Research Methods  
ACM Tanzania: Ecology and Human Origins  
Fall 2013

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Course Description: In this course we will learn and practice the life-cycle of a field research project. The life-cycle begins with reading the literature and determining what is known and what is not known. In order to design a study you need a toolbox of skills, so you will learn basic observational and sampling techniques and statistical analyses. Once you have the background and a full toolbox, you will design a research project given the parameters of the field site and available resources. You will practice your skills by completing a field research project involving project design, data collection, data analysis, writing a scientific paper and presenting your results.

Learning Objectives:
1. Find, read, analyzing, and summarize primary scientific literature
2. Use literature to identify research questions, to inform research design, and make connections to broader scientific inquiry.
3. Use the scientific method to inform how we conduct our own research and evaluate the research of others.
4. Understand the relationship between research design and scientific analysis.
5. Write and implement a research proposal
6. Effectively communicate your findings in multiple formats, i.e. paper, poster, and oral communication

Required:


Grading:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<tbody>
<tr>
<td>Primary literature summaries</td>
<td>10</td>
</tr>
<tr>
<td>Data collection exercises</td>
<td>15</td>
</tr>
<tr>
<td>Draft of research proposal</td>
<td>5</td>
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<tr>
<td>Oral proposal presentation</td>
<td>10</td>
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<tr>
<td>Final research proposal</td>
<td>10</td>
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<tr>
<td>Oral presentation in field</td>
<td>10</td>
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<tr>
<td>Paper on helping other projects</td>
<td>10</td>
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<tr>
<td>Final poster presentation</td>
<td>10</td>
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<tr>
<td>Final paper</td>
<td>20</td>
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Total = 100 points
Week 1: UDSM
Topics: What is research? What is a research project life-cycle? Discussion of student project ideas.
Reading: Hailman&Strier (H&S) Ch. 1
Martin&Bateson (M&B) Ch. 1

Week 2: UDSM
Topics: Where to begin? How to read the literature? How to make and use an annotated bibliography.
Reading: M&B Ch. 2
Assignment: Primary literature summary

Week 3: UDSM
Topics: How to write a research proposal, style, format, and organization
Reading: H&S Ch. 2

Week 4: UDSM
Topics: Research Design, Preliminary data collection to guide research design
Reading: M&B Ch. 3, Ch. 4, *The Worlds of a Maasai Warrior*
Assignment: First draft of research proposal due

Week 5: UDSM
Topics: Data collection methods, recording and sampling methods, reliability
Reading: M&B Ch. 5, 6, 7, 8
Assignment: Data collection exercise

Week 6: UDSM
Topics: Data analysis and interpretation, how to write a research report
Reading: M&B Ch. 9
H&S Ch. 3

Week 7: UDSM
Topics: Oral presentations and group discussions of research proposals, field preparation
Assignment: Final research proposal due

Week 8: Break

Week 9-14: Tarangire National Park
We will meet regularly to discuss our projects, pit-falls, adjustments, data analysis.
Assignments: Oral presentations of field work and essay describing work on other projects

Week 15: UDSM
Topics: Debriefing, research meetings

Week 16: UDSM
Topics: Poster Preparation
Readings: H&S Ch. 4
Assignment: Draft of Research Paper Due

Week 17: UDSM
Assignment: Poster Presentations, Final Research Paper Due
| **Project Title**  
(front page/cover page) | Communicates purpose of research and guides the reader’s expectations. |
|------------------------|---------------------------------------------------------------------|
| **Introduction:** Purpose of Research  
(10-15 sentences) | A brief account of the research and reasons for conducting it. |
| **Review of Literature**  
(3 pages) | A brief argument for the thesis based on a preliminary review of the literature. What literature provides support and evidence for the research? What is the gap in the literature that the research will address? |
| **Aims and Rationale**  
(1 page) | A clear and explicit statement of the aims for conducting the research, including the questions you plan to investigate. |
| **Methodology:** Research Design, Sampling, & Data Collection Techniques  
(3 pages) | A detailed description of how the research will be conducted. What type of research design will be used and why? Who/What will the subjects be and how will you gain access? What is the size of the sample? How will data be collected? How do your data collection techniques correspond to your aims? |
| **Data Analysis**  
(1/2 a page) | How will the data be analyzed? What will you do with the data once you collect it? Specific processes must be described referring to available methods and literature. |
| **Ethical Considerations**  
(1/2 a page) | What ethical considerations will arise from the project? How will they be addressed? What problems do you anticipate and how will you resolve them? |
| **Significance**  
(1/2 a page) | What is the overall significance of your project? How will it contribute to certain bodies of scholarship? Provide a summary conclusion. |
| **Timeline**  
(1 page table/spreadsheet) | A detailed breakdown of the deadlines by which the project will be completed. |
| **References** | A list of cited references, alphabetical and formatted consistently. |