course content and there will be no make-up exams or in-class assignments except for excused absences. Make-up work should be arranged prior to the excused absence if possible (i.e., university sanctioned events), or immediately upon the student's return to class for unexpected excused absences (e.g., illness or death in the immediate family).

Class time/organization: This class is administered online. Mississippi State University's MyCourses (Blackboard) will be used as the course management system and those students at other ACCEPtS Universities will be provided a MSU NetID to access MyCourses system. All course materials necessary for this class will be posted on MyCourses. Lectures are recorded and stored on MyCourses; lecture topics are provided on a weekly basis. Students are responsible for following posted lectures, quizzes and assignments each week. All quizzes and exams will also be administered through MyCourses unless otherwise specified. You will need your MSU NetID to access MyCourses. If you have difficulties logging in, you can get help through the IT Help Desk <http://www.its.msstate.edu/Services/report-problem.php> or (662) 325-0631.

Grading: There will be a total of 600 points for the class. Exams will constitute 500 of the 600 points. A written paper assignment will count an additional 100 points and will be due prior to the end of the semester. The grade of the assigned paper will be reduced by 5% in credit for each day it is late.

Students attaining the following percentages are guaranteed at least the following grade:

Grading scales

<u>Grade</u>	<u>MSU, OSU, UArk</u> <u>Undergraduate</u>	<u>LSU</u> <u>Undergraduate and Graduate</u>
A+	90.0 – 100%	97.0 – 100%
A		94.0 – 96.9%
A-		90.0 – 93.9%
B+	80.0 – 89.9%	87.0 – 89.9%
B		84.0 – 86.9%
B-		80.0 – 83.9%
C+	70.0 – 79.9%	77.0 – 79.9%
C		74.0 – 76.9%
C-		70.0 – 73.9%
D+	60.0 – 69.9%	67.0 – 69.9%
D		64.0 – 66.9%
D-		60.0 – 63.9%
F	Below 59.9%	Below 59.9%

Paper Assignment requirements:

The writing assignment for this class will be comprised of three parts which will be combined into one final paper for submission. You will be required to write a Literature Review on a Crop Ecology problem. The Literature Review will be composed of 1) Abstract, 2) Introduction, and 3) Review of Literature.

All papers should be double-spaced with 1 inch margins on all sides in a 12pt or equivalent font. You are expected to carefully proof your papers for grammar and spelling. A copy of the papers you turn in will be retained for my records.

Due dates for the papers are posted on MyCourses and must be turned in by 11:59pm on the day they are due. The grade of the assigned paper will be reduced by 5% in credit for each day it is late unless arrangements have been made with the instructor before the due date.

Other Important Notes:

Students should plan to set aside specific study times for this class. Students who are most successful with this type of class typically have established times that they devote to the class. Don't wait until the day before assignments and quizzes are due to study the content. Students should be sure to stay on schedule.

Examinations will be proctored by the student's home institution. Students will be notified as to the date, time and location of the examinations.

Any student found to be using unauthorized materials during an examination (e.g. notes, text, cell phones, etc.) not specifically permitted by the instructor or found assisting other students during examinations will receive a grade of "0" for that examination and may be subject to further disciplinary actions by the University.

If you need an accommodation due to a disability, please make arrangements to discuss this with me during the first two weeks of class.

We will follow each University's inclement weather policy in regard to the written examinations. However, weather will not affect the schedule for learning units and self-exams. Students know the schedule in advance and should plan accordingly.

Tentative Schedule and topics covered.

Week 1: Introduction to Agroecology

- Case for Fundamental Change in Agriculture
- Agroecology and the Agroecosystem Concept
- Exam I

Week 2: Plants and Abiotic Factors in the Environment

- The Plant
- Light

Week 3: Plants and Abiotic Factors in the Environment, continued

- Temperature
- Humidity and Rainfall

Week 4: Plants and Abiotic Factors in the Environment, continued

- Wind
- Soil
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Week 5: Plants and Abiotic Factors in the Environment, continued

- Water in the Soil
- Fire
- Exam II

Week 6: The Complete Autecological Perspective

- Biotic Factors
- The Environmental Complex

Week 7: The Complete Autecological Perspective

- Heterotrophic Organisms
- System-Level Interactions
 - Population Ecology of Agroecosystems
- Exam III (The Complete Autoecological Perspective)

Week 8: System Level Interactions

- Genetic Resources in Agroecosystems
- Species Interactions in Crop Communities

Week 9: System Level Interactions

- Agroecosystem Diversity
- Disturbance, Succession, and Agroecosystem Management

Week 10: System Level Interactions

- Animals in Agroecosystems
- Energetics in Agroecosystems

Week 11: System Level Interactions

- Landscape Diversity
- The Transition to Sustainability
 - Converting to Ecologically Based Management
- Exam IV (System Level Interactions)

Week 12: The Transition to Sustainability, continued

- Indicators of Sustainability
- The Sustainable World Food System
 - Agriculture, Society, and Agroecology
- Exam V (The Transition to Sustainability)

Week 13: The Sustainable World Food System, continued

- Community and Culture in Remaking of the Food System
- From Sustainable Agroecosystems to a Sustainable Food System

Week 14: The Sustainable World Food System

- Exam VI (The Sustainable World Food System)
- Topical Paper Due

Week 15- Final Exam - to be announced

HONOR CODE and POLICIES: All students will adhere to the Honor Code and associated policies as outlined by Mississippi State University. If special considerations/requests are needed by a student in this course, Dr. Phillips should be informed in a timely manner for making the necessary arrangements.

Mississippi State has an approved Honor Code that applies to all students. The code is as follows: "As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do." Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Student will be

required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information, please visit:
<http://honorcode.msstate.edu/policy>.

Title IX

MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to titleix@msstate.edu. Additional resources are available at <http://www.msstate.edu/web/security/title9-12.pdf>, or at <http://students.msstate.edu/sexualmisconduct/>.

Student Support Services

Students who need academic accommodations based on a disability should visit the Office of Student Support Services, 01 Montgomery Hall, call 662-325-3335, or visit the website at www.sss.msstate.edu. If you have a documented disability that requires academic accommodations, please notify the instructor as soon as possible. In order to receive accommodations in this course, you must provide a Letter of Accommodation from Student Support Services for coordination of campus disability services available to students with disabilities.