

**Psychology 498 – Design & Analysis for Observational Field Research
Summer Quarter 2007**

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Please note: Except in exceptional circumstances, I will NOT return voicemail messages. If you require a response, use email or contact me in person.

Prerequisites: Psychology 362 or equivalent or permission of instructor, and concurrent enrollment in Anthropology 493 and Biology 493

Class meeting times: TBA

Classroom: TBA

Textbook: Martin, P. & Bateson, P. (1993). Measuring Behavior: An Introductory Guide (2nd Edition). Cambridge University Press.

Additional Readings: Additional readings may be assigned and/or recommended. These can be accessed from the PB&E reading room/lounge on the third floor of Farrell Hall.

Course Description: This course provides a combination of instruction and hands-on training in research proposal development, research design, behavioral sampling and recording techniques, and statistical analysis for field-based observational studies. The course will consist of two weeks of traditional classroom instruction with intensive library and homework assignments, and four weeks of data collection for group and individual projects in Huangshan, China. Students are expected to contribute data to communal projects, as well as focus part of their time on data collection for an independent project. While the methods learned can be applied to a wide range of situations and species, the focus for the projects will be on the behavior of the Tibetan macaque (Macaca thibetana), and surveys of amphibian life in the Huangshan region.

Learner outcomes: By the end of the quarter, you should,

- (1) Be able to conduct thorough and independent literature searches using online databases;
- (2) Demonstrate a basic understanding of *Macaca thibetana* natural history and behavior;
- (3) Demonstrate an understanding of issues and methods in naturalistic research design, and know how to employ naturalistic research methods to answer specific research questions;
- (4) Demonstrate an understanding of and competency in employing behavioral sampling and recording techniques; and
- (5) Be able to organize data sets and apply appropriate statistical methods to their analysis.

Academic honesty/Prohibited conduct: Please refer to Appendix B, Section Two of the 2006/2007 CWU catalog (pp. 285 - 290) for definitions of academic dishonesty and other prohibited conduct, and the consequences of this behavior.

I further expect you to be respectful of me, other Chinese and American students in the class, park staff at the research site, and others encountered while in China. In addition, you will be held to the terms of the CWU Study and Exchange Programs' "Conditions of Participation and Program Acceptance".

ADA Policy: Students who have special needs or disabilities that may affect their ability to access information or material presented in this course are encouraged to contact me or the ADA Compliance Officer and Director, on campus at 509-963-2171 for additional disability-related educational accommodations.

Assessment: All students are expected to:

- (1) Attend ALL classes;
- (2) Satisfactorily complete homework assignments, including conducting a literature review, and writing preliminary drafts of introduction, methods, and data analyses sections for individual research projects;
- (3) Satisfactorily complete a research proposal;
- (4) Engage in communal and individual data collection while in Huangshan;
- (5) Demonstrate data recording competencies via establishing reliabilities with classmates and the instructor;
- (6) Satisfactorily contribute to group data summaries and complete data summaries for the individual project;
- (7) Complete an individual research paper based on data collected.

Schedule of lecture topics, assignments and other activities

Pre-trip: Class will meet once per week for a three hour period unless otherwise noted.

Week 1:

June 18:

- Introductions to ANTH 493, BIOL 493 and PSY 498
- Asking questions and conducting literature searches using online databases (read Martin & Bateson chapters 1 & 2)

June 19:

- Naturalistic research methods (read Martin & Bateson chapters 3 – 6)
- **Homework #1 due** (details follow)

June 20: Scheduled BIOL 493 activities

June 21: Scheduled ANTH 493 activities

June 22:

- *Macaca* natural history, ecology and behavior (readings tba)
- **Homework #2 due** (details follow)
- Scheduled ANTH/BIOL 493 activities

Week 2:

June 25:

- Issues in naturalistic research design (read Martin & Bateson chapters 7 & 8)
- **Homework #3 due** (details follow)
- Scheduled ANTH 493 activities

June 26: Scheduled BIOL 493 activities (*1-5PM*)

June 27:

- Purpose and function of statistical analysis (read Martin & Bateson chapter 9)
- Organizing data sets and applying appropriate statistical methods

June 28: Scheduled ANTH/BIOL 493 activities

June 29:

- Scheduled ANTH/BIOL 493 activities
- **Homework #4 due** (details follow)

→ **Research proposal due by July 13**

Field Portion: Huangshan Scenic spot

Week 1

July 21 Group flight, Seattle → Shanghai
 July 22 Arrive Shanghai
 July 23 Tour of Shanghai, flight to Huangshan City
 July 24 Meet AU students, tour of VWM site
 July 25 Day of rest, Welcome Banquet
 July 26 & 27 Lectures by Drs. Li, Matheson, Sheeran, and Wagner
 Afternoon visits to VWM park and orientation, including demonstration of
 field techniques

Week 2

July 28 – 30 Full days at park*
 July 31 Hiking and sightseeing excursion to Mt. Huangshan
 August 1 Day of rest+
 August 2 & 3 Full days at park*

Week 3

August 4 & 5 Full days at park*
 August 6 Day of rest+
 August 7 – 10 Full days at park*

Week 4

August 11 Sightseeing and shopping trip to Huangshan City
 August 12 Day of rest+
 August 13 – 16 Full days at park*
 August 17 Day of rest+

Week 5

August 18 – 21 Full days at park*
 August 22 Day of rest+
 August 23 Full day at park / Farewell banquet
 August 24 Optional half day at park / Group flight Huangshan City → Shanghai
 August 25 Group flight Shanghai → Seattle

* Full days typically include mornings spent in amphibian and habitat surveys (2½ to 3 hours) and afternoons spent observing monkeys and describing aspects of monkey habitat (3 to 4 hours). Students may take 1 to 1½ hours for lunch. Some full days may be replaced with half days plus evening amphibian survey, and the daily schedule may be changed based on natural events such as rain, monkeys leaving the research area, etc.
 + During days of rest, students will be given the option of going on brief shopping trips to Fuxi street, approximately 10 minutes by taxi from Huangshan Scenic spot

Post-trip: Students are required to book a **minimum of one** hour-long appointment with during the week of September 17 2007 to look over and discuss the statistical analyses that have been conducted and the conclusions that can be drawn from them. Students have the option of booking an earlier appointment with me (first week of September) for help getting started with data analysis.

→ *Final research paper due September 30* (details follow)

Homework assignments: All homework assignments are due at class-time.

Please note: The primary purpose of these assignments is to work towards establishing a research proposal for the independent project you will conduct in China, and to allow us (me, Drs. Sheeran & Wagner) to provide feedback on these plans. As such, it is perfectly acceptable – even encouraged – for you to confer with me, Drs. Sheeran and Wagner, or other students while completing these assignments. You are especially encouraged to confer with other students with whom you form a research team to ensure that your data sets will be compatible. However, the assignment that you hand in must reflect your own work.

Each homework assignment (with the exception of #1) is expected to be approximately 1½ – 3 typed, double-spaced pages in length (assuming 1 inch margins and 12 point font). ***This is merely a guideline:*** length is ultimately dictated by how much space it takes to cover all appropriate points without “padding” or sacrificing clarity.

Given the overriding purpose of these assignments (see above), these will just be graded on a satisfactory/unsatisfactory basis. “Satisfactory” means following directions and showing evidence of attempting to deal with all applicable issues; “unsatisfactory” means not following directions or showing evidence of not attempting to deal with all applicable issues (missing information, incomplete sections, embedded questions, etc.).

Homework #1: Conduct an online literature search relevant to your research question or topic area.

Purpose. The purpose of this assignment is to familiarize you with online resources available to conduct literature searches ***and*** to get your started on the literature search that will be required for your research proposal and final paper.

Assignment. (1) Establish a list of key words relevant to your research question (if you have one already in mind) or a general area of interest for this summer’s research (if you are still narrowing down a specific project); (2) conduct online literature searches using PrimateLit, PsycInfo, BIOS, or other relevant databases; and (3) provide me with a

copy of your results, indicating (a) which articles or books you already have or are available on campus and (b) which articles or books you will order through interlibrary loan for use for your final research paper.

Homework #2: Draft a methods section relevant to your research question.

Purpose. The purpose of this assignment is to (1) help you narrow your research question or topic to a manageable field-based project, (2) have you develop a plan for executing your research project, and (3) allow us to give you feedback on your proposed methods.

Assignment. The written assignment you turn in should include:

- A statement of your research question and/or hypotheses
- A Methods section, including “Subjects” and “Procedures” subsections; if this is a behavioral research project, the latter section should include your sampling and recording rules, and a specific description of how these will be applied. Ultimately, your Procedure section should be detailed enough that a third party could read it and collect the data.
- (If relevant) An ethogram of the behaviors you will record. Ultimately, this should be detailed enough that two individuals could read it and record exactly the same behaviors.

Homework #3: Draft a preliminary introduction section to your research proposal.

Purpose. The purpose of this assignment is to provide an initial draft of the introduction to your research proposal and final paper. Writing this may also help you refine your research question (and thus your methods). As you will not be able to access and read all of the articles and books that your final paper will include, I expect this to be relatively short (you will later flesh this out, especially for your final paper); however, you must include a *minimum of four sources* that you have read in full. Other sources can at this point be cited based on the abstracts you accessed for homework #1.

Assignment. Write a brief introduction section to your research proposal that (1) cites the literature you have found so far, and describes as relevant to your research question; (2) culminates in a statement of the purpose of your proposed research; and (3) specifically states the research question or hypotheses that your proposed research will address, and generally states how these will be measured.

Homework #4: Draft an analysis section to your research proposal.

Purpose. All too often, we end up with a mass of data and are unsure what to do with it. In the worst-case scenario, we find that there are no statistical techniques to address the questions we want addressed with the data we’ve collected. Therefore, the purpose of this assignment is to have you develop a plan for analyzing the data you hope to obtain. This assignment will also help you identify any problems with your procedures as developed up to this point.

Assignment. Describe what you will specifically do with your raw data. This should include (1) how it will be summarized and organized, (2) what comparisons (if relevant) you will make, and (3) what inferential statistical techniques you want to apply. The latter should include a statement about why these techniques are appropriate to your data.

Research proposal: Based on (1) the work you did for the five homework assignments, (2) the feedback you receive from us on each, and (3) alterations to your methods that your work homework assignments 3-5 dictate, write a formal research proposal. Your proposal should either be in A.P.A. format (if you are unfamiliar with this, contact Kirsten Erickson in the library) or follow another established set of professional guidelines (if the latter, you must specify which guide you are following), and should accordingly include the following:

- 1) A title page
- 2) An abstract (on page 2)
- 3) An introduction section (starting on page 3): this should be more developed than what you turned in for homework #3, and should now include a *minimum of 6 references*
- 4) A “Methods” section (including sub-headings for “Subjects”, “Procedures”, and “Data Analysis”)
- 5) A brief “Results” section that describes your expected results (this will likely only take a sentence or two)
- 6) A brief “Discussion” section that describes how your expected results will be interpreted in light of your research question, what some alternative outcomes could be, and how alternative outcomes will be interpreted.
- 7) A “References” section
- 8) (If relevant) An Appendix that consists of your ethogram

Please note: Your research proposal provides a plan for data collection in China. However, plans may change based on the on-site situation (e.g., monkey availability, coordination with our Chinese colleagues), and the outcome of research preliminaries. You should keep this in mind and be prepared to be flexible.

Final research paper: Your final research paper will include all of the above sections. By the point you should have a *minimum of 12 references*, and will have actual “Results” and “Discussion” sections, the former of which might require Tables or Figures, attached as required by A.P.A. format

Both the research proposal and final paper will be graded in the five areas of: Content, Organization, Reasoning, Rhetoric, and Conventions. Each area will be rated on a four point scale, where ‘4’ = Strong, ‘3’ = Acceptable, ‘2’ = Weak, and ‘1’ = Unacceptable. This will result in a total of 20 points possible. A brief description of each area follows. In determining your final course grade, the emphasis will be put on your grade on the final paper.

“Content” refers to the material you present. We will look to see that your literature review is reasonably thorough and relevant to your project, Methods section is complete, Results section is thorough and addresses the questions set up in your introduction, Discussion section covers your Results and draws reasonable conclusions, References are complete, and overall format is consistent with A.P.A. (or other specified guidelines).

“Organization” refers to the proper ordering of sections within your paper, but also the organization of your thoughts and arguments within sections (especially the Introduction and Discussion sections). We will look to see if there is a natural flow to the paper, or if there is frequent back-referencing or other organization problems that detract from flow.

“Reasoning” refers to your ability to draw conclusions from existing literature (e.g., to set up your hypotheses or research question), to think through possible outcomes and discuss these (in the Discussion section), and the quality of your procedure and (if relevant) ethogram or other measure for the purposes of answering your research question.

“Rhetoric” refers to your use of terminology that is specific to the particular field into which your project falls. We will look to see that this usage is accurate and reflects knowledge of your chosen area. Technical or other generally unfamiliar terms should be defined upon introduction.

“Conventions” refers to issues of grammar, punctuation, **crafting of your proposal including evidence of proof-reading (i.e., not merely relying on your word processor’s spelling and grammar check functions)**, and related issues.