**Instructor:** Erin Alvarez, M.S.  
352.294-1582  
erinalvarez@ufl.edu  

**Office Hours:** T 1-3 pm, R 10-12, by appointment.  
3121 McCarty Hall

**Course Description:** Examines alternative cropping systems, focusing on issues of sustainability, against a backdrop of trends occurring in conventional agriculture.

**Course Format:**  
The course will include lectures, readings, discussions, on-campus field trips, written reports, oral presentations, and exams. This syllabus, along with modules that include all lessons, assignments, readings, and other required and helpful information will be available on the e-learning site Canvas at [http://lss.at.ufl.edu](http://lss.at.ufl.edu). When changes must be made to the syllabus, including the course schedule and assignments, students will be notified in class and via Canvas or email. There is no text book required.

**General Course Objectives:**  
1) To survey the manageable elements that define alternative cropping systems, with an emphasis on innovative, new, and sustainable systems  
2) To consider the abiotic, biotic, and social factors that influence the nature of cropping systems  
3) To apply the principles of agroecology to agriculture to assess the functioning of cropping systems  
4) To effectively communicate on these topics in writing and orally

**Attendance and Makeup Policies:**  
Requirements for class attendance and makeup 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](https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx)  
Except in emergency situations, please let me know at least a day in advance by email when you will be absent. With advanced notice and for acceptable reasons (see website above), I can make accommodation to make up missed quizzes, exams, assignments, etc. Late work will be accepted, but one letter grade will be deducted for each day past the due date.

**Assignments:** In-class assignments will be given regularly to check knowledge and serve as an attendance marker. *In-class assignments missed due to unexcused absences cannot be made up.* Graded assignments will be returned within 48 hours of submission. In cases where grading will be delayed, the instructor will notify you by the due date. Where applicable, due dates will be announced in class, given with the assignment sheet, and listed on the Canvas course calendar. Make-up assignments are permitted. For excused absences you will be offered an extension based on length of absence and assignment timeline. For unexcused absences a letter grade will be deducted from the possible score for each day after the due date.

**Participation:** Your active participation is crucial to your success and the quality of your experience in this course, and is impossible when you are not actively engaged. Preparation and completion of assigned material outside of class time will be necessary for meaningful participation in class.

**Communication:** Effective communication on everyone’s part is important to success in this course. Please check your ufl email regularly (especially before class) to catch any announcements or changes. It is especially helpful when you communicate with me regarding planned or unexpected absences, issues with course content or access, special needs or situations of which I should be aware, etc. If you miss a class due to an unexcused absence, I will not provide you with notes—please check with a classmate regarding what we covered. Emails are the best way to reach me, but I encourage you to visit or call.

**Course Grading Scale:**  
- A = 100-94%
- A- = 93-90
- B+ = 89-87
- B = 86-83
- B- = 83-80
- C+ = 79-77
- C = 76-73
- C- = 72-70
- D+ = 69-67
- D = 66-63
- D- = 63-60
- E < 60

Final grade points will be assigned according to current UF policies: [https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx](https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx)
Grade Distribution:
1) Quizzes: 7%
2) Midterm exam: 20%
3) Final exam: 20%
4) Country comparison: 25%
5) Natural vs. managed ecosystem assessment: 5%
6) Participation in field experiment: 8%
7) Design a cropping system: 15%

Quizzes (7%)
Quizzes will be given periodically throughout the semester without notice. These quizzes will be given at the beginning of class and will test your knowledge of the reading material and concepts covered in class.

Mid-Term Exam (20%)
This exam is scheduled the week before spring break and will cover all material presented to that point. The format will be short answer and multiple choice.

Final Exam (20%)
This exam will be given on the last day of class and will be cumulative, covering all material presented during the semester. The format will be short answer and multiple choice.

Country Cropping System Comparison – Written Report and Oral Presentation (25%)
In this four to six page report, you will provide a comparative analysis of cropping systems in two regions or countries that are based on the same cash crop. You will structurally and functionally describe and compare the cropping systems, including considerations of the social, abiotic, biotic, and management factors that influence them differently. Report on the productivity of each cropping system. Make conclusions on the sustainability of the systems, including environmental impacts and an assessment of the systems’ ability to support the regions’ needs (for domestic and/or export value) currently and in the future. At the end of the semester, you will present on your comparative analysis in an eight minute presentation to the class. The report will account for 18% of your final course grade and the presentation will account for 7% (25% total).

Natural vs. Managed Ecosystem Assessment (5%)
In this activity you will observe and assess differences between natural and managed ecosystems. To make observations, we will be meeting at the NATL area near the Natural History Museum during class. Your report, based on a form you will be given at the NATL area, will be due the following class period.

Field Experiment (8%)
We will establish several experiments at the agronomy teaching farm on campus to help illustrate some alternative cropping system practices. The experiments will run for about two months. Your grade will be based on your participation in establishing the plots (during class), helping to maintain the plots (out of class, once during the two months), harvesting the plots (in class), and discussion of the results (in class).

Design a Custom Cropping System (15%)
This assignment can be done alone or in groups of up to four people. Using the concepts you have learned in class and by independent research, you will design a cropping system that would theoretically improve cropping of any crop or crops in the USA. This will involve selecting appropriate plant material and management practices that complement each other in space and time, resulting in theoretically improved cropping efficiency and sustainability. Recalling that the formula for efficiency is outputs over inputs, your cropping system can theoretically enhance product yield and/or quality, reduce agronomic inputs, or both. Improving cropping efficiency does not necessarily improve sustainability, so you will separately theoretically justify how sustainability will be improved by the new cropping system. Submit a report that does not exceed two pages in length, including any diagrams and pictures, and present the report in class. The presentations should be brief and can be done strictly orally or orally with diagrams. Your grade will be based on the creativity and originality of your idea(s), as well as the strength of your theoretical case for why the new system should perform better than a conventional system.
### Course Schedule/Outline

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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Event/Lesson/Topics</th>
<th>Assignments/Instruction</th>
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<tr>
<td>1</td>
<td>1/6</td>
<td>Course Introduction, Purpose, History, Intensification, and Impacts of Agriculture</td>
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<td>2</td>
<td>1/13</td>
<td>The Agroecosystem Concept</td>
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<td>3</td>
<td>1/20</td>
<td>Field Exercise: Teaching Farm Experiments, Components of &quot;Alternative&quot; Cropping Systems</td>
<td>Meet at Teaching Farm to Plant</td>
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<td>4</td>
<td>1/27</td>
<td>Photosynthesis and Radiation; Crop Growth and Development</td>
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<td>5</td>
<td>2/3</td>
<td>Crop Water Use and Water Retention by Soil, Ecosystem Services</td>
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<td>6</td>
<td>2/10</td>
<td>Field Exercise: Natural vs. Managed System Assessment</td>
<td>Meet at NATL Area, Assignment Given</td>
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<td>7</td>
<td>2/17</td>
<td>Soil N &amp; C Contributors and Cycling</td>
<td>NATL Systems Assessment Due</td>
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<td>8</td>
<td>2/24</td>
<td>Midterm Exam</td>
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<td>9</td>
<td>3/2</td>
<td>Spring Break</td>
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<td>10</td>
<td>3/9</td>
<td>Biodiversity and Biological Competition, Applications of the Agroecosystem Concept</td>
<td>Country Comparison Assigned</td>
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<td>11</td>
<td>3/16</td>
<td>Reconciling Productivity and Environmental Stewardship, Social Impacts in Agriculture</td>
<td>Design a Cropping System Assignment Given</td>
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<td>Cropping System Design Presentations</td>
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<td>Non-Field-Based Cropping Systems</td>
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<td>15</td>
<td>4/13</td>
<td>Sustainability Assessment</td>
<td>Country Comparison Report Due</td>
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<td>16</td>
<td>4/20</td>
<td>Country Comparison Presentations</td>
<td>Country Comparison Presentations</td>
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*Your instructor reserves the right to make changes to the course as needed and will notify you of any changes in as timely a manner as possible. Notification will be through Canvas and your ufl email.*

### Course Evaluation Process

Please take the time to evaluate this course and me as your instructor! I really do use your feedback, and the college uses it to determine all sorts of things. I'll send out a mid-semester evaluation to adjust the course as necessary, but the final end-of-semester evaluation from UF online is very important. 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](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.

**Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities**

**Academic Honesty**

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

**The Honor 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.**

On all work submitted for credit by students at the university, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office. *(Source: 2011-2012 Undergraduate Catalog)*

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will be vigorously upheld at all times in this course.

**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.

**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. [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,
- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Training Programs
- Community Provider Database

**Career Resource Center**, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)

**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. 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)