Agriculture and Environmental Quality
ALS 3133 – Summer 2018

Instructor
Susan Curry
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352-294-3147
2163 McCarty Hall A

Teaching Assistant
Office Hours: TBD

Credits: 3
Prerequisites: None
Course Website is through E-Learning via Canvas: http://elearning.ufl.edu/

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

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  
Solve for nutrient application rates given specific cropping/source scenarios  
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**
1. Exams consist of short answer, definitions, multiple choice and true/false questions. Study guides and review sessions will be provided prior to each exam.
2. Homework will address current and historic topics in agriculture as it relates to the environment as well as basic assignments related to class lectures.
3. Discussion topics will be available for each module. Students are expected to contribute to the discussions on a regular basis.

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

**Grading:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exams</td>
<td>40%</td>
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<tr>
<td>Course participation/discussions</td>
<td>15%</td>
</tr>
<tr>
<td>Homework/Assignments</td>
<td>35%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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No makeup exams will be given without prior consent.

**ON-Campus section** - **attendance is required to fulfill 5% of the 15% Course participation.** Lecture questions will be provided prior to the commencement of each lecture. These questions should be answered during the course of the lecture, therefore, attendance is required. Students may miss 6 lecture question assignments without penalty.

**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 responses 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, 3 additional thoughtful responses will result in additional credit.

**Homework/Assignments**
Homework submissions: Submission of assignments is expected on time. Homework assignments are due in class or submitted through the Canvas site. Late work (including discussions) will lose 25% of total points each day and will NOT be accepted after 3 calendar days.

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/ugrad/current/regulations/info/attendance.aspx](https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx).
The following grading scale will be used:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Grade</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>100-92.0 %</td>
<td>C</td>
<td>76.9-72.0</td>
</tr>
<tr>
<td>A-</td>
<td>91.9-90.0</td>
<td>C-</td>
<td>71.9-70.0</td>
</tr>
<tr>
<td>B+</td>
<td>89.9-87.0</td>
<td>D+</td>
<td>69.9-67.0</td>
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<tr>
<td>B</td>
<td>86.9-82.0</td>
<td>D</td>
<td>66.9-62.0</td>
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<tr>
<td>B-</td>
<td>81.9-80.0</td>
<td>D-</td>
<td>61.9-60.0</td>
</tr>
<tr>
<td>C+</td>
<td>79.9-77.0</td>
<td>E</td>
<td>&lt;60</td>
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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)

**ALL ASSIGNMENTS IN ALS 3133 ARE DUE AT 11:59 PM (EST) ON THE DUE DATE**

<table>
<thead>
<tr>
<th>COURSE MATERIAL</th>
<th>ACTION</th>
<th>DUE DATE</th>
<th>TIME</th>
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<tbody>
<tr>
<td><strong>INTRODUCTORY</strong> Syllabus Quiz</td>
<td>Begin</td>
<td>Monday, July 2, 2018</td>
<td>9:30 AM</td>
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<tr>
<td>Syllabus FAQ Quiz (in Canvas)</td>
<td>Due</td>
<td>Friday, July 6, 2018</td>
<td>11:59 PM</td>
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**Module 1 - Agriculture and the Soils of Florida**

**Begin** Monday, July 2, 2018 9:00 A.M.

- **View Module 1 Lectures: Course Overview and Soils Review**
- **Discussion #1 - Your Response** Due Tuesday, July 3, 2018 11:59 PM
- **Discussion #1 - Respond to at least 2 other students** Due Thursday, July 6, 2018 11:59 PM
- **Module 1 Assignment** Due Friday, July 6, 2018 11:59 PM
- **Complete Quiz 1** Due Monday, July 9, 2018 11:59 PM

**Module 2 - Nonpoint Source Pollution and BMPs**

**Begin** Friday, July 6, 2018 9:00 A.M.

- **View Module 2 Lectures:** Nonpoint Source Pollution & Best Management Practices
- **Discussion #2 - Your Response** Due Tuesday, July 10, 2018 11:59 PM
- **Discussion #2 - Respond to at least 2 other students** Due Thursday, July 12, 2018 11:59 PM
- **Module 2 Assignment** Due Friday, July 13, 2018 11:59 PM
- **Complete Quiz 2** Due Monday, July 16, 2018 11:59 PM

**Test 1 - 7/13/2018**

**Module 3 - Nutrient Management - N, P, & C Cycles**

**Begin** Friday, July 13, 2018 9:00 A.M.

- **View Module 3 Lectures: Nutrient Management, Nitrogen, Phosphorus & Carbon Cycles**
- **Discussion #3 - Your Response** Due Tuesday, July 17, 2018 11:59 PM
- **Discussion #3 - Respond to at least 2 other students** Due Thursday, July 19, 2018 11:59 PM
- **Module 3 Assignment: Nitrogen and Phosphorus Cycles** Due Thursday, July 19, 2018 11:59 PM
- **Complete Quiz 3** Due Friday, July 20, 2018 11:59 PM

**Module 4 - Organic Wastes, Composting & Land App.**

**Begin** Friday, July 20, 2018 9:00 A.M.

- **View Module 4 Lectures:** Organic Wastes, Composting, Biosolids and Land Application
- **Discussion #4 - Your Response** Due Tuesday, July 23, 2018 11:59 PM
- **Discussion #4 - Respond to at least 2 other students** Due Thursday, July 26, 2018 11:59 PM
- **Module 4 Assignment:** Due Thursday, July 26, 2018 11:59 PM
- **Complete Quiz 4** Due Friday, July 27, 2018 11:59 PM

**Test 2 - 3/21/2018**
<table>
<thead>
<tr>
<th>Module 5 – Agriculture, Reclaimed Water and Pesticides</th>
<th>Begin</th>
<th>Friday, July 27, 2018</th>
<th>9:00 A.M.</th>
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<tbody>
<tr>
<td>View Module 5 Lectures:</td>
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<tr>
<td><em>Reclaimed Water and Wetlands</em></td>
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<tr>
<td><strong>Discussion</strong> #5 - Your Response</td>
<td>Due</td>
<td>Tuesday, July 31, 2018</td>
<td>11:59 PM</td>
</tr>
<tr>
<td><strong>Discussion</strong> #5 - Respond to <strong>at least</strong> 2 other students</td>
<td>Due</td>
<td>Thursday, August 2, 2018</td>
<td>11:59 PM</td>
</tr>
<tr>
<td><strong>Assignment 5</strong>: Constructed Wetland Assignment</td>
<td>Due</td>
<td>Thursday, August 2, 2018</td>
<td>11:59 PM</td>
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<tr>
<td><strong>Complete Quiz 5</strong></td>
<td>Due</td>
<td>Friday, August 3, 2018</td>
<td>11:59 PM</td>
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<tr>
<th>Module 6 - Food Processing and Bioenergy</th>
<th>Begin</th>
<th>Friday, July 30, 2018</th>
<th>9:00 A.M.</th>
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<tbody>
<tr>
<td>View Module 6 Lectures:</td>
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<tr>
<td><em>Food Processing, Bioenergy</em></td>
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<tr>
<td><strong>Discussion</strong> #6 - Your Response</td>
<td>Due</td>
<td>Tuesday, August 7, 2018</td>
<td>11:59 PM</td>
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<tr>
<td><strong>Discussion</strong> #6 - Respond to <strong>at least</strong> 2 other students</td>
<td>Due</td>
<td>Thursday, August 9, 2018</td>
<td>11:59 PM</td>
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<tr>
<td><strong>Assignment 6</strong>: Bioenergy</td>
<td>Due</td>
<td>Thursday, August 9, 2018</td>
<td>11:59 PM</td>
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<tr>
<td><strong>Complete Quiz 6</strong></td>
<td>Due</td>
<td>Thursday, August 9, 2018</td>
<td>11:59 PM</td>
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<tr>
<td><strong>Extra Credit Assignment: Land Application</strong></td>
<td>Due</td>
<td>Friday, August 10, 2018</td>
<td>11:59 PM</td>
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**Test 3 - 8/10/2018**
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. 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.

Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See http://distance.ufl.edu/student-complaints for more details.

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, www.dso.ufl.edu/drc/

Campus Helping Resources:
Students experiencing crises or personal problems that interfere with their general well-being 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/cwc/
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/