Restoration Ecology Winter 2013

Course Description: ***Restoration Ecology*** is a 4 credit MES program elective offered Winter 2013. The field of restoration ecology is fairly young, relative to other scientific disciplines. However, ecological restoration has occurred throughout human history, as various cultures have initially disrupted and then attempted to recover vital ecosystem services provided by intact, functioning ecosystems. Identifying priority restoration targets for nearly any ecosystem is one of the largest challenges for the conservation community, as it requires a complex understanding of the historical, social, political and ecological influences on restoration success.

This 4 credit graduate level course will explore both the objective and the subjective facets of restoration ecology, including various cultural perspectives on the value of restoration, how economic and political realities influence restoration targets, and the integrated structural and functional components of ecosystems that contribute to the success or failure of any restoration project. Students will have the opportunity to evaluate several large-scale restoration projects throughout the world and take part in active ecological restoration here in the Pacific Northwest.

"Here is the means to end the great extinction spasm. The next century will, I believe, be the era of restoration in ecology." – E.O. Wilson

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Class resources via moodle Website: http://www2.evergreen.edu/moodle/ under ***Restoration Ecology.*** PDF versions of class materials, including presentations, articles, etc. will be posted on the website. There is one text to purchase: Leopold, A. 1949. *A Sand County Almanac*. Oxford University Press, New York, NY. This book has been published by several companies and is available in most libraries and bookstores.

Class Meetings:
Lectures: **Wednesday evenings from 18:00 to 22:00** SEM IIE Rm 2017

Field Trips:
February 23rd Saturday 0600 - Sunday, February 24th 1700 Elwha Dam Removal Restoration
Saturday, January 26th 0930 to 1700 Field trip to South Puget Sound prairies

Be prepared for field work on field trips:
This class emphasizes field-based, hands-on experience with ecology and ecosystem analysis, which requires traveling off trail in potentially rough conditions. You need to be properly attired and have the proper equipment. Please come prepared for spending the day outside. This includes wearing sturdy shoes and long pants (shorts and sandals stay in the van), maintaining your metabolism (food and water), and protecting yourself from the environment (**rain gear**, sun protection, etc.). Please care for yourself and know your limits in all weather. Safety on field trips is a shared responsibility. Take it seriously. Each field trip will begin with a safety briefing.

ATTENDANCE/CREDIT:
Attendance at lectures, discussions, and field trips is REQUIRED. Absence from class without alternate arrangements is noted in evaluations. If you miss ≥ 10 hours of class time without prior arrangements you will lose credit.

ASSIGNMENTS/EVALUATION: I will use four areas to evaluate your progress toward course goals: participation and contribution to the class, effective communication, class notes and final presentation. These activities will help you synthesize salient information and provide the opportunity to practice speaking in a safe environment.

1 **Participation and contribution to the class:** Each of us brings something to the class, whether it is information, experience, insights or thoughtful questions. Make the best contribution you can. Remain objective.

2 **Effective communication:** During class each student will be responsible for reporting material from the text and primary literature relating to restoration ecology and natural resource management.

3 **Class notes:** Record keeping and faithful recollection are valued skills. Note taking and effective written summaries are skills that need to be developed and maintained. Taking good class notes that are of value to you is a good way to hone those skills. Yes, this includes the field trips. A review of your class notes will be part of the evaluation conference process.

4 **Final presentation:** Each student will be required to give an oral presentation to the class on a restoration-related topic of his/her choice. Evaluation will involve the presentation itself and any supporting materials.

CLASS SCHEDULE

Week/lecture subject	Readings/ Activities
Week 1 – Jan 9th Class expectations; Introduction to restoration ecology; history and development of discipline; why restore?	Assignment: TBA
Week 2 – Jan 16th Development of restoration targets; identifying reference conditions	Assignment: TBA
Week 3 – Jan 23rd Restoration project design and implementation; importance of short- and long-term monitoring; Case study - PNW prairie restoration (guest lecture)	Assignment: Saturday, Jan 26 field trip to S. Sound prairies
Week 4 – Jan 30th Trophic interactions; soils in restoration; unforeseen consequences	Choose topic for literature review and presentation;
Week 5 – Feb 6th *No class*	Assignment: TBA
Week 6 – Feb 13th Guest lecture	Assignment: TBA
Week 7- Feb 20th Riparian restoration projects; Case study - Elwha Dam removal (guest lecture); Field trip logistics	Assignment: Field trip to Elwha Dam removal site, Olympic National Park Feb 23-24
Week 8 – Feb 27th Restoration in a changing climate; planning for the future	Assignment: TBA
Week 9 – March 6th Political and economic realities of restoration projects	Assignment: TBA
Week 10 – March 13th Final student presentations	Assignment: Provide written summary and supporting materials for presentation
Eval week - March 18th – 23rd	Evaluation conferences will include a short written self and faculty evaluation