

Tropical Biodiversity and Conservation in Panama Academic Guidelines

Pre-Departure Course Meetings: 7:00-9:00 PM on Wednesdays in C-102 Holmes Hall

Dr. Chuck Elzinga
222 North Kedzie
elzingac@msu.edu
517-432-1316 x140

Dr. Aaron McCright
E-185 Holmes Hall
mccright@msu.edu
517-432-8026

Dr. Kendra Cheruvellil
E-193a Holmes Hall
ksc@msu.edu
517-353-9528

Course Objectives: This program introduces students to the extraordinary tropical biodiversity of Panama as well as the challenges to the conservation of this biodiversity there. During the pre-departure course (or “pre-course”), students will gain necessary background knowledge and prepare for their activities while in Panama. During the field course, students will actively study the plants, animals, and people of this country via a combination of natural history, experimental, and ethnographic research.

Three Enrollment Options: Students must sign up for one of the three course options.

Option 1: This is primarily for non-LB students.

6 credits of LB 493: Field Experience

Option 2: This is primarily for LB students who need a 300-level HPS course.

4 credits of LB 330: Topics in History, Philosophy, and Sociology of Science

2 credits of LB 493: Field Experience

Option 3: This is primarily for LB students who need a senior seminar.

4 credits of LB 492: Senior Seminar

2 credits of LB 493: Field Experience

During the pre-course, students in these three options will do slightly different activities during part of our meeting time to prepare them for their different course requirements.

During the field course, all students will participate in quite similar activities, yet we will help tailor each student’s experience to facilitate their work on their personal project.

Course Requirements: These are a little complicated given that students may be signed up for one of three course options. Nevertheless, EVERY STUDENT MUST:

- 1) Attend and participate in all pre-course class meetings. If you must miss a meeting, please clear it with one of the professors ahead of time. The pre-course is an important component of the program, and we expect everyone to attend. Repeated absences will affect your grade significantly. It is essential that you read the assigned readings **before** class meetings so that you can participate in the class discussions.
- 2) Complete three species reports by April 22. Students must write one species report on each of the following: (A) a vertebrate animal species; (B) an invertebrate animal species; and (C) a plant species. We will provide you with a list of important species, but you are free to choose other species as well. We have posted on our Angel website three pre-formatted Word files that you may use to complete your three species reports.

- 3) Write one field problem report by June 29. During the field course, each student will be the “writer” for a field problem. More information on this appears later in this packet.
- 4) Maintain a field notebook during the field course. You will write entries in your waterproof field notebooks several times a day during the field course. These entries might include notes on ecological theories, natural history stories, identification characteristics, and your own observations and reflections. Also, there may be short assignments that require writing in your field notebooks. The instructors will review and evaluate these field notebooks periodically during the field course.
- 5) Complete all field quizzes. During the field course, there will be regular quizzes on material learned in Panama. These quizzes will involve some combination of identification, explanation, and reflection.

In addition to components 1-5 above, students enrolled in **Option 1** also MUST:

- 6A) Write a design for a field problem project and annotated bibliography by April 29. You will design a project that we can carry out during the field course. If all goes as planned, we will conduct the field research/experiment while in Panama.
- 7A) Write a research proposal by July 13. You will write a 5-10 page research proposal on a topic chosen by you and approved by the professors. This proposal will be for a research project that possibly could be conducted upon a hypothetical return to the field in Panama.

In addition to components 1-5 above, students enrolled in **Options 2 or 3** also MUST:

- 6B) Write a research paper proposal and annotated bibliography by April 29. After consulting with the professors, you will write a proposal for a research paper on a topic of your own choosing. Additional information about this proposal appears on another course handout, but briefly your proposal will identify concepts/ideas you will explore and/or hypotheses you will test during the field course in Panama. A complete draft of this research paper proposal is due on April 16 for in-class peer review. A final draft of your research paper proposal and annotated bibliography is due on April 29.
- 7B) Write a research paper by July 13. In addition to library-based archival research, you also will gather relevant information in Panama to help you conclude this project. Upon returning from the field course, you will finish writing your research paper according to formal writing guidelines. Again, more complete information on your research paper project appears on another course handout.

Required Books: If you are in Option 1, the following book is required:

Kricher, John. 1997. *A Neotropical Companion*. Second Edition. Princeton: Princeton University Press.

If you are in either Options 2 or 3, your required readings are PDF files in the “Information for Students in LB 330 or LB 492” subdirectory of the “Materials” directory on our Angel website.

Intellectual Integrity is the foundation of the scientific community. In all instances, you must do your own work so that credit may be given where credit is due. There is no excuse for cheating or plagiarism—submitting another’s work, ideas, or wording, as your own. **If you plagiarize, or otherwise cheat (or assist someone else in cheating) in any way, on any assignment, you will receive a “0” for the course.**

Angel.msu.edu contains our course website. You should check this website regularly.

Electronic versions of all official course documents will be available on our course website. For instance, you may download the three species report templates as pre-formatted Word files. After completing them and returning them to the professors, we will post these species reports on our course website so that all course members will have access to them.

Grading: The following are the graded components for the three course options. All students are enrolled for two credits of LB 493. Students in Option 1 are enrolled in four additional credits of LB 493. Students in Options 2 or 3 are enrolled in four credits of LB 330 or LB 492 respectively.

Assignment	Weight of Final Grade
<u>Two Credits of LB 493</u> (for Options 1, 2, and 3)	
Three Species Reports	30%
One Field Problem Report	40%
Field Notebook	20%
Field Quizzes	10%
<u>Four Credits of LB 493</u> (for Option 1)	
Field Problem Design/Annotated Bibliography	10%
Reflections in Field Notebook	20%
Participation	30%
Research Proposal	40%
<u>Four Credits of LB 330/492</u> (for Options 2 and 3)	
Research Paper Proposal/Annotated Bibliography	10%
Reflections in Field Notebook	20%
Participation	30%
Research Paper	40%

Panama Study Abroad Field Problems

Hands-on research in the form of short field problems will be an integral part of the learning process on the study abroad course in Panama. Some of the field problems will be predetermined by the professors and guest faculty, but students will have the opportunity to design and plan their own as well.

Students will work in groups of 3-6 to study a particular scientific, social, or historical problem. Typically there will be a professor or guest instructor to guide the group and provide background information. Within the group, four members will carry out specific roles in the field problem process:

- 1) Report Writer (Principal Investigator)
- 2) Report Editor
- 3) Presenter/Data Analysis Leader
- 4) Data Recorder

These field problems will be carried out in the following manner:

- 1) Planning Stage: After an orientation to the field site, the group plans the field problem during an evening session (led by professor, guest instructor, or students).
- 2) Data Collection: The next morning, the group will collect data in the field from approximately 8:00 am to 12:00 noon (led by data collector).
- 3) Analysis: After lunch, the group will process and analyze their data (led by analysis leader).
- 4) Presentation: In the evening, each group's presenter, with support from other group members, will give a brief (10 minute) presentation to the rest of the class on their group's findings from the day, with five minutes afterward for questions and answers.
- 5) Write-up: After the discussion, one student (chosen at the beginning of the field problem) will write up the field problem as a scientific paper/lab report. These papers should be of the quality you would turn in to a typical academic class at MSU and will probably range from 5-10 pages. Specific guidelines for the field problem write-up will be provided at a later date.

Pre-Departure Course Schedule of Events

Our classes normally meet in C-102. But, on April 1 and 29, we will meet across the hallway in Sparty's Bamboo Room.

<u>Date</u>	<u>First Hour</u>	<u>Second Hour</u>
March 18	Course Overview and Course Requirements	Barro Colorado Island Video
March 25	Tropical Biodiversity	LB 493: Chapters 1 and 2 in <i>NC</i> LB 330/492: reading 1
April 1*	<i>Life and Debt</i> DVD	<i>Life and Debt</i> DVD
April 8	Panama Canal DVD	LB 493: Chapter 5 in <i>NC</i> LB 330/492: readings 2 and 3
April 15	Barro Colorado Island DVD	LB 493: Chapter 11 in <i>NC</i> LB 330/492: readings 4, 5, and 6
April 22	Field Course Guidelines and Required Equipment	LB 493: Chapter 12 in <i>NC</i> LB 330/492: Research Paper Proposal Peer Review Complete Draft of Research Paper Proposal Due
April 29*	Student Field Problem Projects	LB 493: Chapter 13 in <i>NC</i> LB 330/492: readings 7, 8, and 9 Final Draft of Research Paper Proposal and Annotated Bibliography Due

* We will meet in the Bamboo Room inside Sparty's.