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SYLLABUS

Environmental Research Methods and Ethics

ENVI 3500 (4 credits / 60 hours)

SIT Study Abroad Program:
Tanzania: Wildlife Conservation and Political Ecology

PLEASE NOTE: This syllabus represents a recent semester. Because courses develop and change over time to take advantage of unique learning opportunities, actual course content varies from semester to semester.

Course Description

This course prepares and equips students with knowledge and skills that are essential to completing a field project in unfamiliar settings using Tanzania as the context. As successful completion of a field study project is contingent upon sufficient understanding of the local social and cultural terrain, the course constantly applies and adapts conventional principles, strategies, and methods of environmental research methods to Tanzania's local biotic, abiotic, social, and cultural landscape. Students are initially introduced to the principles and methods of environmental field study techniques such as scanning, recording, interpreting, analyzing and displaying environment primary data following which they learn how to weave these techniques into the Tanzanian socio-cultural context. Students develop a research proposal for their ISP and learn how to collect and analyze primary data. Students learn social science primary data gathering methods (observation, interviewing, focal groups, participatory observation, etc), and natural science and ecology field methods. The course is based mainly on field exercises, with about 60 hours of field based educational excursions and self-directed activities and 30 hours of classroom based lectures, assigned reading, and critical reflection sessions.

The course therefore consists of two core components – one being the field study work conducted in field study teams with local experts on excursions, and the other being the preparation for the work needed to conduct the Independent Study Project (ISP), and the actual field work conducted for the ISP.

The ERME field study work is conducted in the Tarangire, Lake Manyara, and Serengeti national parks and the Ngorongoro Crater Authority Area, and in Mazumbai tropical forest in the West Usambara Mountains. In the national parks, students are split into four groups – birds, ruminants, non-ruminants and thembo. Each group works with the relevant expert, first doing a reconnaissance survey, and then real data collection. Each group analyzes their data and presents their findings to the larger group on return to camp. At the end of the visit to Lake Manyara National Park, students work with their local expert to formulate a study question that they use to guide their field work when we visit the Serengeti National Park. In Mazumbai forest, students split into three field study groups by altitudinal band. Each

group explores two separate sites in the forest working with a forestry expert to collect data. Each group prepares a presentation of their findings and delivers this to the broader group.

During the semester, several class and individual sessions prepare students for various types of ISPs. These begin during orientation, with small group meetings with the academic director (AD) to discuss broad topics, the ISP process, and logistics. In week 3, while on excursion in Mtowambu, where many students do their ISPs, students break into smaller groups, led by either the AD, academic coordinator (AC), or local expert, and visit the sites of some of the ISPs previously conducted in that area. Students are provided with copies of the relevant ISPs to read, and discuss how it was done, possible other topics etc. This can include informal interviews with local people. We then reconvene as the bigger group to give feedback and discuss key issues.

In week 7, students have one on one sessions with the AD and AC. Each student prepares a poster outlining their ISP topic, key objective, proposed methods, itinerary and location. This is briefly presented to the group, allowing accompanying SIT staff, local experts, and other students to provide input and suggestions. Students have a full week of preparation for their ISP in week 8, visiting their proposed ISP sites where possible, and to prepare and test their methods, confirm logistics, and make contacts.

Formal ISP classes include discussing different types of ISPs and how to design an ISP, developing a study question/objective, interviews, focus groups, observation, collecting data, data analysis and methods, how to structure and finalize the ISP proposal, analyzing results, and writing and presenting the ISP (formulating the argument, writing tips, referencing and presentation skills). Throughout these sessions, key ethical issues are raised and debated.

Learning Outcomes

By the end of the course, students will have the ability to:

- Compare and contrast social science research methodologies (in-depth interviewing, questionnaires, focus groups, and surveys) and Participatory Rural Appraisal (flow diagrams, participatory observation, transect walks, etc.) with emphasis placed on critical cultural analysis and ethical considerations in working with study subjects;
- Evaluate a variety of ecology and field biology data collection skills and interpret primary data in relation to the scale-defined levels that are connected to the structure and functioning of an ecological system and a range of conservation strategies;
- Apply and critique basic statistical analyses in project evaluation and problem solving, and display the analysis; and
- Select and justify an understanding of appropriate methodologies used to carry out a 30-day Independent Study Project (ISP) utilizing the unique human and physical resources available in Tanzania.

Assigned reading

SIT Tanzania Wildlife Conservation and Political Ecology Orientation Field Manuals. World Learning, Inc. 2016. (one each for Tarangire and Lake Manyara National Parks, Mazumbai Forest Reserve, Serengeti National Park, and Maasai Homestay)

All SIT Tanzania Wildlife Conservation and Political Ecology Manuals are devised by SIT faculty in conjunction with Tanzanian experts such as lecturers at Sokoine University of Agriculture (SUA) and draw on the following sources:

- Clearly, L. M. (2013). Gathering data while respecting participants, In Linda Miller, Doing cross-cultural research in social settings. London: Palgrave McMillan.
- DeWalt K.M., DeWalt B. R. (2011). Participant Observation: A guide for fieldworkers. Altamira Press.
- Glesne, C. (2011). Becoming Qualitative Researchers, An Introduction. Pearson Education. Boston.
- Holland, Jeremy and Campbell, John. (2005). Methods in Development Research: Combining Qualitative and Quantitative Approaches. ITDG Publishing: Warwickshire, UK.
- Kumar, R. (2011). Research Methodology: A step by step for beginners. Sage Publications, Ltd.
- Kumar, R (2011). Becoming Qualitative Researchers, An Introduction. Pearson Education. Boston.
- Yin, R.K. (2014). Case Study Research. Design and Methods. Sage Publication, Ltd.

Assignments and grading

All methods and techniques involve data collection, analysis, individual or group presentations, group discussion and some form of written component. We will be accompanied in the parks by local experts, who will share their knowledge, teach various data collection and analysis techniques, answer questions and facilitate discussion.

The following grading breakdown applies:

National Parks Field Activities (Tarangire and Serengeti)	10%
Mazumbai Forest Reserve Activities	10%
Field Study Team Presentations	20%
ISP proposal	25%
Work journal	25%
Participation	10%

Work journal

There are four main components of the ISP: the proposal, the research, the actual ISP report, and presentation of the research. The ISP grade consists of only two of these, the actual ISP report and the presentation. The proposal and work journal which together reflect the research conducted to produce the ISP, and the application of appropriate research methods, form part of the Environmental Research Methods and Ethics course.

Throughout the development of the ISP, students need to keep a work journal. This forms part of the final ERME evaluation. The journal should commence as soon as possible, including notes of the first meeting with the AD to discuss the ISP, scheduled during orientation week. It should include every detail of the research process, including telephone calls to potential sources of information, attempts to arrange meetings etc. The work journal should record all observations and notes from interviews and

data collection to reflect the hours of field work put into conducting the ISP. Assessment of the methodology used in the ISP, as reflected and outlined in the work journal, forms part of the ERME grade.

ISP Proposal
The ISP project proposal is intended to be a rigorously developed and professional document which will go through a rigorous process of evaluation. The proposal helps students to clarify their intentions and expectations and to clearly communicate these points to others, identifying what possible problems may arise, and outlines a discrete project that can be accomplished in the given amount of time. The final ISP proposal also provides the academic director all the primary logistical information necessary to further guide the project and to locate students in the case of an emergency. In an endeavor to uphold the ethical standards of SIT, all proposals are reviewed by SIT's Local Ethics Review Board. Research that exposes human subjects to the risk of unreasonable harm in any way is not allowed. No research shall expose subjects to any risk that can be avoided without impairing the research design. The Review Board consists of the Academic Director, Academic Coordinator, and a local body of research experts.

Developing and submitting the ISP proposal is the most formally structured part of the ISP preparation process. It is intended to be a professional document suitable for submission to a university review, or a funding board for rigorous evaluation. Proposals generally follow a standard format that is both helpful to researcher (in organizing his/her thoughts) and reviewer (in determining whether the researcher has thoroughly thought out all important aspects of the proposed project.)

The ISP proposal needs to include a succinct title, a project summary or abstract, a description of the background to the study, outlining the problem statement, specific objectives of the project, a literature review, an explanation of the proposed methods to be used, the resources required, a project calendar and proposed budget, and itinerary indicating travel and accommodation plans. The Review Board assesses proposals on the content and depth of each of the sections as carefully described above; as well as on quality of writing (grammar, syntax, spelling and a clear, concise and engaging writing style).

National Parks Field Activities
In national parks students sign up for a particular field study team (FST), each based on an ecological theme. Each team designs a "mini-ISP" around one of the basic concepts of ecology – social organization as it relates to habitat. Each team conducts background research, devises a study question with predictions, gathers primary data in Tarangire and Serengeti National Parks, completes a data collection sheet, and analyzes and presents their findings to the whole group in a FST oral presentation.

Mazumbai Forest Reserve Activities
Activities in Mazumbai help students to understand the ecological and conservation factors that affect the Forest Reserve of Tanzania. These activities include an educational hike and lecture, three tropical forest ecology exercises, and a Village Resource Management Exercise in which students are divided into small groups each of which focuses on different aspects of remote village life near a forest reserve. This involves a trip into Mayo village for a day of talking (interviews) and participating in village life, following which we discuss our observations with the group.

Grading Scale

The grading scale for this course is as follows:

94-100%	A
90-93%	A-
87-89%	B+
84-86%	B
80-83%	B-
77-79%	C+
74-76%	C
70-73%	C-
67-69%	D+
64-66%	D
Below 64%	F

Please refer to the SIT Study Abroad handbook for policies on academic integrity, ethics, warning and probation, diversity and disability, sexual harassment and the academic appeals process. Also, refer to the specific information available in the Student Handbook and the Program Dossier given to you at Orientation.

If the research has been funded by a U.S. government agency, or if the student plans to take this research back to the home school or community for further dissemination, then the student may be required to follow standards from their home institutions in addition to the Local Review Board and those of the Office for Human Research Protections, with which SIT is registered. For applications that require a full review, the academic director will forward any questions or concerns that cannot be resolved at the program level (through the Local Review Board) to SIT's Institutional Review Board.

Disability Services: Students with disabilities are encouraged to contact Disability Services at disabilityservices@sit.edu for information and support in facilitating an accessible educational experience. Additional information regarding SIT Disability Services, including a link to the online request form, can be found on the Disability Services website at http://studyabroad.sit.edu/disabilityservices.