

PROPOSAL WRITING IN GEOGRAPHY, GEO 6119

UNIVERSITY OF FLORIDA, DEPARTMENT OF GEOGRAPHY SPRING 2023

Please note that this syllabus is being constructed, WILL change before the class begins, and MAY change as the semester progresses.

Most Recent Revision: January 6, 2023

Instructor: Dr. Michael W. Binford

Office Location: 3131 Turlington Hall

CLASS MEETS 11:45 - 12:35 AM ON TUESDAYS AND 10:40 TO 12:35 PM ON THURSDAYS, TUR 3012

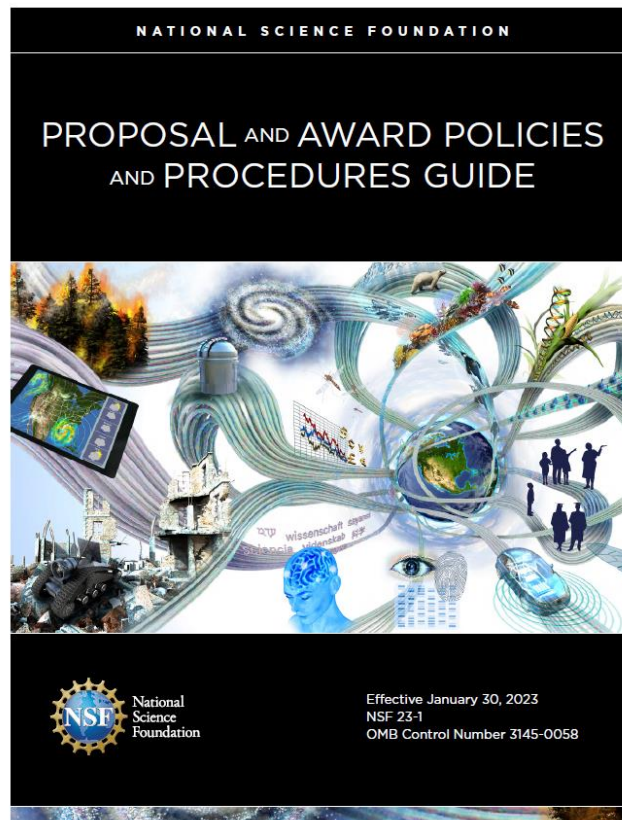
Office Hours: Tuesdays 1:00-1:55 and Wednesdays 11:00 – 12:00 AM in my office

Also, feel free to e-mail me or stop by my office

Phone: 392-0494 but I don't use the phone very well

E-Mail: mbinford@ufl.edu

NOTE THAT THE CLASS WILL MEET In-Person only.



COURSE DESCRIPTION

Research design, research ethics, proposal writing and proposal evaluation for geographic studies

PREREQUISITES

This course is intended for advanced (second year or beyond) graduate students in Geography who have general ideas of the thesis or dissertation research. This course will develop those ideas using literature, help students frame questions and hypotheses incorporating theory, discuss data collection and methods, etc. Students outside the discipline can enroll, but the proposed research should be of a nature where geography graduate students and the instructor can evaluate proposal content (e.g. environmental or earth sciences, forestry, etc.). You should discuss any questions and concerns with the instructor.

COURSE OBJECTIVES

The course will provide a forum for discussion, shared experiences, and intellectual resources for graduate students to be able to write effective, successful research proposals.

The purposes of this course are for students: 1) to examine the early stages of research (research question definition, library research, planning, research design, variable selection, proposal writing); 2) to learn to conduct ethical practice of research; 3) to write a research proposal in National Science Foundation (NSF) format; and 4) to learn the process of constructive criticism in reviewing other's proposals (your proposal will be evaluated by three peers and the instructor).

POLICY ON ATTENDANCE AND CLASS Demeanor

This class is about your own graduate research and missing class is not a good idea. Participation is a very large proportion of the grade. The panel review is an additional 20% and your presence is necessary. Early semester absences can be excused but they should be minimal and reasonable. Given that this class has a proposal deadline and a panel review, incompletes are not viable options. If you miss more than one class or cannot make one of the critical meetings at the end of the semester, your grade will be affected. If you have a documented absence (illness, medical or family emergency) towards the end of the semester, I will consider giving an incomplete and work with students to create a contract where alternative projects are assigned. Similarly, tardiness and creating distractions (cell phones, texting, laptop usage when not part of the class purpose) are not advisable.

ASSIGNED READINGS

The Firestein book ("Ignorance") is required. All of the other books are "recommended" although I urge you to have a copy of the Friedland and Folt book. They are all inexpensive. It is very important that you have access to several of them during the class.

Which ones will depend on your own area of research. It will be your responsibility to find them in whatever form or from whatever vendor that you can.

Firestein, S. 2012. Ignorance: How It Drives Science. Oxford University Press, Oxford, UK. 195 pp.

Friedland, A.J. and C.L. Folt. 2009. Writing Successful Science Proposals. 2ndEd. Yale University Press. 201 pp.

[Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK, 287 pp. \(3rd edition\) \\$25 for paperback, also download pdf free.](#)

[Hillel, D., 1987, On the tortuous path of research: Soil Science, v. 143\(4\), pp. 304-5.](#)

Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4). \$35

[National Academies of Science, Engineering and Medicine, 2009, On Being a Scientist: a Guide to Responsible Conduct in Research. Third Edition, Committee on Science, Engineering, and Public Policy \(COSEPUP\), free download available for personal use](#)

Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Second edition, Oxford University Press, Oxford, UK, 352 pp. \$40/\$10

Other articles and books, based on topic(s) of the week, will comprise **ADDITIONAL HELPFUL READINGS** (Available from instructor or library, there are many more books and articles; our class website will have pdfs of several articles concerning methods and more)

Clifford. N. and G. Valentine, eds., 2003, Key Methods in Geography, Sage Publications Ltd., 592 pp.

Eyles, John and Smith, David M., 1988, Qualitative Methods in Human Geography, Polity Press, Oxford, UK, 272 pp.

Flowerdew, R., and Martin, D., 1997, eds., Methods in Human Geography: A Guide for Students Doing a Research Project, Longman, Harlow, Essex, England, 296 pp.

Gatrell, J.D., G.D. Bierly, R.R. Jensen, 2005, Research Design and Proposal Writing in Spatial Science, Springer, 216 pp.

Holloway, S.L., S. P. Rice, and G. Valentine, 2003, Key Concepts in Geography, SAGE Publications, Incorporated, 360 pages.

Lindsay, James M., 1997, *Techniques in Human Geography*, Routledge, London, 209 pp.

Rogers, A., Viles, H., and Goudie, A., 1992, *The Student's Companion to Geography*, Blackwell, Oxford, UK, 386 pp.

Schumm, S.A., 1992, *To Interpret the Earth: Ten Ways to Be Wrong*, Cambridge University Press, Cambridge, UK, 131 pp.

GRADING SCALE:A = 90 or above, 4.0; A- = 87-89.0, 3.67; B+ = 84-86.9, 3.33; B = 80-83.9, 3.0; B- = 77-79.9, 2.67; C+ = 74-76.9, 2.33; C = 70-73.9, 2.0; C- = 67-69.9, 1.67; D+ = 64-66.9, 1.33; D = 60-63.9, 1.0; D- = 57-59.9, 0.67; E = 56.9 or below, 0.0; **Note: A grade of C- is not a qualifying grade for major, minor, Gen Ed, Gordon Rule or College Basic Distribution credit.**

ASSIGNMENTS AND GRADING:

FIRST PROPOSAL REVIEW (10%)

Unless you have reviewed NSF-style proposals before, you will have little idea how to do this. So, this first-week exercise will be to read two NSF Dissertation Improvement Grant proposals (one successful, one not), read NSF guidelines on how to review proposals, and write a review of each one in NSF format. Indicate which of the proposals was successful. **Due Date: Class Meeting Week 2.**

WEEKLY READINGS AND LOG (10%):

PART 1: From twenty to over one hundred pages of possible readings are assigned each week, and you should also be doing reading related to your research. Assigned readings have practical advice, and some of you may be somewhat to very familiar with different weekly topics. Physical geographers may prefer to read Valiela's "Doing Science" or Friedland and Folt's "Writing Successful Science Proposals" (my preferred text); social or human geographers may select another book. Based on your prior background and experience, it is OK to skim these and/or opt for something else on the list (see above list of additional helpful readings, others could be looked at) and/or readings not on the list but pertaining to the weekly topic. The bottom line is to find something helpful and share in class (and in the log) what you read (some key points, quotes, helpful tables and graphics and ideas) and what new insights you have. We will discuss the readings the SAME week that the topic is presented, so read this list IN ADVANCE of class. A bullet listing of ideas or a half-page of text for each week should suffice. PART 2: Concurrent with these readings, you should set aside time for research and reading related to your potential/chosen research topic(s). Also keep and submit a log of tasks related to your own research to keep you on-task and motivated. Students should be reading a minimum of 2 journal articles per week, and skimming or reading the abstracts of several more. Towards the end of the

semester, you will turn in your WEEKLY LOGS as a Word file electronically. **Due Date: Each Week**

PARTICIPATION AND DISCUSSION: CLASS (10%)

Your involvement (comments, ideas, questions, and experiences) in discussions about readings and various facets of geographic research will improve the class experience and result in a high participation grade. Unexcused absences or lack of participation in other capacities will result in a low participation grade.

RESEARCH ASSIGNMENTS RELATED TO YOUR TOPICS (2, 20% total as follows)

Assignments intended to show components of how to design a research project and to propel you towards your own research by giving you deadlines for specific tasks.

TOPIC SELECTION AND DEVELOPMENT (10%)

Begin by choosing a subfield and potential research topics. Then develop at least four research questions from these. Assess and discuss the viability of each question based on resource, feasibility and other issues discussed in class and then narrow down your list to the top two that would be “doable” within a year and with \$12,000 or less of direct costs (this number is chosen because of NSF DDIG funding constraints). Find a minimum of three articles relevant to each of your top two questions and list the complete citations. Discuss primary data that would be collected and identify secondary data (from the internet, govt. documents, data sources and repositories) that might complement your proposed study. Send a digital file of your document to the instructor, who will post the papers for everybody to read. We will discuss all ideas, and you will be the discussion leader for the strengths and weaknesses of each of your ideas. Within one month from the start of the semester, you will then have a few possible research questions to investigate. These should be refined, improved, and fleshed out over the course of the semester. **Due Date: Week 4 meeting**

The grading rubric is as follows: 20% thoughtfulness and originality of ideas, having set a framework which identifies this as an important and unique research problem by using appropriate narrative and citations from the literature; 20% organization, structure and appearance including use of headings and subheadings, consistency, 20% writing quality and grammar, aiming for coherent sentences, appropriate sequence, use of transitions, free of errors, 20% quality, quantity, completeness of references and citations and coherence with how the three selected relate to your proposed research questions, 20% depth of discussion about primary data to be collected and secondary data used including variables used, scale, spatial character, timing, frequency and length of data, and other relevant data issues.

RESEARCH PAPER REVIEW (10%)

This is designed to create a working method by which you can synthesize articles related to your research, now and possibly in the future. Find and review two research papers that are published in peer-reviewed scientific journals pertinent to your research topic. Use subheadings to structure

your review. Begin with a full citation of the article. You will evaluate objectives, research hypotheses, variables, sampling, methods, results and interpretation, graphics and tables, etc. For each article: 1) Discuss the initial idea(s), objectives and/or hypotheses of the paper. What is the applied and theoretical significance of this work? ; 2) Discuss the key variables involved. What scale of measurement is used for each? Are the operational definitions clear or unclear? Are there changes or improvements that you would suggest? ; 3) Discuss the chosen spatial and/or temporal sampling strategies for evaluating study variables in the context of a designated research question. Are they appropriate to answering the chosen question? Is there anything you would do differently? ; 4) What is your opinion of the research methods being used?; 5) Discuss the instruments and techniques used to measure the variables. Discuss whether a similar study would be feasible for a student like yourself considering cost, personnel, training and other issues; 6) What were the main results of the study? Does the interpretation seem valid based on the data and analysis?; 7) What is your opinion of the graphics and tables? Discuss any other comments about what you think the author(s) did well and what you think the author(s) could have done better. How would you suggest improving the research study? Include a copy of each article. **Due Date: Week 8 meeting**

The grading rubric is as follows: 20% article selection...did you find two helpful research articles in refereed journals that can be used as models to evaluate sampling, variables, graphics, tables, etc.; 20% ability to pick out key ideas, objectives, hypotheses, and significance; 20% discussion of sampling issues, instruments and techniques; 20% discussion of results, interpretation, and graphics; 20% overall critical review, organization, grammar, and inclusion of article copies.

PROPOSAL SUBMISSION IN NSF FORMAT (35%)

Prepare a 10-12 page proposal with budget according to NSF guidelines for DDIG (see the [HEGS DDIG solicitation](#)). As discussed in class, a good proposal begins with passion and a good idea, responds to a fundamental need, poses good research questions, is informed by the literature, enunciates its goals clearly, has a well-developed research design, speculates about outcomes, discusses significance and relevance, portrays excitement and enthusiasm, follows a coherent structure, and instills confidence. In addition, there should be a 1-page project summary at the beginning which explicitly includes sections on intellectual merit and broader impacts. The budget page, budget justification, and two-page biosketch should be attached and are not counted in the 12 page limit. Use subheadings, bold, italics, etc. to help organize the proposal as discussed in class on week 4. Upload it into this Canvas assignment so that it can be posted on the class website. Your grade is based on my evaluation, not that of your peers, although I will review their comments. **Due Date: Week 13; Friday April 14, 2023 by 11:59 PM.**

The grading rubric is as follows: Intellectual Merit (20%) Is the research topic/problem clearly stated? Is there enough specificity to understand the nature of work planned?; Does it advance knowledge within field or across different fields?; Are the hypotheses clear, concise and specific?; Are creative and original concepts brought forwards?; Literature Review and References (20%) Is the research placed within its proper context or perspective?; Are the hypotheses adequately tied to previous research?; Is there sufficient literature cited to understand the relevant theories?; Is the literature summary adequate in scope, detail and clarity?; Are there

at least 20 references from refereed journals?; Organization and Structure (20%) Is the proposal logically organized and structured?; Are bold and italics used to bring attention to key statements?; Are subheadings used so that the reader can find important components?; Are the different facets of the project tied together?

Methods and Variables (20%) Are both the variables and findings of previous research clearly explained?; Are the variables and concepts of the planned research clearly explained?; Where will the data come from (primary or secondary sources)? How is/will each be measured?; Has the spatial framework been clearly defined? Is it appropriate for the given problem?; Are special instruments required? Are there contingency plans for breakdowns, etc.?; For questionnaires... does each question have a clear purpose and relation to a hypothesis?; What statistical tests and models will be used?;

What are the data requirements of the statistical techniques?; Budget, Timetable and Background (10%) Is the proposed time framework adequate for the completion of this research?; Does the detailed timeline seem reasonable for the components involved?; Are there any confounding situations associated with the planned time framework?; Is there a contingency plan if problems occur?; Are different components of the budget (salaries, travel, equipment, expense) itemized?; Does the budget seem reasonable? Does it follow guidelines (what NSF requires)?; Does the biosketch support the competence of the researcher? ; Broader Impacts (10%) Does this promote teaching, training, and learning?; Does this broaden the participation of underrepresented groups?; Does this enhance the infrastructure for research and education? ; Will it be disseminated broadly to enhance scientific and technological understanding?; Are the benefits to society clearly stated?

PROPOSAL PANELIST (15%)

Everyone will be assigned 3 proposals to review. Make copies of each review and upload the reviews to the Canvas site. A good proposal review summarizes the proposed project in a few sentences, notes strengths and weaknesses in the fundamental ideas, literature review, data available or to be collected, spatial and/or temporal sampling, methods, proposed analysis and writing. It provides constructive suggestions and specific helpful comments that, if addressed, will improve the proposed project or gives clear advice and ratings in such a way that the author is not deluded about any shortcomings or concerns. Each proposal review should be about one page in length, and written using criteria and ratings discussed in class developed by the NSF (including intellectual merit and broader impacts). A sample form is available on the syllabus. Panelists will participate on an in-class panel where each proposal author mutes the microphone while their project is being discussed by reviewers. One of those reviewers (assigned by instructor) will lead the discussion and the other 2two will add comments. **Due Date: Week 14; Reviews due Tuesday April 18 at 11:59 PM; panel meeting will take place during the regular Thursday meeting on April 20.**

WEEKLY SCHEDULE, AGENDA AND READINGS

Week 1 INTRODUCTION TO RESEARCH --

REVIEW TWO PROPOSALS FOR NEXT WEEK: 1. [Gaughan full proposal](#); 2. [Pricope full proposal](#). Read NSF guidelines especially [Merit Review Principles and Criteria on page III-1 and III-2](#); Read [Macrosystems Biology and NEON-Enabled Science Reviewer Guidelines](#); read [summary of reviewer guidelines](#); write reviews ([Use this form](#)); upload to Assignment 1.

Introduction to the class, semester and syllabus

Background ideas on research

READINGS: Read the list for each week in advance of class (see Week 2). For this week, read Firestein, S. 2012. Ignorance: How It Drives Science. Oxford University Press, Oxford, UK. 195 pp.

Week 2 Panel Meeting. Firestein "Ignorance." RESEARCH QUESTIONS, LITERATURE SEARCHES IN GEOGRAPHY --

[PPT 2 Presentation for Discussion](#)

Before Class: Read Reviews of two proposals

Student 1 Review of Pricope; Gaughan

Student 2 Review of Pricope; Gaughan

"Panel Session"

[Pricope Review 1](#), [Gaughan Review 1](#)

[Pricope Review 2](#), [Gaughan Review 2](#)

[Pricope Review 3](#), [Gaughan Review 3](#)

[Pricope Panel Summary](#), [Gaughan Panel Summary](#)

How to start developing a good research question.

Discussion about readings, Questions and Answers, Conceptual Diagram

Effective literature searches and key words

Writing a literature review

Secondary data sources

READINGS:

[Hillel, D., 1987, On the tortuous path of research: Soil Science, v. 143\(4\), pp. 304-5.](#)

Chapter 1, Thinking About Research, pp. 1-28 in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

Chapter 1 (Thinking about Research, pp. 1-20) and Chapter 4 (Reading for Research, pp. 92-116), in Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK.

Chapter 12 (References in Detail: How Many and How Recent?) in Friedman and Folt. 2009. Writing Successful Science Proposals. 2ndEd. Yale University Press

Reading from <http://www.criticalthinking.org/> (How to Read); begin with <http://www.criticalthinking.org/pages/critical-thinking-the-art-of-close-reading-part-one/509>.

Randolph, J. 2009. A Guide to Writing the Dissertation Literature Review. *Practical Assessment Research & Evaluation*, 14(13). Available online: <https://scholarworks.umass.edu/pare/vol14/iss1/13/>

Chapter 3 (Section 5), Obtaining and Using Secondary Data, pp. 60-69 in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

[Coffin 2007 - a dissertation literature review that was also a publishable journal article.](#)

Week 3 TOPIC SELECTION AND EARLY CONSIDERATIONS; SECONDARY DATA;

PPT3 - Discussion Slides

New York Times Article - Topical Example of How Science Works: "Halting Progress and Happy Accidents: How mRNA Vaccines Were Made"

The stunning Covid vaccines manufactured by Pfizer-BioNTech and Moderna drew upon long-buried discoveries made in the hopes of ending past epidemics.

<https://www.nytimes.com/2022/01/15/health/mrna-vaccine.html?smid=em-share>

[Great Illustration of What a Ph.D. is](#)

Discussion about readings and homework

1. What is your planned thesis or dissertation topic? Create a conceptual diagram with 3+ spokes.

2. Look for articles (minimum of 3) related to your conceptual diagram or concept map. Add spokes or append author names/dates onto existing spokes to help create your framework. Also note keywords

3. Readings on topic selection and early considerations. (e-Learning Syllabus)

4. Enter your notes into you log.

Bibliography? Reference Manager choice? Keywords?

Early considerations in research

Topics: scope, feasibility, assumptions

Research hypotheses and conceptual models

READINGS:

Chapter 2 (Getting Started, pp. 21-52) and Chapter 3 (Thinking about Methods, pp. 53-98) and Chapter 4 (Reading for Research, pp. 99-131) in Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK, 260 pp.

Chapter 2, Planning a Research Project, pp. 28-44 in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

Chapter 1: Obtaining Scientific Information, pp. 1-31, Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Oxford University Press, Oxford, UK, 352 pp.

[Theory, Background and History](#), [Research Question](#) (From U. California Berkeley) 6

Week 4 A Little More Research Topics and Questions and SCIENTIFIC ETHICS

PPT-4 Ethics in Research; Research Questions and Development

Class discussion on scientific ethics and policies

ASSIGNMENT due (Topic selection and development)

Student 1 Topic Selection

Student 2 Topic Selection

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"Panel" discussion of Topic Selection and Development assignments

READINGS:

[National Academies of Science, Engineering and Medicine, 2009, On Being a Scientist: a Guide to Responsible Conduct in Research. Third Edition, Committee on Science, Engineering, and Public Policy \(COSEPUP\)](#), free download available for personal use.

[University of Florida regulation 6C1-1.0101 Policy for Dealing with Conduct in Research.](#)

Use this week to read and research about your likely research topic, and to select, refine and/or revise your research questions and approaches.

Week 5 PROPOSALS: AN INSIDE PERSPECTIVE

PPT-5 Team Science, Program Officers' advice, Funding Programs

- Discussion of Team Science Best Practices.
 - See Soranno et al. papers on team science
- Homework: Track down programs at NSF, NASA, NIH, DOT, DOE, DOD or any other federal agency that might fund your research.
- Find their equivalent of the PAPPG – instructions for proposal writing.
- Bring the list and the documents to class.
- Read the linked readings on the syllabus

Where to look for funding

Presentations created by NSF Program Officers:

[Gholz: The Nitty-Gritty: Tips for a Better NSF Proposal;](#)

[Bauer and Baerwald: Proposal Development and Evaluation.](#)

{NOTE THAT WE WILL GO OVER THESE PRESENTATIONS IN CLASS}

[NSF Proposal and Award Policies and Procedures 2022](#) (NOTE CHANGE THIS FOR 2023 VERSION);

[NASA ROSES \(Research Opportunities in Space and Earth Sciences\)Link via NSPIRES \(NASA Solicitation and Proposal Integrated Review and Evaluation System\); NOTE: ROSES 2021 was released on February 2021 and applies through April 2022! NOTE CHANGE THIS FOR 2023 VERSION](#)

[NASA Guidebook for Proposers](#) (Thank you, Zainab!)

Review DSR FYI & other sources of announcements: [UF Office of Research](#); [UF Research Proposal Development Office](#); [Proposal Processing and Pre-Award Services](#);

Proposal Development

Proposal Evaluation

The tasks of panelists and panels

READINGS:

Chapter 7 (Section 3, The Proposal): Other Means of Scientific Communication, pp. 174-185, Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Oxford University Press, Oxford, UK, 352 pp.

Hengl, T. and Gould, M., 2002. Rules of thumb for writing research articles.

http://www.slideshare.net/alena_romanenko/hengl-gould-2002-rules-of-thumb-of-writing-a-research-article

Examples of reviews (of DDIG proposals): [Pricope NSF DDIG Proposal](#); [Pricope NSF Context Statement](#); [Pricope NSF Panel Statement](#); [Pricope Review 1](#); [Pricope Review 2](#); [Pricope Review 3](#)

Example of reviews (of complicated, collaborative proposal by senior scientists): [Cambodia-Mekong 2010 Proposal](#); [Panel Statement 1](#), [Panel Statement 2](#), [Review 1](#), [Review 2](#), [Review 3](#), [Review 4](#), [Review 5](#), [Review 6](#), [Review 7](#), [Review 8](#)

Week 6 More on Proposals and then VARIABLES

PPT-6 - Variables and Operationalizing Concepts; Review Process, Reviews of Good and Bad Proposals

PPT-6b - Subset of PPT-6 about proposal generation Tuesday

Homework: Read the "data" or "variables" chapter in whichever of the books you are reading (two are given below). Figure out the "variables" (data, observations, measurements, etc. - things that vary and that you will measure) that you will use in your dissertation research. Also figure out the "unit of analysis" (household, village, family, individual, pixel, watershed, cubic meter, ET cyclone, etc.) Understand and be ready to discuss the nature of your variables including what the measurement is (e.g. number and location of violent acts, length of time an extratropical cyclone is a hurricane, etc.), level of measurement (nominal, ordinal, interval, ratio), how accurate, precise, valid, and reliable your measurements will be, and anything else about the

properties of data about your research subjects that you find important. We will all discuss each others variables.

Discussion:

Variables and levels of measurement

Conceptual and operational definitions

Accuracy, precision, validity, reliability

Data categorization and classification

Cause and effect, dependence/independence

RELATED READINGS:

Chapter 2: Elements of Scientific Data and Tests of Questions, pp. 32-51, Valiela, I., 2009, *Doing Science: Design, Analysis and Communication of Scientific Research*, Oxford University Press, Oxford, UK, 352 pp.

Chapter 3, Section 2, Classifying data types and measurement scales, pp. 45-47, in Kitchin, R. and Tate, N.J., 2000, *Conducting Research in Human Geography: Theory, Methodology and Practice*, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

[Concepts and Terminology, Research Design \(From U. California Berkeley\) 7](#)

Very Useful Web Site: Research Methods Knowledge Base <https://conjointly.com/kb/levels-of-measurement/>

Week 7 Constructing the Proposal.

Week 7 Titles, Abstracts, First Three Paragraphs ppt slides

Constructing the Proposal:

A. Review of PAPPG, HEGS Solicitation, DDIR Solicitation about proposal length, contents.

B. Title

C. *Abstract/Project Summary*

D. First Few Paragraphs

Student 1 Title and Introduction

Student 2 Title and Introduction

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RELATED READINGS:

Chapter 5, Managing Your Project, pp. 117-140 in Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK.

Chapter 4: Principles of Research Design, pp. 84-105, Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Oxford University Press, Oxford, UK, 352 pp.

Chapter 3, Section 4, Sampling, estimation, and distribution, pp. 53-61, in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

Week 8:

[Constructing the Proposal 2: Theory/Literature Review ppt slides](#)

Short discussion about papers and reviews

Constructing the proposal 2:

 Theory/Literature Review

RELATED READINGS

[Abstracts](#) (should have had last week)

[How to write about Theory](#)

Two Successful NSF Macrosystems Biology Proposals: [2012 Proposal](#), [2017 Proposal](#)

ASSIGNMENT due (Research Paper Reviews)

Student 1 Reviews, Paper 1, Paper 2

Student 2 Reviews, Paper 1, Paper 2

...

Week 9:

Constructing the Proposal 3: Hypotheses,

Week 9 PPT file including homework for Week 11 (last slide)

Week 9.5: Spring Break March 11 - 19

Week 10 No Class Meetings - work on synopsis, outline, or first draft of your proposal. Or, go to the Annual AAG Meeting

Week 11: Proposal Construction 4; Research Activities for Testing Hypotheses; Data Presentation, Statistics, and Interpretation; Discussions About Your Hypotheses and What Data You will Collect To Test Them

Week 11 PPT file including homework slide from Week 9

Project components and tasks - project management

Spatial geographic concepts and sampling issues

Temporal sampling issues in geography

Instruments, sampling tools and techniques

Discussion about readings

Human subjects and IRBs

Interviewing strategies and pitfalls

Questionnaire issues

Reviewing a sample questionnaire

RELATED READINGS:

Chapter 6 (Collecting Data, pp. 152-172) and Chapter 7 (Analyzing Data, pp. 173-206) in Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK.

Chapter 3, Section 3, Generating Primary Quantitative Data, pp. 47-53 in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp.

RELATED READINGS:

Chapters 8-10: Presenting Data in Tables, Presenting Data in Figures, Case studies of Graphical Data Presentation (pp. 187-273) and Chapter 3: Statistical Analysis (pp. 52-83) in Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Oxford University Press, Oxford, UK, 352 pp.

Chapters 4-6 {NOTE - ALL THREE OF THESE CHAPTERS SHOULD BE REDUNDANT FOR EVERYBODY IN THIS CLASS} (Chap 4: Preparing, exploring and describing quantitative data; Chap 5: Analysing and interpreting quantitative data; Chap. 6: Spatial analysis), pp. 70-210, Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4). 8

RELATED READINGS:

Chapter 8 (Writing Up, pp. 226-254) and Chapter 9 (Finishing Off, pp. 255-279) and Chapter 7 in Blaxter, L., Hughes, C., and Tight, M., 2006, How to Research, Open University Press, Buckingham, UK.

Chapter 7 : Other Means of Scientific Communication, pp. 163-186, Chapter 5: Communication of Scientific Information: Writing, pp. 107-137, and Chapter 6: Communicating Scientific Information: The Scientific Paper, pp. 138-161, Valiela, I., 2009, Doing Science: Design, Analysis and Communication of Scientific Research, Oxford University Press, Oxford, UK, 352 pp.

Chapter 10, Writing-up and dissemination, pp. 270-289 in Kitchin, R. and Tate, N.J., 2000, Conducting Research in Human Geography: Theory, Methodology and Practice, Prentice Hall/Pearson Education Ltd., Harlow, England, 330 pp. (ISBN 0-582-29797-4).

Week 12: Proposal Construction 5; Intellectual Merit, Broader Impacts, Biosketches, Budgets and Budget Justification

[Proposal and Award Policies and Procedures Guide \(PAPPG\): Proposal Preparation Instructions pp II-1 to II-41](#)

[Human-Environment and Geographical Sciences Program \(formerly Geography and Spatial Sciences\), Doctoral Dissertation Improvement Grant solicitation: nsf20583 HEGS DDIG solicitation.pdf](#)

University of Florida F&A (Indirect Costs) Rates - Use 52.5%. The UF Web site with the rates is

<https://research.ufl.edu/dsp/proposals/budgeting/fa-rates-idc.html>.

[CNH2 Mekong Proposal \(Shaikh, Arias, Binford, Kolata, Reynolds\) - note that the actual proposal begins on the 35th page of the pdf file with the cover sheet.](#)

[NSF Biosketch Template for 2021](#)

[Gaughan biosketch from DDIG \(older form with collaborators - no longer allowed\)](#)

Binford biosketch (older form with collaborators - no longer allowed)

[NSF Budget template \(requires some effort\)](#)

[Budget Justification \(Gaughan DDIG - NOTE THAT THERE ARE NO F&A COSTS IN THIS BUDGET\)](#)

[Budget Justification \(Complicated DISES Grant Proposal - this is the UF Subcontract. Note the questions from the CLAS Research Office\)](#)

[Timeline](#) and [Budgeting](#) (From U. California Berkeley)

[UF F&A \(indirect costs\) agreement](#)

Week 13: Proposal Construction 5: Work on your proposal. Binford available for consulting by email.

PROPOSAL ASSIGNMENT due at Midnight on Friday, April 8 (Proposals with Biosketches, budgets, and budget justifications); you will be assigned proposals to review on Friday, 8 April.

Note the new cost rules for HEG DDIG:

From NSF- 20-583

"From NSF- 21-621

- **Award Information**
- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** 10 to 15
- During a fiscal year, HEGS expects to recommend (either on its own or through co-funding with one or more other NSF programs) a total of 10 to 15 doctoral dissertation research improvement (DDRI) awards.
- **Anticipated Funding Amount:** \$250,000 to \$375,000
- Pending availability of funds. Project budgets should be developed at scales appropriate for the work to be conducted. DDRI awards supported by HEGS may not exceed \$20,000 in direct costs; indirect costs are in addition to this maximum direct cost limitation and are subject to the awardee's current Federally negotiated indirect cost rate."
-
- UF IDC is 52.5%, so Direct Costs in a HEG DDIG would be **\$13,114.75**.

Week 14 Budget Discussion and PROPOSAL REVIEW:

Read your assigned proposals and write your review.

At home: Read and review 2 proposals based on instructor's assignment

[Sarah Proposal, Budget, Budget Justification, Biosketch, PI Biosketch](#)

[Zainab Proposal, Budget, Budget Justification, Biosketch, PI Biosketch](#)

...

Read NSF guidelines especially **Merit Review Principles and Criteria** on page 80 of the pdf document; section III-1 ;

[nsf20583 HEGS DDIG solicitation.pdf](#)

NSF Guide to Proposal Reviewers; Parts of pages III-1 to III-5

[Reviewer Guidelines for Class \(from NSF and stuff you have been seeing in the presentations\)](#)

DO NOT DISCLOSE YOUR ASSIGNMENTS/OPINIONS TO OTHERS

DO NOT DISCUSS PROPOSALS OUTSIDE THE CLASSROOM

[Proposal Reviewer Form for HEGS DDRI Proposals](#)

[Presentations slides on how to be a reviewer and a panelist pdf file; These are the guidelines if you were submitting reviews through FastLane, which you are not, but still have good advice for writing reviews.](#)

Examples of reviews (of DDIG proposals): [Pricope NSF DDIG Proposal](#); [Pricope NSF Context Statement](#); [Pricope NSF Panel Statement](#); [Pricope Review 1](#); [Pricope Review 2](#); [Pricope Review 3](#)

Example of reviews (of complicated, collaborative proposal by senior scientists): [Cambodia-Mekong 2010 Proposal](#); [Panel Statement 1](#), [Panel Statement 2](#), [Review 1](#), [Review 2](#), [Review 3](#), [Review 4](#), [Review 5](#), [Review 6](#), [Review 7](#), [Review 8](#)

Week 14 IN-CLASS PANEL REVIEW-PART I

ASSIGNMENT (Proposal Reviews) due Tuesday April 12 at 11:59 PM and will be posted by Wednesday noon.

ASSIGNMENT (Panel Participation) Thursday during regular class time.

BATTING ORDER:

Student 1 Proposal Review 1, Review 2, Review 3

Student 2 Proposal Review 1, Review 2, Review 3

Week 15. Relax! We are almost done. Buffer week if we are interrupted, or if you wish to consult about your proposal.

FINAL ASSIGNMENT (Log of weekly readings and research task lists) due April 29 @ 5:00 PM.

End of Schedule

Additional Information

Honor Code: Students are expected to abide by the UF honor code and ethical conduct, listed on the following website: <http://www.dso.ufl.edu/studentguide/studenthonorcode.php>

Students with disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Other Concerns: Please be aware that the University Counseling Center (392-1575), the Student Health Care Center (392-1161) and Student Mental Health (392-1171) can assist students as they work through personal, academic and social issues. Please take care of your health and watch for swine flu symptoms and other contagious diseases. Provide advance notice and obtain documentation for excused absences where possible. Please keep your cell phones off during class time.

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

NOTE ABOUT ZOOM SESSIONS:

University policy gives students the right to opt out of audio and video participation in classroom Zoom sessions that are being recorded. Also in non-recorded classroom Zoom sessions, it is best practice not to require students to have their camera and audio on, since they may face a number of challenges – technical or otherwise – that make this kind of participation difficult or undesirable. For this reason, instructors should consider allowing alternative forms of participation, such as chat and blog entries or, when necessary, audio-only presence. In the rare case where an instructor deems both audio and video participation to be necessary (as in foreign language classrooms), this must be approved by the unit chair/director and by the college, and this requirement must be explicitly disclosed in the course syllabus.