

NEW COURSE FORM

1. General Information.					
a.	Submitted by the College of: Agriculture	Today's Date:	10/11/2011		
b.	Department/Division: Sustainable Agriculture Program				
c.	Contact person name: Krista Jacobsen	Email: Krista.jacobsen@uky.edu	Phone:	859-257-3921	
d.	Requested Effective Date:	<input checked="" type="checkbox"/> Semester following approval	OR	<input type="checkbox"/> Specific Term/Year ¹ : _____	
2. Designation and Description of Proposed Course.					
a.	Prefix and Number: SAG 390				
b.	Full Title: Agroecology				
c.	Transcript Title (if full title is more than 40 characters): _____				
d.	To be Cross-Listed ² with (Prefix and Number): PLS 390				
e.	Courses must be described by <u>at least one</u> of the meeting patterns below. Include number of actual contact hours ³ for each meeting pattern type.				
	2 Lecture	_____ Laboratory ¹	2 Recitation	_____ Discussion	
	_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	
	_____ Seminar	_____ Studio	_____ Other – Please explain: _____		
f.	Identify a grading system:	<input checked="" type="checkbox"/> Letter (A, B, C, etc.)	<input type="checkbox"/> Pass/Fail		
g.	Number of credits: 3				
h.	Is this course repeatable for additional credit?			YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	If YES:	Maximum number of credit hours: _____			
	If YES:	Will this course allow multiple registrations during the same semester?			
		YES <input type="checkbox"/>	NO <input type="checkbox"/>		
i.	Course Description for Bulletin:	A general introduction to ecological principles and processes applied to agricultural ecosystems, including interactions between plants, soils, and animals on population, community and ecosystems scales. Course concepts will be applied to agricultural ecosystem that are of economic importance and ecological significance to the state of Kentucky. Emphasis will be placed on understanding how an ecological perspective can inform sustainable land management, the ecological basis for best management practices, and the interdisciplinary nature of agroecosystem management.			
j.	Prerequisites, if any: None.				
k.	Will this course also be offered through Distance Learning?			YES ⁴ <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

¹ Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

² The chair of the cross-listing department must sign off on the Signature Routing Log.

³ In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, represents at least two hours per week for a semester for one credit hour. (from SR 5.2.1)

⁴ You must *also* submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

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1.	Supplementary teaching component, if any:	<input type="checkbox"/> Community-Based Experience	<input type="checkbox"/> Service Learning	<input type="checkbox"/> Both
3.	Will this course be taught off campus?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
4.	Frequency of Course Offering.			
a.	Course will be offered (check all that apply):	<input type="checkbox"/> Fall	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Summer
b.	Will the course be offered every year?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If NO, explain:	_____		
5.	Are facilities and personnel necessary for the proposed new course available?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If NO, explain:	_____		
6.	What enrollment (per section per semester) may reasonably be expected?	25		
7.	Anticipated Student Demand.			
a.	Will this course serve students primarily within the degree program?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
b.	Will it be of interest to a significant number of students outside the degree pgm?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If YES, explain:	The pilot version of this course has attracted students from Plant and Soil Sciences, Natural Resource Management, Ag Education and Community Leadership and Development. Advisors in these programs were consulted prior to submission of official course approval paperwork, and they have indicated that this course will continue to serve their student learning outcomes and will encourage students to enroll.		
8.	Check the category most applicable to this course:			
	<input type="checkbox"/> Traditional – Offered in Corresponding Departments at Universities Elsewhere			
	<input checked="" type="checkbox"/> Relatively New – Now Being Widely Established			
	<input type="checkbox"/> Not Yet Found in Many (or Any) Other Universities			
9.	Course Relationship to Program(s).			
a.	Is this course part of a proposed new program?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	If YES, name the proposed new program:	_____		
b.	Will this course be a new requirement ⁵ for ANY program?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
	If YES ⁵ , list affected programs:	Individualized Program in Sustainable Agriculture		
10.	Information to be Placed on Syllabus.			
a.	Is the course 400G or 500?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	
	If YES, the <i>differentiation for undergraduate and graduate students must be included</i> in the information required in 10.b . You must include: (i) identification of additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR 3.1.4.)			
b.	<input checked="" type="checkbox"/>	The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 10.a above) are attached.		

⁵ In order to change a program, a program change form must also be submitted.

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SAG/PLS 390
Agroecology
University of Kentucky
Spring 2012

Instructor: Dr. Krista Jacobsen
Office: N-310C ASCN
Email: Krista.jacobsen@uky.edu
Phone: (859) 257-3921

Course Management

Lecture: Room S221 Ag Sciences North M, W 2-2:50 pm
Lab: Room S221 Ag Sciences North F 2-3:50 pm
Office hours: M, W 1-2 pm or by appointment

Course description

This course is a general introduction to ecological principles and processes applied to agricultural ecosystems, including interactions between plants, soils, and animals on population, community and ecosystems scales. Course concepts will be applied to 4 “case study” agricultural ecosystems that are of economic importance and ecological significance to the state of Kentucky. Emphasis will be placed on understanding how an ecological perspective can inform sustainable land management, the ecological basis for best management practices, and the interdisciplinary nature of agroecosystem management.

Learning Outcomes

- To be able to describe how general ecological principles can be applied to sustainable management of agroecosystems representative of Kentucky agriculture.
- To demonstrate an understanding of ecological principles and processes from a systems-based perspective, and apply this perspective to salient environmental issues in agriculture and their economic and social drivers.

Text on Reserve in Ag. Information Center (not required):

- Ecological Principles of Agriculture, by Laura Powers and Robert McSorley.
- Agroecology: The Ecology of Sustainable Food Systems, by Stephen Gliessman.

Assignments and grading

Course grades will consist of 3, 1-hour exams (45%), a comprehensive final exam (20%), laboratory activities (20%), and in-class and supplemental electronic textbook activities (15%), as specified in the course outline below.

Exams will be a blend of multiple choice and short answer questions, and will be based on information from both lecture and lab. Make-up exams will be given only with a valid excuse. The final course grade will be based on the above with 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D and below 60%=E.

Lab attendance is mandatory. Laboratories will be a blend of field and lab-based activities, supplementary lectures and discussion. Labs will provide an opportunity for students to apply course concepts in a hands-on, experiential learning environment. Lab assignments will be distributed during the laboratory period, with the due date assigned at that time. Each lab assignment will constitute 2-3% (10-20 points) of the final grade. You are allowed

one absence from lab per semester without grade penalty. Additional absences may be made up with a 3-4 page paper on a topic related to the laboratory exercise.

Student participation will be assessed through a combination of in-class activities and supplementary electronic textbook exercises that together comprise 15% of your final grade. Of this 10%, 5% will consist of in-class activities that will be used to assess participation in lieu of keeping record of **lecture attendance**. In-class activities will be distributed in class randomly throughout the semester. These activities may not be made up without a valid excuse, but you are allowed to miss 2 of these activities without grade penalty. Completion of the **SimUText chapter** question sets will comprise the additional 10% of the participation grade. In general, you are asked to have completed these activities prior to the class period in which we will be discussing the topic. Specific due dates and guidelines will be given for SimUText readings in class throughout the semester. Electronic **submission of assignments** is welcome and in some cases, required. Assignments must be submitted prior to the class period in which the assignment is due. Late assignments will only be accepted with a valid excuse.

Course component	Points	Percentage of final grade
3, 1-hour exams	75 points each, 225 points total	45%
Final exam	100 points	20%
Lab activities	100 points	20%
Participation	75 points	15%
Total	500 points	100%

Course grade	Points required
A	Over 450
B	400-449
C	350-399
D	300-349
E	Below 299

Mid-term and final grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

Absence and Attendance Policy

As per UK's **Excused Absence** policy, students need to notify the professor of absences prior to class when possible. S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor. Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754). Students are expected to withdraw from

the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy. I may ask you to **verify your absences** in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required *prior* to the absence. *Please be proactive with me about your need to miss class.*

Academic integrity, cheating & plagiarism

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. You are advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited. If you are unsure about the question of plagiarism in your own work, please consult with me prior to submitting your work. Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

The classroom environment

Please know I am committed to a learning environment that is collaborative and inclusive; where students feel free to ask questions and discussions are lively. You are asked to contribute to creating an open, collegial learning environment that is respectful for students of all opinions and backgrounds. Please know my door is always open for both positive feedback and constructive criticism.

Course Schedule

Section I. Introduction

Associated Readings*

Wed January 11 No class

Fri January 13 Introduction & Agroecosystems of Kentucky P&M p. 1-6

Section II. Limits to Production

Mon January 16 *MLK Day- Academic holiday*

Wed January 18 Light and plant resource capture P&M p. 20-25, 76-85, 102-106;
SimUText introduction, meet in AIC.

Fri January 20 Water and irrigation in agriculture P&M p. 308-327; G p. 115-130
SimUText Physiological ecology chapter, section 3 is due before class this day.

Section III. Population-scale processes

Mon January 23 Population growth P&M p. 107-123
SimUText Population growth chapter, section 3 is due before class this day.

Wed January 25 Population growth: Isle Royale Simulation
SimUText Activity, meet in AIC.

Fri January 27 Lab: Cane Run Watershed Tour

Section IV. Community-scale processes

Mon January 30 Migration, dispersal and colonization

Wed February 1 Niches, competition and complementarity P&M p. 126-147

Fri February 3 Lab: Species invasion & exam review

Mon February 6 Exam I

Section V. Ecological Interactions

Wed February 8 Predation & herbivory P&M p. 166-173

Fri February 10 Lab: Biological controls

Mon February 13 Parasitism & pathogens P&M p. 173-179

Wed February 15 Symbioses G p. 147-153

Fri February 17 Lab: Intercropping and polycultures

Section VI. Ecosystem-scale processes

Mon February 20 Biodiversity P&M p. 243-265; G p. 197-203

Wed February 22 Emergent properties in ecosystems

Fri February 24 Lab: Soil Food webs P&M p. 266-285

Mon February 27 Midterm Exam II

Wed	February 29	SOM & decomposition	<i>SimUText Activity, meet in AIC.</i>
Fri	March 2	Recitation: Decomposition <i>SimUText Decomposition chapter, sections 1&2 are due before class this day.</i>	P&M p. 68-73; G p. 107-113
Mon	March 5	Soils and biological fertility <i>SimUText Decomposition chapter section 3 is due before class this day.</i>	P&M p. 43-51, 298-305
Wed	March 7	Nitrogen cycling	P&M p. 55-64
Fri	March 9	Lab: Nutrient budgeting	
Mon	March 12-17	<i>Spring Break</i>	
Mon	March 19	Managing for nutrient conservation	
Wed	March 21	Disturbance and succession	G p. 237-244
Fri	March 23	Lab: Rotations in agroecosystems	P&M p. 328-343
<u><i>Section VII. Agroecosystem Sustainability</i></u>			
Mon	March 26	Ecosystem services	
Wed	March 28	Ecological energetics	P&M p. 15-33; G p. 255-265
Fri	March 30	Lab: No-Till plots	
Mon	April 2	Exam III	
Wed	April 4	Indicators of agroecosystem sustainability	G p.299-311
Fri	April 6	Lab: Indicators of agroecosystem sustainability	
Mon	April 9	Biofuels	
Wed	April 11	Land conversion & land use change	
Fri	April 13	Lab: Land use change	
Mon	April 16	Climate change	
Wed	April 18	Insect services	
Fri	April 20	Lab: Insect services	
Mon	April 23	Ecological economics	
Wed	April 25	Conclusions	
Fri	April 27	Final review	

**Page numbers – “P&M” refers to Powers & McSorley and “G” refers to Gliessman (both are on reserve in AIC).
Additional readings will be assigned in class and posted on the course Blackboard site.*

Final Exam: Monday May 2, 1 pm.