

# Environmental Science and Policy

## Fall Newsletter

**REGISTRATION** is just around the corner (November 4–15), so here is what you need to know about the courses being offered in the Environmental Science and Policy program in Spring 2014:

**Principles of Geology (ENSP 41)**  
**MWF 10-10:50, plus lab (4 cr)**  
**Szramek**

Introduction to the science of geology, its principles, methods and theories as they are employed in studying planet Earth. The importance of geological knowledge in understanding problems of natural resources, hazards, and land use is emphasized. No prereq. Laboratory required. *Attributes: Physical Science*

**Animal Behavior Methods**  
**(ENSP 50) T 1-3:50 (3 cr) Renner**

This course is a hands-on introduction to the study of animal behavior. Students will learn about how to match study methodology to a particular research question, what the results can tell you about animal behavior, the limits to measurement precision, and deductive and inductive methods. The bulk of the course will be devoted to learning about various study techniques while using video materials or working at field sites and the Blank Park Zoo. No prereq.

**Environmental Communication**  
**(ENSP 50) TR 11-12:15; W 11-11:50 (4 cr) McAllister**

This course focuses on the role of communication in shaping distinctions and relations between “culture” and “nature,” in representing environments for audiences, and in advocating for or against particular environmental policies and practices. We will critically examine how publics come

to view environments through representations in a variety of media; we will consider problems of efficacy and ethics in the public discourse, forums, and voices playing a part in environmental controversies and debates; and we will engage in advocacy ourselves, reflecting on the relationships between all of these arenas—the theory, critique, and practice of environmental communication.

**Environmentalism in the US**  
**(ENSP 71) MW 9:30-10:45 (3 cr)**  
**Haedicke**

This course uses sociological concepts and methods to examine contemporary environmental movements. Students will learn about the ideological and organizational diversity of environmental movements, consider beliefs and experiences that lead people to participate in these movements, and study the ways that environmental activism is shaped by social structure and social institutions. Movements considered may be ones that focus on wilderness protection, animal rights, anti-pollution activism, environmental justice, buying “green,” and others. *Attributes: Engaged Citizen, Values and Ethics*

**Global Climate Change: The Science & Policy of Global Warming (ENSP 135) TR 9:30-10:45 (3 cr) Courard-Hauri**

An interdisciplinary investigation of anthropogenic global change, using “global warming” as a semester-long case study. Students learn an effective approach to investigating a major

environmental issue by first obtaining a strong scientific background in the issue, building mathematical and conceptual models to test scenarios, and finally investigating various policy options. Climate physics, paleoclimatology, biology, uncertainty analysis, economics, and risk assessment are some of the tools students will learn to apply to these issues. Prereq: Math 20 or equivalent. *Attributes: Physical Science, Honors*

**Environmental Politics & Policy**  
**(ENSP 156) MW 9:30-10:45 (3 cr)**  
**Mosser**

The objectives in this course are to present theoretical models and case studies that familiarize students with the fundamental processes that produce environmental policy. Environmental Politics and Policy provides an analytical framework for making sense of the origin and limitations of landmark legislation. Prereq: POLS 001 or ENSP 35 or instructor's consent.

**Applications of GIS (ENSP 165)**  
**T 5-7:50 (3 cr) Kiel**

This course acquaints students with “real world” GIS solutions by taking a project from concept to completion; this includes generating project proposals, acquiring and creating data, performing spatial analysis, project presentation, and product delivery. Students learn to identify issues at all phases of a GIS project and work with the client and fellow team members to creatively solve problems. Client and consultant relationships are established by working with central Iowa agencies and organizations. Students are exposed to internship opportunities and are able to network with professionals in a variety of fields. Prereq.: ENSP 65.

# Faculty Profile:

## Dr. Michael Renner



Dr. Michael Renner, the newest professor in Environmental Science and Policy, brings a wide array of experiences and interests to the program. Dr. Renner came to Drake in the spring of 2009, but served as Provost through the summer of 2011. “People didn’t see me around Olin hall very much until a couple of years ago.” Serving as a professor of both Biology and Psychology, he is now teaching courses that focus on topics in animal cognition and behavior, such as Primate Cognition. In the past, he has also taught Chemistry and Physics at the secondary level and graduate classes in Neurobiology.

Dr. Renner is excited to be teaching a new course this spring titled Animal Behavior Methods (ENSP 050). The class will first learn video analysis techniques, and then spend most of their time at the Blank Park Zoo and in local parks and nature preserves employing different methods of collecting behavioral measurements. Dr. Renner was one of the earliest scientists using video records to quantify animal behavior, and much of his research has relied on visual data as a result.

Dr. Renner is also collaborating with the Blank Park Zoo as part of his newest research, for which he will be designing an experimental display featuring both gibbons and vultures. In addition, he will be studying habitat use and social dynamics among the eleven species inhabiting the free-flight bird enclosure.

Furthermore, Dr. Renner is engaging in international research in the Gishwati Forest Preserve located in Rwanda. The Gishwati forest is home to a troop of chimpanzees that have been known to raid crops grown by the humans living around the preserve. He is working to create an animal cognition model that will predict crop-raiding behavior. “The data are very promising, and our Rwandan colleagues—a Rwandan NGO that is managing the forest during its transition to national park status—have asked us to extend the results of these studies to the entire preserve area.” Dr. Renner’s research has extended its benefits to students. “This is a significant opportunity for Drake students; we’ve had students at Gishwati in each of the past three summers, and hope to be able to continue that in the future.”

Dr. Renner and his family have strong ties to Des Moines, though. His wife of almost 25 years, Dr. Catherine Hackett Renner, is the Director of Research for the five UnityPoint hospitals in town and his daughter is a Drake alumna living in Des Moines. His son is in 7th grade and plays on a regional soccer team, which brings the family to soccer fields around the midwest.

*Dr. Renner can be found in office 122 on the first floor of Olin Hall, or reached by email at [michael.renner@drake.edu](mailto:michael.renner@drake.edu).*

### SPECIAL INTEREST

As students who have taken his Nature Photography class are aware, Dr. Renner is passionate about photography as both a research component and an art form. His years of field research in the Sierra Nevada Mountains provided him with the opportunity to explore his hobby in more depth. “...the spectacular natural beauty of the area drew me into trying to figure out how to capture images of it.” Furthermore, photography helped him to discover that “taking a good picture requires being fully present in the moment, and that’s a skill that turns out to be useful in a broad variety of circumstances.” Dr. Renner recognizes the dual purposes of photography and makes a point to engage in both types of picture taking. “I’m fascinated by the differences and similarities between using images for documentation and making art... on a good day, you can sometimes do both at the same time.”





**SPENCER HAGEN** is a junior Environmental Science major who studied abroad in Peru last summer through non-profit organization Fauna Forever, which provided him with hands-on field ecology experience.

**Q: What convinced you to look into study abroad opportunities?**

A: "My sister pushed me into looking at study abroad opportunities. I was hesitant because of costs and I had no idea what I could do with my major in another country. I didn't have a specific country in mind. I just knew I wanted to experience a different culture sometime within my college career. Then, Professor Keith Summerville said I needed to go work somewhere during the summer. I looked through a website he gave me (conbio.org) that had all sorts of summer opportunities. The first one I found that looked amazing was tracking wolves in Montana. I was upset to learn that the internship ran into school. I ran into the same problem with a few other opportunities until I came to a non-profit organization called Fauna Forever, working in the Peruvian Amazon. I thought, 'why not?' and proceeded to make preparations."

**Q: In what ways did your experience relate to your Environmental Science major?**

A: "I was outside studying the wildlife in the area. I was learning a process scientists use to gather data. The cool

part was being able to see how the projects and data I collected would be used to preserve parts of the Amazon. I was able to see the whole process."

**Q: Did you learn anything unexpected about yourself or your studies?**

A: "This experience told me that I enjoy field ecology. I enjoy being outside in the thick of it with hands-on tasks. I actually was able to navigate my way across Peru with very limited Spanish. I ran into a few obstacles in my travels to the remote parts of the jungle and was able to calmly overcome them."

**Q: Describe your most memorable moment abroad.**

A: "The night after we arrived at the field station. I was in a bungalow with two other guys. Pat was out late because he was on the herpetology team, and Luix and I were fast asleep when the door swung open and Pat ran in to say, 'Guys! We found the Bushmaster!' Before I could react, Luix jumped from his bunk above mine to the floor, shaking the whole bungalow. I grabbed my rubber boots and at T-shirt and took off after them still not sure what was happening. I called out to ask, 'Hey what's the Bushmaster?' Pat then explained that it is the largest and most dangerous snake in the Western Hemisphere. I instantly stopped and said, 'And we're trying to find this thing?!'

He didn't stop and kept on jogging down the path... I finally stopped to reevaluate my decision making abilities. I thought, 'I am in the middle of the Amazon Rainforest in the middle of the night, it is pitch black, all I have is my super cheap headlamp from Eddie Bauer, and all I'm wearing is a T-shirt, gym shorts, and rubber boots. I don't have a machete, and I am chasing the most dangerous snake in the Amazon. Somewhere between Iowa and Peru I

lost my sanity.' Finally, I saw the glow of about eight headlamps. I then looked for the snake. Being the biggest pit viper in the Amazon, I figured it would be easily visible. I couldn't find it right away probably because I had no idea what color it was or exactly how big it really was. Then, I saw it. It was terrifying. Huge! Not Anaconda huge, but big enough to drain the blood from my face. It was white with black diamonds down its back. Huge black eyes watching us all.

Brian then tried to move a branch that was in the way of a photo. He slowly moved over to the branch and grabbed it with his left hand. As he raised his machete, the Bushmaster's head turned and aimed at Brian. Everyone held their breath. He calmly lowered his machete and tried to 'saw' the branch in a more subtle manner. The branch was removed, bringing the entire snake into view. I stayed and admired the snake for a few more minutes, but after heading back to bed I remember thinking, 'This is only the first night.'

**Q: Has your experience abroad influenced your career path?**

A: "It told me that I was in the right spot. I am happiest when I'm outdoors."

**Q: What would you tell a student who is on the fence about studying abroad?**

A: "You have to go. You can learn a lot in the classroom, but you'll learn a lot more if you go out and experience it. You will have so many incredible experiences and have so many crazy memories. It is worth every penny."

**Q: Any plans to go abroad again?**

A: "No current plans, but I will jump at any chance to go again!"