Crop Sciences 437
Principles of Agroecology

Location: TBA
Times: Tues., Thurs.: 3:30 -4:50 (Lecture-Discussion)

Instructor:
Dr. María Villamil
N-323 Turner Hall
villamil@illinois.edu

Office hours: By appointment only

Course Description
In this course, we will examine ecology concepts in the context of agricultural systems, identifying current issues and challenges facing modern agriculture. We will explore agricultural systems and try to understand their underlying shaping factors and their environmental and social effects. A central question driving this course is how we can make agricultural systems more self-reliant (i.e. self-sustaining). We will review the literature and discuss the central processes that characterize agroecosystems, apply these concepts to solve problems in agroecosystems, and consider the implications of these principles for best practice in agriculture.

Learning objectives:
In addition to the Agroecology content-based learning goals described above, there are several more general skills-based objectives for this course:
1. How to frame useful scientific questions for quantitative and qualitative investigations
2. How to find and evaluate data from the scientific literature
3. How to tell a story with data

Readings:
There is no single definitive text on Agroecology, nor is there a ‘canon.’ To get a feel for the territory covered by this sprawling, relatively new discipline, we will focus on articles from scientific literature that highlight the intersection between agricultural issues and key concepts in ecology. Assigned articles will be posted to Compass. There will also be several supplementary texts on reserve that may prove useful as a complement to your assigned reading.

Supplementary texts (on reserve at the ACES library):
- Agroecology: The ecology of sustainable food systems. S Gliessman. 2nd ed. CRC Press

Course Web site: A course web site will be maintained on Compass 2g, accessible at https://compass2g.illinois.edu/. Course information and materials, including assigned readings, announcements, grades, etc. will be posted on the website.
Course requirements

Attendance
To achieve the goals of this course successfully, a high rate of attendance is necessary. No more than 3 excused absences will be allowed during the semester (> 4 = F). Students must provide, when possible, advance notice of absences to the instructor, and excuses for missed classes as soon as possible following the illness or event that led to an absence. Attendance will be recorded daily. Regardless of whether an absence is excused or unexcused, the student is responsible for making up all work that is missed.

Participation Grade
Class participation is an important element of the course. The quality of participation, which is a reflection of careful reading of papers, detailed quantitative analysis where necessary, thoughtful reflection, and clear and concise comments, is extremely important. It is also important to build on each other’s comments, which means attentive listening and respectful interactions with others. Class participation will be judged on the basis of quality and consistency of effort on a daily basis. Attendance is not participation. Each student can ascertain the adequacy of his or her class participation by occasional discussion with the instructor.

Assignments
The work assigned to you outside of class is the main learning tool in this course, and the primary means of assessment, since there are no exams. Work should be turned in on the due date listed on the course calendar. Late papers will lose 20% of their initial grade value each day after the due date (i.e. a 50 point quantitative exercise will be worth 40 pts if turned in a day late, 30 pts if turned in two days late). Unless otherwise specified, all assignments should be word-processed and printed.

Common readings
For each Thursday, we will read an article from the primary scientific literature that provides a concrete illustration of the concepts introduced that week. On the Thursday that a given article is due, you will turn in an abstract (< 300 words) written in your own words, including the following sections: Rationale, Objectives, Approach, Results, Conclusions and Evaluation. Ideally, you will read related material from the supplementary texts to augment your assigned reading. Be sure to do this before class so that you will be comfortable discussing the materials and be ready for the quizzes.

Quizzes
Each Thursday, at the beginning of class, you will take a quiz with 5-10 short questions relevant to the common reading and to the lecture material from the previous two class sessions. I will drop the lowest score of 11 quizzes. No makeups.

Individual readings
Following a schedule that I will create after the course roster is complete, each of you will read and abstract an additional article from the primary scientific literature. On the day that this assignment is due, you will give a ~10 minute Powerpoint presentation to the class on the main points of the piece. You may draw additional insights, data and illustrations from the broader scientific literature to provide more context.

Agroecology problems
You will be challenged with three quantitative problems on assorted agroecology topics during the semester. We will get started during class sessions and you will submit a written answer within a week. Group work on the quantitative aspects of the problems is encouraged, but written answers should be in your own words and turned in individually.
**Semester projects**

These projects are a chance for you to do original work in agroecology, and thus they represent the core of the assigned work for this class. Because these projects will require substantial effort on your part, we will start early, and work incrementally towards the finished product. Group collaborative efforts are encouraged, but not required. Full information on these projects will be available in a separate document available on Compass.

**Grading**

Final grades will be based on percentage of points obtained out of 1000 total.

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**Class Policies**

This syllabus is subject to change. Any changes will be announced in class and updated on the course website on Compass. You are responsible for all information given out in class. Failure to obtain information or receive announcements in class is no excuse for missing assignments or for turning assignments in late.

**General:** This course will follow all the policies of the UIUC- Student Code that you can find at [www.admin.uiuc.edu/policy/code/](http://www.admin.uiuc.edu/policy/code/). I encourage all students to become familiar with it and specifically with Part 4 of the code pertaining to ‘Academic Integrity’ ([www.admin.uiuc.edu/policy/code/article1_part4_1-401.html](http://www.admin.uiuc.edu/policy/code/article1_part4_1-401.html)).

Academic integrity exists when students and faculty seek knowledge honestly, fairly, with mutual respect and trust, and accept responsibility for their actions and the consequences of those actions. The following are examples of violations of academic integrity:

- Using or attempting to use in any academic exercise materials, information, study aids, or electronic data that the student knows or should know is unauthorized.
- Look at or copy another student quiz or individual assignment as well as allowing another person to look at or copy your quiz or individual assignment.
- Using electronic devices or other methods to share answers or assignments in an unauthorized manner.
- Submitting an assignment paper without properly citing or acknowledging the work of others.

The instructor can and will search on blocks of text to determine whether unauthorized use/plagiarism is taken place and will proceed according to the University policy code.

**Accommodations:** UIUC provides academic support for those students who have been diagnosed with learning, physical, and psychological disabilities. Students with disabilities needing academic accommodation should:
(1) register with and provide documentation to the *Disability Resources and Educational Services* (www.disability.uiuc.edu); (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. All accommodations will follow the procedures stated in the UIUC-Student Code (http://admin.illinois.edu/policy/code/article1_part1_1-110.html)

**Communication:** When you have questions regarding course material or procedures, please consult your classmates and the course website as your first resource. I will follow conversation threads on Compass, and will weigh in on a topic when helpful. This will keep email volume down and allow me to avoid duplication of efforts. If your question remains unanswered, please start a new thread and I’ll respond in a timely way. For private matters, you may contact me directly by email, phone or set up a meeting appointment.

**Course suggestions and/or Complaints:** Your opinion counts and I encourage students to offer suggestions to improve this course. Write your ideas regarding teaching methods, course topics, etc and hand them to me anytime during the semester. Also, if you have grading complaints please submit them to me in writing **within a week** of when the work is returned. Use a word processor and justify your complaint in a clear and concise way (< 1 page).

**Notes on Expectations and Classroom Behavior:**
According to the faculty handbook, it is expected that students will spend, in preparation for courses, two to three hours of study time outside the classroom for every hour of credit in the classroom. This means that students should be prepared to spend, on average, seven hours per week outside of class working on a three-credit course; however, this will vary from student to student and from course to course. As far as behavior goes, I will treat you in a respectful, cordial way, and expect that you do the same for all those present.