Students accepted into the MES program may choose to take Spring or Summer electives as a Special Student. If this meets your needs, please send an email to Andrea Martin at martina@evergreen.edu.

The Special Student Registration Form can be found here: <https://www.evergreen.edu/registration/special>

**Spring 2018**

**American Indian Solutions to Environmental Challenges (Linda Moon Stumpff & Ted Whitesell)**

Native American Tribes represent a powerful force for environmental and social progress in an age that can seem to be dominated by negative forces within our political economic system. To a significant extent, the Tribes are leaders in fields such as conservation, ecological restoration, and adaptation to climate change. In addition to managing a significant part of the land base, the Tribes possess unique legal tools and the only long-term cultural memory of environmental conditions in this continent. This elective will be of interest to students who will be working as scientists, resource managers, policy makers, and educators addressing pressing environmental issues such as climate change, habitat conservation, ecological restoration, recovery of endangered species, and challenges to human health and environmental quality posed by water, soil, and air pollution. Working in or collaborating with the resource agencies, scientists, and governance structures of American Indian Tribes is increasingly a central task of all environmental professionals. Yet, most of these newly minted environmental professionals have little to no preparation for such work. To be effective, environmental scientists, resource managers, policy makers and educators must understand: (1) treaty law and policy, and Indian land tenure; (2) Tribal accomplishments and current projects in such areas as ecological restoration, habitat conservation, and recovery of endangered species; and (3) the fields of Native science and Indigenous knowledge, and how practitioners engage in what is known as “two-eyed seeing” – a special case of interdisciplinarity that encompasses knowledge acquisition using Western and Native American traditions. The course will address these topics, using a combination of lectures, seminars, case studies, guest lectures and panels, plus a weekend field trip.

**Aquatic Ecology (Erin Martin)**

Inland waters 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 (focusing on rivers and streams) 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 will be used to assess the effect of anthropogenic changes on inland waters and watersheds.  This program will include lectures, laboratories, and field trips to gain experience with sampling techniques in aquatic ecology.

**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.  A GIS integrates computer hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information across a wide variety of disciplines. GIS technology is increasingly used by physical and social scientists, policy makers, businesses, environmental and conservation organizations, utilities, public health providers, the military, and educators, to name a few.  More and more organizations are using spatial data and analysis to help them make decisions relating to acceptable land uses, allocation of resources and assets, fairness and social wellbeing, and many other needs. Instruction will rely strongly on weekly hands-on labs and homework exercises to guide students through a public policy decision process from beginning to end over the duration of the quarter.  Students will learn to manage spatial data and tools, mainly using the [Esri suite of software](http://www.esri.com/) commonly known as ArcGIS. No previous experience with GIS is required.  Student versions of the ArcGIS software suite will be made available for home use (but technical support is limited to college computers).