PEPS 401: African field ecology and conservation biology, 3 credits.

Presented through the University of Hawaii Study Abroad FaSST Program, in collaboration with Balule Nature Reserve. Limited to ten students.

Instructors: Mark G. Wright, Claudia Coen, Department of Plant and Environmental Protection Sciences, UHM.; Craig R. Spencer, Transfrontier Africa / Balule Nature Reserve.

This course will comprise 14 days residence in Balule Nature Reserve (BNR), part of the Greater Kruger Park, Limpopo Province, South Africa, plus at least three days in Johannesburg environs and in transit. Each day will include formal lectures (22 lectures total), fieldwork, and interactions with the BNR staff and their activities, and informal discussion sessions, typically during evenings at the campfire, addressing a diversity of conservation and societal issues. Students will conduct field studies relevant to the needs of BNR (potentially launching longer term studies), analyze data, and present their findings at the end of the course. Final grades will be assigned based on participation in group discussions and quality of the final project presented.

The primary objective of this course is to offer students a hands-on African conservation learning experience, including interactions with local conservation professionals and students, providing an immersive exposure to the challenges faced in conservation, and the rewards of ethical, dedicated efforts to address those challenges. Conservation in Africa is a complex and daunting undertaking, impacted by socioeconomic imbalances, land ownership issues, severe poaching pressures, and many other non-trivial issues. The same is true in many places world-wide. We hope to inspire young conservation students to enthusiastically address the challenges of conservation globally, through first-hand experience of a unique suite of approaches to the challenges.

Students will be selected based on a brief essay describing their interest in the course, and how they see participation in the course benefitting their education (submitted to Wright).

Preliminary schedule:
Day i: (Johannesburg): Group meets for detailed briefing on conduct, safety and expectations for the course.
Visit Cradle of Humankind Museum <http://www.maropeng.co.za>. Or similar.
Jetlag management.

Day ii: Travel to BNR via shuttle (approximately six hours). Camp orientation and introductions to instructors, BNR staff.

At BNR:

Day 1: Lectures: Introduction to African biomes; savanna biome; overview of history and current conservation in South Africa; conservation philosophy; society and conservation.

Field work: Introduction to staying alive in the African savanna; overview of current field projects. (Daily fieldwork will be varied, the listed work will occur on various days, and sub-groups of students will participate in different activities as appropriate.)

Day 2: Lectures: The BNR concept – overview of fauna and flora; conservation activities; integration with Greater Kruger Park; government and non-govt conservation efforts.

Field work: Data collection – existing projects; start developing ideas for new short-term projects (e.g. bioblitz approach; setting up long–term monitoring programs, e.g. for bats, insects; hypotheses to test during the next two weeks, in collaboration with BNR staff).

Day 3: Lectures: Poaching and anti-poaching – introduction to the Black Mamba program; current rhino (and other species) anti-poaching strategies. See <http://www.blackmambas.org>

Field work: Develop field research procedures.

Day 4: Lectures: Wildlife trade and poaching – issues and options; legalized trade in ivory, rhino horn, pangolins; CITES.

Field work: Data collection; interact with Black Mambas.

Day 5: Lectures: Conservation education – the African situation; environmental awareness in marginalized communities; involving communities. See <http://www.blackmambas.org/environmental-education.html>

Field work: Data collection/interact with Black mambas/interact with Bush baby program?

Day 6: Lectures: Ecological complexity – role of insects and other overlooked organisms; Small mammals in the ecosystem; Umbrella species, keystone species; Fire.

Field work: Camp clean-up.

Day 7: Kruger Park visit, or Drakensburg visit (both conservation areas adjacent to BNR).

Day 8: Lectures: Invasive species and conservation; management options; managing conservation areas: Ecosystem level management; landscape level management.
Field work: Invasive prickly pear control.

Day 9: Lectures: Monitoring programs and conservation; monitoring methods.

Field work: Rhino and elephant camera trapping and tracking, data capture and processing.

Day 10: Lectures: Culling – a necessary evil?; Reserve size and management intensity; How much intervention is "natural"?

Field work: Data collection.

Day 11: Lectures: Realities - conservation and human needs; conflicts; First-world vs. 3rd world challenges.

Field work: Data collection.

Day 12: Lectures: Data management and presentation.

Field work: Data collection, analysis.

Day 13: Data analysis, synthesis. Overall discussion on course content, concepts, perspectives, opinions.

Day 14: Student feedback on fieldwork; present results of field studies.

Day 15: Return to Johannesburg.