GEOG 512 - Syllabus
Social-Ecological Systems

Dr. Hannah Gosnell     Tuesdays 2-5pm
Wilkinson 260     Wilkinson 203
541-737-1222     Office Hours: Wed 10-12 and by appt
gosnellh@geo.oregonstate.edu

Catalog course description: SOCIAL-ECOLOGICAL SYSTEMS (3). Exploration of critical debates surrounding theories associated with social-ecological systems, resilience, vulnerability, adaptation, social learning, transformation, adaptive governance. PREREQS: 9 credits of graduate study.

INTRODUCTION

Geographers have long recognized the need to analyze social and ecological phenomena in an integrated way in order to understand environmental problems. Within the relatively new field of sustainability science, the past decade has seen the emergence and increasing prevalence of scholarship that examines the human dimensions of environmental change using a “social-ecological systems” (SES) approach. Concepts currently being explored in this literature have the potential to complement and enhance geographic understanding, and are at the core of contemporary research and debates in the arena of global sustainability. In this course we will explore foundational scholarship on the SES concept along with related literature on resilience, adaptation, transformation, and environmental governance. After becoming familiar with key concepts and theories, we will apply them to a collective analysis of the forests and communities associated with the Willamette National Forest in the central western Cascades.

LEARNING OUTCOMES

By the end of this course, students will be able to:
- Characterize the history and evolution of the body of scholarship associated with social-ecological systems and resilience
- Differentiate between steady state natural resource management, ecosystem based natural resource management and resilience-based natural resource management
- Compare and contrast different approaches to environmental governance and their implications for SES resilience
- Explain the adaptive cycle and provide real world examples
- Identify common factors leading to regime shifts and SES transformation
- Demonstrate how an analysis of a social-ecological system can lead to targets for policy and management that will achieve sustainability of the SES
- Assess the resilience of a SES in a manner that includes imagined scenarios about possible future paths of the SES in focus

PREREQUISITES: 9 credits of graduate study. Note: This course builds on material covered in GEO 420/520 – Resilience-Based Natural Resource Management. For a concise overview of core
concepts, I suggest you read *Resilience Thinking* by B. Walker and D. Salt.  
http://islandpress.org/resilience-thinking

**ASSESSMENT/GRADING**

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<th>Weight</th>
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<tr>
<td>Attendance and Participation</td>
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<tr>
<td>Reading Reaction Papers</td>
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<td>Final Paper</td>
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<td>Final Paper Presentation</td>
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**COURSE ORGANIZATION AND ASSIGNMENTS**

Course readings will cover key historical and current peer-reviewed literature. Class sessions will include discussion of reading material, lectures, guest speakers, group work, and sharing of students’ related research. Lectures will be limited to introducing a few core concepts, as the emphasis of the course is on discussions. Readings will be discussed in a seminar style format, with most discussions led by students. Students are expected to be prepared to critically discuss each topic and relate ideas presented and discussed to our case study and their own research.

**Attendance and Participation**

This course requires active participation from all class members. You will be expected to share your thoughts and ideas with the class. Good participation is a matter of both quality and quantity. Part of your assessment will be based on your co-leadership of two discussions during the course. Attendance is required, and a student with more than two absences without instructor permission may fail the course.

**Reading Reaction Papers**

Please come to each class (Weeks 2-9) with your reactions to the week’s reading assignments. This is your opportunity to demonstrate that you have read and thought about the assigned readings. Please organize your reaction to each reading with three sections (clearly label them with headings).

- **Summary:** Provide a 2-3 sentence summary for each of the readings—distilling the author’s thesis to its essence.
- **General Reaction and Application:** Briefly share your general reaction to the readings. You might address such things as whether you liked the readings, and why or why not. What ideas stood out to you? What did they make you think about? Apply the reading material to the course’s main themes, other readings and discussions related to the course, our case study, and/or your own research. This is your opportunity to demonstrate your ability to tie the concepts discussed in the reading to contemporary natural resource issues.
- **Discussion Questions:** Finally, provide at least two questions that can help facilitate our class discussion—critical points you want the class to engage and so forth. This way, although the discussants will lead the conversation, everyone should have several points to contribute.

Reaction Papers should be approximately 1-2 pages single-spaced. You will need to bring copies to class in order to facilitate discussion (and submit to the instructor). **Late Reading Reaction Papers will not be accepted.**

**Group Writing Project**
Students will contribute to a report and/or article(s) that characterize the SES associated with Willamette National Forest; and will help set the stage for a resilience assessment of the SES drawing on different methodologies, frameworks and guides. The nature and format of the student’s contribution will be decided on in consultation with Dr. Gosnell.

**Oral Presentation**

Students will provide an oral overview of their contribution to the report in a 20 minute PPT presentation during the last class session.

**COURSE SCHEDULE AND READING ASSIGNMENTS**

**NOTE:** Schedule and readings to be adaptively co-managed by instructor and students...

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<tr>
<th>DATE</th>
<th>TOPICS</th>
<th>READINGS/ASSIGNMENTS</th>
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<tr>
<td>Week 1 – Sept 29</td>
<td>Introduction to Course</td>
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<td>Week 5 – Oct 27</td>
<td>Approaches to Resilience Assessment</td>
<td>- Resilience Alliance Workbook&lt;br&gt;- CSIRO 2015 RATA Framework&lt;br&gt;- Bergamini et al. 2013 (SEPL)&lt;br&gt;- Alessa et al. 2007&lt;br&gt;- Sellberg 2015&lt;br&gt;- Walker et al. 2002&lt;br&gt;- Walker and Salt 2012 (skim)&lt;br&gt;- Browse Resilience Assessment resources on RA website</td>
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<td>Week 6 – Nov 3</td>
<td>FIELD TRIP TO WILLAMETTE NATL FOREST HQ</td>
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| Week 8 – Nov 17 | **Thresholds and Regime Shifts**  
|                | • Social thresholds  
|                | • Ecological thresholds  
|                | • Threshold dynamics  
|                | • Transformation  
|                | - Walker and Meyers 2002  
|                | - Kinzig et al. 2006  
|                | - Adger 2000  
|                | - Christensen and Krogman 2012  |
| Week 9 – Nov 24 | **Management and Governance Interventions**  
|                | • Kinds and scales of interventions  
|                | • Interactions and sequencing  
|                | • Adaptive governance  
|                | • Policies and institutions  
|                | • Markets and incentives  
|                | - Olsson et al. 2004  
|                | - Olsson et al. 2006  
|                | - Walker et al. 2002  
|                | - Armitage 2005  
|                | - Chaffin et al. 2014  
|                | - Anderies et al. 2004  |
| Week 10 – Dec 1 | **Oral Presentations**  
|                | **Wrap-Up, Next Steps** |

**POLICIES**

*Lateness and Absence*
Please note that no late assignments will be accepted without prior arrangements. If you anticipate that you will not be able to attend a session in which there is an assignment due, turn it in ahead of schedule. Submitting an exercise/assignment late without an acceptable excuse will result in a zero.

*Communication*
Email with the professor should be limited to questions that require short answers. Anything requiring longer communication should occur during office hours. I encourage you to come to office hours to discuss course materials, concerns, and questions. Email should be respectful and grammatically correct (vs. texting style).

*Academic Honesty*
Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:
- **Cheating**: Use or attempted use of unauthorized materials, information, study aids
- **Fabrication**: Falsification or invention of any information
- **Assisting**: Helping another student to commit an act of academic dishonesty
- **Tampering**: Altering or interfering with evaluation instruments and documents
- **Plagiarism**: Representing the words or ideas of another person as one’s own

The goal of Oregon State University is to provide students with the knowledge, skill, and wisdom they need to contribute to society. University rules seek to assure each student’s freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action.

For more information please see [http://oregonstate.edu/studentconduct/offenses-0](http://oregonstate.edu/studentconduct/offenses-0)

*Statement Regarding Students with Disabilities*
"Accommodations are collaborative efforts between students, faculty and Disability Access"
Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Student Evaluation of Courses**

The online Student Evaluation of Teaching form will be available in week 9 and close at the end of finals week. Students will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. Students will log in to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted. Course evaluation results are very important and are used to help improve courses and the learning experience of future students. Results from questions are tabulated anonymously and go directly to instructors and unit heads/supervisors. Unless a comment is “signed,” which will associate a name with a comment, student comments on the open-ended questions are anonymous and forwarded to each instructor. “Signed” comments are forwarded to the unit head/supervisor.

**READINGS**


