

Agriculture and Environmental Quality

ALS 3133 (Online) – Spring 2021

Instructors

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Teaching Assistant:

TBD

Office Hours: MTW 10:45-11:45 am or by appt.

Class Meetings: Asynchronous Lectures with Weekly Zoom Chat Sessions on Wed 5:30-6:30 pm EST

Prerequisites: None

Course Website is through E-Learning via **Canvas:** <http://elearning.ufl.edu/>

Overview

Analysis of the effects of agriculture on environmental quality with emphasis on agricultural wastes and practices, the potential for using agricultural systems for disposal of other wastes and the effects of pollution on the agricultural environment. Topics covered include: Soil characterization and erosion/leaching, non-point source pollution, best management practices, land application of biosolids and organic wastes, bioenergy, pesticides, and wetlands.

Course Description and Statement of General Education Purpose

Understanding agriculture's role in the environment and in our lives is integral to the overall educational experience. This course is intended for all majors to acquaint students to agricultural practices and their effect on environmental quality, and to demonstrate how agricultural scientists are attempting to minimize agricultural pollution and sustain food production adequate for the world's population. This course should be of significant value to those students who will be involved in the management of agricultural production and processing industries as well as to those with a special interest in agricultural pollution control and plan further study in this area.

This course introduces students to the science behind agriculture emphasizing the chemical and biological significance of soils and microorganisms. Agriculture has had a large impact on changing landscapes and water resources in both quantity and quality. Course topics include point and nonpoint source pollution, the Clean Water Act, wetlands, bioenergy, food waste and pesticides. Students will examine the nitrogen, phosphorus, and carbon cycles, and determine application rates for nutrient management. Agriculture is also being called upon to receive wastes produced by modern society. The students will study the wastewater treatment process and the use of biosolids and reclaimed water in agriculture. Students will scrutinize the benefits and the challenges that renewable energy (biomass) poses for agriculture and our environment.

Written homework assignments and discussions will provide a basis for critical evaluation of historical and current agricultural issues. Students will gain an understanding of the importance of well managed agriculture and provide a foundation upon which they can formulate and articulate views relative to agricultural issues and the environmental pressures which continue to increase.

Objectives

1. Promote student knowledge of the role of agriculture in environmental processes both historically and as part of the solution to current environmental issues.
2. Provide students with a scientific basis for understanding the movement of water and nutrients through the environment and evaluating water availability and water quality issues.
3. Provide a fundamental understanding of best management practices and the role that they play in minimizing water, nutrient and pesticide usage.
4. Provide a basic understanding of major nutrient cycling and the role of organic matter and microorganisms in these cycles.

Student Learning Objectives

- Predict the movement of nutrients and pesticides based on soil characteristics
- Sketch the nitrogen and phosphorus cycles and identify transformations in each
- Select best management practices suitable for Florida agriculture
- Assess the environmental benefits and problems associated with biofuels
- Describe the components of a basic nutrient management plan
- Compare aerobic and anaerobic composting techniques
- Critique the use of biosolids and reclaimed water in agricultural and residential settings
- Discuss current issues with the production and disposal of animal wastes and food wastes

Basic Course Requirements

- A. Exams consist of short answer, definitions, multiple choice, and true/false questions. Study guides and review sessions will be provided prior to each exam.
- B. Homework will address current and historic topics in agriculture as it relates to the environment as well as basic assignments related to class lectures.
- C. Discussion topics will be available for each module. Students are expected to contribute to the discussions on a regular basis.

No Textbook: Readings are provided through E-Learning to address topical issues of agriculture.

Grading:

Exams	35%
Assignments	35%
Discussions	10%
Quizzes	10%
Participation	10%
TOTAL	100%

The following grading scale will be used:

A	100-91.0 %	B	86.99-82.0	C	76.99-72.0	D	66.99-62.0
A-	90.99-90.0	B-	81.99-80.0	C-	71.99-70.0	D-	61.99-60.0
B+	89.99-87.0	C+	79.99-77.0	D+	69.99-67.0	E	<60

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Assignments: Homework assignments are submitted through Canvas. Late work will lose 10% of total points each day and will NOT be accepted after 3 **calendar** days.

Course Participation/Discussions: **Attendance is taken through weekly (1) surveys and (2) quizzes associated with the Friday “Flipped” Materials.** The surveys are questions from lecture materials (i.e. “Lecture questions”) that week. The Friday flipped quizzes are primarily from the videos and readings associated with Friday’s Flipped Class but can incorporate lecture materials and questions. Regarding the **“Lecture questions”**, these questions will also be provided for each module. These questions will be answered during the lectures that week and prepare you for the quizzes and exams; therefore, watching the recorded videos for Monday and Wednesday lecture is required.

Discussion topics will be provided in each module. **ALL** students are required to submit a response to these questions as well as respond to at least 2 other student posts within 2 days of due date. For example: Your response to the discussion prompt is **REQUIRED** by the **DUE DATE** on the assignment. You will then have 2 additional days to read other student posts and respond to them. Two complete responses are required for full

points, additional responses (minimum 5) may result in additional credit.

Exams: Grades will be based on your best 3 of 4 exam grades. If you miss an exam, that exam will be considered your drop. No makeup exams will be given without prior consent.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

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>.

Topic Schedule – Deadlines and Due Dates (these may be adjusted as the semester progresses)

Attendance is taken on Monday’s and Wednesday’s materials. Friday’s attendance is through a Flip check *due on Friday*.

COURSE MATERIAL	ACTION	DAY, WEEK	TIME
INTRODUCTION – First Day of Course	Begin	Monday (1/11), Week 1	9:35 A.M.
Syllabus FAQ Quiz (in Canvas)	<i>Due</i>	Tuesday, Week 2	11:59 PM
Module 1 - Agriculture and the Soils of Florida	Begin	Monday, Week 1	9:35 A.M.
<i>Discussion #1 - Your Response</i>	<i>Due</i>	Wednesday, Week 2	11:59 PM
<i>Discussion #1 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 2	11:59 PM
Module Assignment 1	<i>Due</i>	Wednesday, Week 3	9:35 A.M.
<i>Complete Quiz 1</i>	<i>Due</i>	Thursday, Week 3	9:35 A.M.
<i>Flip Check Weeks 1-3</i>		Friday, Week 1, 2 & 3	11:59 PM
Module 2 - Nonpoint Source Pollution and BMPs	Begin	Monday, Week 4	9:00 A.M.
<i>Discussion #2 - Your Response</i>	<i>Due</i>	Wednesday, Week 4	11:59 PM
<i>Discussion #2 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 4	11:59 PM
Flip Check BMPs	<i>Due</i>	Friday, Week 4	11:59 AM
Module Assignment 2	<i>Due</i>	Wednesday, Week 5	9:35 A.M.
<i>Complete Quiz 2</i>	<i>Due</i>	Thursday, Week 5	9:35 A.M.
Flip Check Aquifers & Springs	<i>Due</i>	Friday, Week 5	11:59 AM

COURSE MATERIAL	ACTION	DAY, WEEK	TIME
Exam 1 – in class		Wednesday, Week 6	9:35 A.M.
Module 3 - Nutrient Management – N & P Cycles	Begin	Monday, Week 6	9:35 A.M.
<i>Discussion #3 - Your Response</i>	<i>Due</i>	Wednesday, Week 6	11:59 PM
<i>Discussion #3 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 6	11:59 PM
Flip Check N & P cycle	<i>Due</i>	Friday, Week 6	11:59 AM
Module Assignment 3	<i>Due</i>	Wednesday, Week 7	9:35 A.M.
<i>Complete Quiz 3</i>	<i>Due</i>	Thursday, Week 7	9:35 A.M.
Module 4 – Carbon Cycle and Organic Wastes	Begin	Friday, Week 7	9:35 A.M.
Flip Check Organic Wastes	<i>Due</i>	Friday, Week 7	11:59 PM
<i>Discussion #4 - Your Response</i>	<i>Due</i>	Wednesday, Week 8	11:59 PM
<i>Discussion #4 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 8	11:59 PM
Flip Check Biosolids	<i>Due</i>	Friday, Week 8	11:59 AM
Flip Check Virtual Tour of Water Reclamation Facility	<i>Due</i>	Friday, Week 9	11:59 AM
Module Assignment 4	<i>Due</i>	Wednesday, Week 9	9:35 A.M.
<i>Complete Quiz 4</i>	<i>Due</i>	Thursday, Week 9	9:35 A.M.
Exam 2 – in class		Wednesday, Week 10	9:35 A.M.
Module 5 - Land application of wastes	Begin	Monday, Week 10	9:35 A.M.
<i>Discussion #5 - Your Response</i>	<i>Due</i>	Wednesday, Week 10	11:59 PM
<i>Discussion #5 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 10	11:59 PM
Flip Check Reclaimed Water	<i>Due</i>	Friday, Week 10	11:59 AM
Flip Check UF Seep	<i>Due</i>	Friday, Week 11	11:59 AM
Module Assignment 5	<i>Due</i>	Wednesday, Week 11	9:35 A.M.
<i>Complete Quiz 5</i>	<i>Due</i>	Thursday, Week 11	9:35 A.M.
Module 6 - Wetlands and Bioenergy	Begin	Monday, Week 12	9:35 A.M.
<i>Discussion #6 - Your Response</i>	<i>Due</i>	Wednesday, Week 12	11:59 PM
<i>Discussion #6 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 12	11:59 PM
Flip Check Bioenergy	<i>Due</i>	Friday, Week 12	11:59 AM
Module Assignment 6	<i>Due</i>	Wednesday, Week 13	9:35 A.M.
<i>Complete Quiz 6</i>	<i>Due</i>	Thursday, Week 13	9:35 A.M.
Module 7 -Integrated Pest Management	Begin	Friday, Week 13	9:35 A.M.
Flip Check IPM	<i>Due</i>	Friday, Week 13	11:59 PM
<i>Discussion #7 - Your Response</i>	<i>Due</i>	Wednesday, Week 14	11:59 PM
<i>Discussion #7 - Respond to at least 2 other students</i>	<i>Due</i>	Friday, Week 14	11:59 PM
Assignment 7	<i>Due</i>	Wednesday, Week 14	11:59 PM
<i>Complete Quiz 7</i>	<i>Due</i>	Thursday, Week 14	11:59 PM
Exam 3 – in class		Monday, Week 15	
Exam 4 – in class	12:30 PM – 2:30 PM	Thursday, Week 16	

COVID Response: Our class sessions and chat sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. 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.

Online Course Evaluation Process: 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. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>.

Software Use: All faculty, staff and students of the university 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.

Services for Students with 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, <https://disability.ufl.edu/>

Campus Helping 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/*
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>.
- Student Success Initiative, <http://studentsuccess.ufl.edu>.
- Student Complaints, Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/>