**Master of Environmental Studies Electives (2016-2017)***See evergreen.edu/mes for a full description of each course*

**FALL 2016
Advanced GIS (Mike Ruth)**Advanced GIS is a fast-paced course designed to teach graduate students to use Geographic Information Systems (GIS) for mapping, spatial data management, and spatial data analysis. Instruction is based on reading assignments, lectures, and weekly hands-on labs using ArcGIS 10.1, including both desktop and online mapping tools for collaboration and presentation. Students should have experience with quantitative software and be able to demonstrate a solid understanding of MS Windows file management practices.

**Conserving and Restoring Biodiversity (Timothy Quinn)**By focusing on the biology that underlies conservation and restoration issues around the world, this course provides a practitioner's perspective of the relationship of biology and policy. It incorporates literature, controversies, and promising methodologies for a variety of conservation/restoration biology applications. In addition, a number of local experts will come in and provide perspectives on their work in applied fields of conservation.

**Sustainable Forestry in Fire-prone Landscapes (Richard Bigley)**This course provides an introduction to 21st-century forest ecosystem management, the design of forest restoration treatments, and the role of fire in dry forests. A three-day field trip will emphasize the unique issues facing restoration management of fire prone landscapes of the Pacific Northwest. The course materials will explore the underlying science and practice of sustainable forestry, and the interface with societal and economic forces including adapting policies to address 100 years of fire suppression, and climate change.

**Organizational Sustainability in Theory and Practice (Scott Morgan)**
Communities and organizations have substantial environmental and social impacts at both local and global scales. How do we evaluate the positive and negative values of those impacts? How do we define and assess organizational practices and associated impacts? What should we be measuring and tracking? And how do we use assessments to stimulate and guide positive organizational change? To understand the theoretical and practical dimensions of these questions, this course will explore a variety of assessment tools designed for corporations and other organizations, communities, and colleges/universities. Class work will include planning for and beginning the data collection for Evergreen’s first AASHE STARS assessment of organizational sustainability since 2011. Students will have the opportunity to continue this work in subsequent quarters through internships.

**WINTER 2017
Environmental Education (Jean MacGregor)**This class explores the history, philosophical underpinnings, and current trends in environmental education for both youth and adults, in both formal sectors (schools and colleges) and non-formal ones. It will be useful to students interested in environmental teaching or communications as a career, or to those whose environmental work might involve education or outreach components.

**Restoration Ecology (Sarah Hamman, John Withey)**This 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 small- to large-scale restoration projects, in the Pacific Northwest and around the world, as well as take part in active ecological restoration.

**Environmental Humanities: Argument as Art/Art as Argument (Miranda Mellis)**

This creative and critical writing class will explore and experiment with argument as art, and art as argument. Who are we trying to convince, and why? How can we use our imagination to help clarify form, content, tone, and mode of address? The study of artists and writers concerned with environmental issues can help us think about our audiences and the most effective ways of engaging, challenging, educating, or motivating them. This course will entail weekly readings and occasional screenings that exemplify artistic approaches to arguments concerned in a range of ways with environmental questions. Creative and critical exercises will help students develop their academic writing and their ability to communicate effectively with diverse audiences.

**Climate Solutions in a Diverse World (Kathleen Saul)**Developmental pathways and technological changes, especially those taking place beyond Europe and the United States, are transforming societies and energy systems. Indigenous innovations in renewable energy are often more appropriate and practical than pathways and technologies imported from more “developed” countries. Moreover, they might also serve as models for making all energy systems more sustainable. This elective will explore the current social, economic, and energy status of several countries around the globe and will try to better understand their unique contributions to a less fossil fuel intensive, more renewable energy focused future.

**SPRING 2017
Introduction to GIS (Mike Ruth)**This course will teach students how to use the versatile technology of Geographic Information Systems (GIS).  GIS is more than map-making. This technology is increasingly used by physical and social scientists, policy makers, businesses, environmental and conservation organizations, utilities, public health providers, the military, and educators. Students will learn to manage spatial data and tools, mainly using the Esri suite of software commonly known as ArcGIS.

**Aquatic Ecology (Erin Martin)**Inland waters (lakes, rivers, streams, reservoirs, wetlands and groundwaters) are some of the most threatened ecosystems on Earth. Yet they provide critical ecosystem services: providing food and freshwater, regulating climate, and detoxifying pollutants.  In this course, we will examine inland waters as ecological systems that interact with their drainage basin and the atmosphere.  We will also explore how physical, chemical, and biological processes operate and impact the organisms found within each ecosystem. Finally, we will study the way inland waters, as hotspots of biogeochemical activity, contribute to fluxes of greenhouse gasses.  Case studies of real-world problems (e.g., eutrophication, deforestation, climate change) will be used to assess the effect of anthropogenic changes on inland waters and watersheds.  This program will include lectures, laboratories, and at least one field trip to gain experience with sampling techniques in aquatic ecology.

**Environmental Advocacy (Ted Whitesell and Benjamin Shaine)**Prevention and resolution of environmental problems depends significantly on effective environmental advocacy.  Science, government regulation, and market mechanisms are insufficient without it.  The purpose of this 4-credit graduate elective is to learn and practice skills needed to be an effective environmental advocate, including analysis of a contested policy situation, development of an effective strategy to affect its outcome, and methods for implementing the strategy through organized, collective action.  This knowledge is useful for those working within government, the private sector, environmental advocacy groups, and as citizen activists.  We will study cases that illustrate the successes and failures of various attempts to influence events, including guest lectures by participants in those cases.  We will learn to practically apply social science theoretical frameworks in ways that help create effective strategy.