

**Syllabus
Fall 2017**

Course: NREM 600 – Foundations of NREM and Policy (4 credits)

Time and location: Monday 1:30-4:00 | AgSci220
Wednesday 1:30-2:20 | BioMed T211

Instructors:

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Course overview:

Effective natural resource and environmental management and policy require understanding the structure and behavior of complex social-ecological systems (SES), including the environmental and social components and their interactions.

NREM 600 is the first of a two-course, eight-credit core curriculum for NREM M.S. students. The subsequent course, NREM 601, is taught in the Spring semester. Students are expected to take both courses in the same academic year and course activities and learning goals are calibrated for the entire series. NREM 600 provides students with some integrative concepts important for all resource managers, i.e., ecology, economics, hydrology, policy and management, soils and human dimensions. The course also covers research and communication skills required for all resource management professionals, such as the scientific method, hypothesis testing, data compilation and analysis, and writing and presentation. The course instruction consists of topical instructor and guest lectures. Students will critique journal articles from distinct disciplinary literatures throughout the semester and write a research proposal for the NSF Graduate Research Fellowship Program. In the Spring semester, NREM 601 uses the case study teaching method to teach an integrative, interdisciplinary approach to natural resource and environmental management.

Student Learning Outcomes (SLOs):

In this core curriculum, students will learn, integrate, and apply methods from both the natural and social sciences, ranging from interviews to participatory conceptual mapping to basic statistics and modeling. Research skills, ethics, and certification training will occur throughout the course to train students in critical aspects of proposal development and successful completion of research or projects involving social-ecological systems.

By the end of this curriculum, students will:

- 1) Demonstrate knowledge of principles and interdisciplinary aspects of NREM.
 - Demonstrate broad knowledge and understanding of critical topics and theories that span natural and socio-economic disciplines.
 - Build a foundation of interdisciplinary scholarship to prepare students for advanced learning and research.
 - Understand what interdisciplinary science is and how it can be used to solve NREM

problems.

- 2) Employ appropriate methods for sound, integrated solutions to local, regional, or global problems.
 - Develop processes, tools and technologies to provide recommendations and support improvements in NREM management.
 - Apply interdisciplinary approaches to real-world problems in NREM in ways that increase skill and capacity to manage natural resources.
- 3) Communicate effectively, both orally and in writing, to diverse audiences including professionals, resource managers, scientists, local communities, policy makers, and the general public.
 - Effectively use language across all NREM disciplines.
 - Communicate scientific research to non-technical audiences.
- 4) Develop professional skills needed to be a productive, collegial member of a global society
 - Think independently and work collaboratively to analyze NREM issues from a systems perspective.
 - Build skills for effective collaboration and co-learning.

These course learning outcomes will help students achieve the NREM **departmental SLOs**, which are:

- 1) Students demonstrate knowledge of social and ecological principles, and interdisciplinary aspects of natural resource and environmental management issues
- 2) Students can analyze and address natural resource and environmental management problems by using appropriate methods from social and/or natural science disciplines
- 3) Students communicate effectively, both orally and in writing, to diverse audiences including professionals, resource managers, local communities and policy makers
- 4) Students can
 - Conduct original, independent scientific research of professional quality in their specialization area (Ph.D.)
 - Conduct scientific research of professional quality in their specialization area (M.S. Plan A)
 - Conduct a capstone project of professional quality to acquire practical experience by applying NREM knowledge (M.S. Plan B)
- 5) Students can function as professionals in their specialization area by demonstrating a) responsible and ethical conduct, b) effective collaboration, c) informed decision making, and d) life-long learning.

This course is designed to primarily address departmental SLOs 1 and 5, and to a lesser degree 3.

Required Text:

Schimmel, J. 2012. Writing Science: How to write papers that get published and proposals that get funded. Oxford University Press.

Other readings as assigned.

Assessment/grading:

Course assessment (for NREM 600) will be based on the following activities and assignments:

1. 30% - Formative written assignments including critiques of articles and proposal peer reviews. Guest lecturers will assign other assignments as they see fit.
2. 30% - Observed participation in the form of attendance, academic rigor of input, professional quality of engagements, proactivity in seeking and sharing knowledge, and communication of synthesized information beyond repetition of assigned readings.
3. 40% - Proposal preparation, revision, and presentation.

Grades will be assigned based on the following scale:

A+	>97	B+	90>x≥87	C+	80>x≥77	D+	70>x≥67
A	97>x≥93	B	87>x≥83	C	77>x≥73	D	67>x≥63
A-	93>x≥90	B-	83>x≥80	C-	73>x≥70	F	<60

Expectations:

Of you:

- Come to class prepared so that you can actively participate in class discussions.
- Respectfully and politely engage with your peers and instructors, share your opinions, know the difference between opinion and fact, back up your arguments with evidence, listen carefully to the opinions and arguments of others, be willing to assimilate new information and change your mind if other arguments are more cogent than yours, ask for clarification, be succinct
- Contribute your fair share to your team project
- Complete assignments on time
- Keep up to date – the course schedule is subject to alterations

Of us:

The instructor's role is to design and teach the course such that you achieve the course outcomes.

To that end, we will:

- Be punctual, prepared, and enthusiastic
- Clearly communicate course content, expectations, policies, and assignments
- Listen carefully to questions and concerns
- Be available during office hours to provide assistance and feedback
- Respectfully and politely engage with you in discussion (see above)
- Fairly assess your work

Course evaluation by students:

This course has been designed specifically to meet the needs of NREM graduate students. We will gather real-time feedback for the improvement of the course during this semester and future years. Constructive feedback and suggestions are welcome; please email, talk with us outside of class, or leave an anonymous note in my mailbox. In addition, support from the Center for Teaching Excellence is scheduled. eCAFE will be utilized at the end of the semester.

Student support:

- If you (or someone you know) need support in **personal, academic, or career concerns**, UH offers confidential and free support services at the Counseling and Student Development Center (<http://manoa.hawaii.edu/counseling/>). The center provides a 24-hour Counselors-In-Residence program for emergency/crisis services for all students.
- If you feel you need reasonable accommodations because of the impact of a **disability**, please contact the KOKUA Program: <http://www.hawaii.edu/kokua/>; and speak with me privately to discuss your specific needs.
- **Writing** is a skill whose development takes time and dedication. UH has a writing center where you can get 1 hour a week of free tutoring. <http://www.english.hawaii.edu/writingcenter/>
- We have access to a wonderful **Open Educational Resources Librarian**, Sara Rutter, (srutter@hawaii.edu) and a useful webpage for NREM maintained by her: <http://guides.library.manoa.hawaii.edu/NaturalResourceMgt>

Attendance/late policy:

Please attend class and be on time. Within reason, absences for emergencies, illness, or fieldwork will be excused if communicated to instructors in a timely manner. It is your responsibility to turn in assignments and get missed information from your fellow students. Come to class prepared to engage in discussion. To this end, you should complete all readings prior to the start of class (ideally well before so you have time to think about them). Turn in all assignments on time; we reserve the right to reduce the grade on any late assignment or not accept it at all.

Other policies:

Cheating, plagiarism, and other forms of dishonesty will not be tolerated; if you cheat or plagiarize, you fail. If you have *any* questions about what constitutes cheating or plagiarism refer to the definitions in the UH student conduct code (<http://www.manoa.hawaii.edu/students/conduct/>). If you still have questions *please!* get in touch *before you turn something in*. There is nothing wrong with asking – often plagiarism is a gray area, especially in academics where we each build on each other’s work and ideas. Violations could have serious academic repercussions for you in this class and beyond.

Please do not use your phone or computer during class to do anything other than help you learn.