FOR 607 – RESTORATION ECOLGY
Fall 2012; 3 credits

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with assistance from Dr. James Gibbs, jpgibbs@esf.edu

Class Meetings: Tuesday 3:30 - 6:15 pm, 324 Bray
Office Hours: By email appointment
Textbook source: amazon.com or barnesandnoble.com

In this course we examine how ecological theory relates to the practice of restoration. We cover restoration applications of major areas of ecological research, including population and community dynamics, abiotic and biotic interactions, genetic considerations, trophic webs, non-equilibrium drivers (e.g., land degradation, disturbance, and climate change), alternative stable states, and novel ecosystems. Readings combine chapters from *Foundations of Restoration Ecology* (Falk, Palmer, and Zedler, eds.) with case studies from the restoration literature. The class has broad relevance to restoration practitioners, conservation biologists, environmental engineers, and landscape architects. A basic ecology course or working knowledge of ecology is a prerequisite. Open to advanced undergraduates by permission of instructor.

Course Objectives

- To review major concepts in restoration ecology.
- To understand linkages between physical and biological drivers in ecosystems, resulting landscape patterns, and how humans modify both process and pattern.
- To appreciate the difference between restoration objectives and ecosystem functions.
- To gain experience reading and reviewing scientific papers.
- To develop an applied case study that embeds restoration ecology concepts within a site design or restoration feasibility analysis.

Course Content and Student Expectations

The class collectively develops a synthesis of concepts in restoration ecology through discussion of important papers within a multi-disciplinary group of students. Active and frequent participation by all students is critical to achieving this; therefore, class attendance, prior preparation and substantial participation in the discussion constitute 20% of the grade.

All students are responsible to read and discuss textbook chapters, plus supplemental papers. Each student will co-lead 1-2 discussion(s) on a specific topic and prepare a presentation and handout, including annotated bibliography of several major papers in that field (30% of grade).

In 2012, the class will conduct a restoration feasibility analysis of Baltra Island (Galápagos, Ecuador), in collaboration with Dr. James Gibbs (EFB, jpgibbs@esf.edu), who is advising SENESCYT, Ecuador’s national science and technology institute. Throughout the semester, students will research the environmental context and human history of the island related to a specific aspect of the ecosystem, analyze restoration approaches, and write a chapter for an Opportunity and Constraints report. This project is 50% of the course grade.

Other expectations: Course communications will be through students’ @syr.edu emails, which must be checked frequently. Excused absences for professional reasons (e.g., conferences, field work), personal emergencies, and illness will be granted with prior notice or within 48 hours of a missed class. Use of all reference materials, including internet sources, must be appropriately cited in all course assignments. Academic dishonesty will be result in a zero grade for the assignment and/or course, and potentially other disciplinary actions. For more information, see ESF’s Academic Integrity Handbook at: [http://www.esf.edu/students/handbook/integrity.pdf](http://www.esf.edu/students/handbook/integrity.pdf)