

Instructor: Nick Babin, Ph.D. (nbabin@sierranevada.edu), Phone: 775-831-1314 x7423

Office Hours: T, W 2-4:00pm; other times by appointment, PL 205 (Library Mezzanine)

Class Times: Weds 10am-12:45pm, TCES 202 (Course CRN 80623)

Course Description: This interdisciplinary course presents an overview of research and applications from the field of agroecology. Contemporary food system issues related to food security and environmental impact are examined from an agroecological perspective. Case studies are used to compare the social, ecological and economic sustainability of agriculture and food systems at global, regional and local scales. The course will feature projects related to the design, management and evaluation of local food system initiatives.

Course Goals: At the end of this course, you will be able to:

- 1) Critically evaluate the relationships between food, agriculture, economy, society and the environment.
- 2) Read, synthesize and assess academic research and writing on agroecology and food systems.
- 3) Employ horticultural and analytical skills commonly used in agroecology and food systems.
- 4) Explore and critically appraise a range of visions for a safe, sustainable food system.

Required Text:

All required reading material will be made available on the course Moodle.

Course Organization, Evaluation Methods and Grading:

Class-time will be divided into course projects, activities, instructor lectures, and discussion of the assigned readings. There will be a total of 1000 points allocated from the following assignments:

Reading Responses/ Participation	200	93 – 100	A	73 – 76	C
Midterm Exam	250	90 – 92	A-	70 – 72	C-
Commodity Case Study	350	87 – 89	B+	67 – 69	D+
In-class Assignments/ Projects	200	83 – 86	B	63 – 66	D
		80 – 82	B-	60 – 62	D-
TOTAL	1000	77 – 79	C+	59 or ↓	F

Evaluation Methods Explained

1. Weekly Reading Responses/ Participation (200 points)

In order to prepare for our discussion of the assigned readings you are asked to submit a minimum of at least 5 questions or reactions (*from each assigned reading*) that we can discuss/ review in class. The bulleted questions/ reactions are due for each class meeting with a required reading (10 total). The response (~ ½ page MSWord document) is due on Moodle by 11:55 pm on the Monday before the assigned reading is discussed.

Number your questions or reactions one through five. Think of discussion questions that you would like to explore as a group. Also, if you are having difficulties with a particular reading assignment, this is the place to put your specific questions about which parts did not make sense. In addition, this is the section in which you can raise objections (to content, style, politics, methods, etc.), agreement, praise, or any other reactions you have to a reading. Feel free to add unconventional insights and controversial opinions as they will help make for a spirited discussion. The following are some example prompts for this section:

- a. The author claims X, do you disagree/agree? Why or why not?
- b. The author is missing something:
- c. How would (another reader, someone from discipline x) respond?

- d. This reading reminds me of (personal experience, current events, history, etc.)
- e. This reading challenged me to think about the following in a new way
- f. My emotional reaction to this reading is:

You will be expected to share components of your responses during Wednesday class discussions. Each response is worth 20 points. Responses will be graded according to the quality of your questions/ reactions. Late responses will be penalized at 10% per-day.

3. Midterm Exam (250 points)

The midterm examination will feature essay questions. Content will come from lectures, class discussions, field trips, course projects, as well as the assigned readings.

4. Commodity Case Study (350 points)

This assignment asks you to do some detective work to investigate the sources and hidden social and environmental relationships behind the food products you consume. You'll be asked to choose a specific food commodity to trace from farm to fork. This research project is broken down into 4 steps:

1. Consumption diary & research topic proposal (Due 10/4; 50 points).
2. Rough draft of research paper (Due 11/8; 100 points).
3. Final paper (Due 11/29; 100 points).
4. Class presentation (11/29 & 12/6; 100 points).

5. In-class Assignments/ Projects (200 points)

This course will feature several in-class activities/ assignments/ projects. There will be two ways in which you will be assessed on this component of this course:

1. Participation and discussion (100 points)

Participate with a helpful and encouraging attitude as a team member in all aspects of the projects. Contribute to Wednesday class and field trip discussions on project progression. Evaluations will be based on attitude, frequency, and depth of insight of contributions to the project and group discussions.

2. Written work (100)

When assigned, write-ups for in-class assignments and projects should be neatly written or typed.

All late assignments will be penalized at 10% per-day.

Course Moodle: The course Moodle will be used to turn in your responses and post announcements, course materials, presentations, assignments, and readings.

Sanctions for Cheating and/or Plagiarism:

The Honor Code The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code:

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

Academic Integrity:

Definition of Plagiarism: In an instructional setting, plagiarism occurs when a person presents or turns in work that includes someone else's ideas, language, or other (not common-knowledge) material without giving appropriate credit to the source. Plagiarism will not be tolerated and may result in failing this course, and may also result in further consequences.

Academic dishonesty: A student violates academic integrity when he or she claims credit for any work not his or her own (words, ideas, answers, data, program codes, music, etc.) or when a student misrepresents any academic performance. Work deemed a product of academic dishonesty will receive a zero and points equivalent to the value of the assignment will be subtracted from those already earned in the course.

Attendance and absences:

Excused absences are allowed only in cases of SNC athletics, documented illness, approved College events, job or graduate school interviews and serious family emergency. Each unexcused absence in excess of two for the semester will result in a final grade reduction of 5 percentage points.

Because this class meets only once a week and some of the class activities and assignments are especially difficult to makeup, your instructor requests that excused absences be avoided. If you must miss class for an excused reason you will not be penalized for assignments missed, however, you will still be held responsible for completing them and learning the material covered during your absence.

Athletics Excused Absences:

The Athletic Director notifies faculty members of student athletes with excused absences for training and competition. This email excuses the student athlete from class attendance, but not from doing the assigned work. It is the student athlete's responsibility to meet with me prior to the excused absence for missed work and/or alternate assignments. If a student athlete fails to meet with me prior to the absence, make-up work is not available.

ADA Accommodations:

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu or go to the OASIS offices on the third floor of Prim Library within the first week of the semester.

The SNC Email System:

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year. Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

The Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes:

Liberal Arts Professional Preparedness Entrepreneurial Thinking Sustainability

<i>Fall 2017 Schedule*</i>			
W	Date	Topic (<i>ASSIGNMENTS DUE</i>)	Readings
1	23-Aug	Course Intro: Agroecology and Food Systems	
2	30-Aug	Agroecology: What is it? What does it promise? (<i>RR1</i>)	1-2
3	6-Sep	Field Trip: Sierra Agroecology Center	
4	13-Sep	Natural Ecosystems (<i>RR2</i>)	3-4
5	20-Sep	Traditional Agriculture (<i>RR3</i>)	5
6	27-Sep	Field Trip: Little Roots Farm	
7	4-Oct	Conservation in the Matrix (<i>RR4</i>) (<i>COMMODITY CASE STUDY: FOOD DIARY</i>)	6-7
8	11-Oct	Soil Conservation and Management - Symphony of the Soil (<i>RR5</i>)	8
9	18-Oct	Comparing Ecological and Industrial Systems (<i>RR6</i>)	9-11
10	25-Oct	Midterm Exam	
11	1-Nov	Animals and Food Production (<i>RR7</i>)	12-13
12	8-Nov	Agro-eco-hydrology: Thinking Like a Watershed (<i>RR8</i>) (<i>COMMODITY CASE STUDY: ROUGH DRAFT</i>)	14-15
13	15-Nov	Agriculture, Energy and Climate Change (<i>RR9</i>)	16-17
14	22-Nov	THANKSGIVING BREAK- NO CLASS	
15	29-Nov	Scaling Agroecology (<i>RR10</i>) (<i>COMMODITY CASE STUDY: FINAL PAPER & PRESENTATIONS</i>)	18-19
16	6-Dec	Course Wrap-up (<i>RR10</i>) (<i>COMMODITY CASE STUDY: FINAL PRESENTATIONS</i>)	
17		FINALS WEEK	

* Schedule is tentative. Any updates will be announced in class and on Bb at least 1 week prior to scheduled change.

REQUIRED READINGS LIST

Week 1: Course Intro (8/23) - None

Week 2: Agroecology: What is it? What does it promise? (8/30)

1. Silici, L. (2014) *Agroecology: what it is and what it has to offer*. IIED Issue Paper. International Institute for Environment and Development (IIED): London. www.iied.org
2. Gliessman, S.R. (2004) *Integrating Agroecological Processes into Cropping Systems Research*. Journal of Crop Improvement 11(1-2): 61-80.

Week 4: Natural Ecosystems (9/13)

3. Borel, B. (2014) *The Quest for Everlasting Agriculture*. <http://www.pbs.org/wgbh/nova/next/nature/perennial-agriculture/>
4. Baker, B. (2017) *Can Modern Agriculture Be Sustainable?* BioScience 67 (4): 325-331

Week 5: Traditional Agriculture (9/20)

5. Altieri, M. A. (2004) *Linking ecologists and traditional farmers in the search for sustainable agriculture*. Frontiers in Ecology and the Environment 2: 35-42.

Week 7: Conservation in the Matrix (10/4)

6. Downs, M. (2014) *Island Biogeography Theory Misses Mark for Tropical Forest Remnants* <http://blog.nature.org/science/2014/04/16/island-biogeography-theory-forest-remnants/>
7. Vandermeer, J., & Perfecto, I. (2007). *The agricultural matrix and a future paradigm for conservation*. Conservation Biology 21(1): 274-277.

Week 8: Soil Conservation and Management (10/11)

8. Magdoff, F., & Van Es, H. (2000). Building soils for better crops, Chapters 1 & 2. Beltsville: Sustainable Agriculture Network.

Week 9: Comparing Ecological and Industrial Systems (10/18)

9. Ari Levaux, "The War Between Conventional and Organic Misses the Point," Atlantic.com, <http://www.theatlantic.com/health/archive/2012/05/the-war-between-organic-and-conventional-farming-misses-the-point/257140/>
10. Holt-Giménez, E., Shattuck, A., Altieri, M., Herren, H., & Gliessman, S. (2012). *We already grow enough food for 10 billion people... and still can't end hunger*. Journal of Sustainable Agriculture, 36(6), 595-598.
11. Rodale (2015). The Farming Systems Trial 30 Year Report. The Rodale Institute.

Check out some blog posts at: <http://grist.org/series/hungry-hungry-humans/>

Week 11: Animals and Food Production (11/1)

12. MacDonald, J. M. and W. D. McBride (2009). *The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks*, Economic Information Bulletin No. 43. Economic Research Service, United States Department of Agriculture.
13. Pollan, M. (2006). *The omnivore's dilemma*. Penguin. Chs. 10 & 11

Week 12: Agro-eco-hydrology: Thinking Like a Watershed (11/8)

14. Holly, R. (2014). *As food demands rise, farmers struggle with water conservation*. <http://investigatamidwest.org/2014/04/21/as-food-demands-rise-farmers-struggle-with-water-conservation/>
15. Lancaster, B., & Marshall, J. (2008). *Rainwater harvesting for drylands and beyond* (Vol. 1). Chapter 1 (Pgs. 23-39). Tucson: Rainsource Press.

Week 13: Climate change (11/15)

16. Wheeler, T., & Von Braun, J. (2013). *Climate change impacts on global food security*. *Science*, 341(6145), 508-513.
17. Altieri, M. A., Nicholls, C. I., Henao, A., & Lana, M. A. (2015). *Agroecology and the design of climate change-resilient farming systems*. *Agronomy for Sustainable Development*, 35(3), 869-890.

Week 14: THANKSGIVING- NO CLASS (11/22)Week 15: Scaling Agroecology & Food Sovereignty (11/29)

18. Varghese, S. and K. Hansen-Kuhn (2013) *Scaling up agroecology: toward the realization of the right to food*. Institute for Agriculture and Trade Policy: Minneapolis, MN.
19. Holt-Giménez, E., & Altieri, M. A. (2013). *Agroecology, food sovereignty, and the new green revolution*. *Agroecology and Sustainable Food Systems*, 37(1), 90-102.