

## FNR 5608 RESEARCH PLANNING

2022

- CREDITS:** 3
- SCHEDULE:** 2<sup>nd</sup> and 3<sup>rd</sup> periods, 8:30 - 10:25 – Friday; Newins Ziegler 222
- INSTRUCTORS:** Dr. Wendell P. Cropper, Jr.  
[wcropper@ufl.edu](mailto:wcropper@ufl.edu)  
352-846-0859  
Newins-Ziegler 214  
Office Hours: After class (10:30-11:30 AM Friday) and by appointment
- Dr. Geraldine Klarenberg  
[gklarenberg@ufl.edu](mailto:gklarenberg@ufl.edu)  
352-273-0792  
McCarty C 430  
Office Hours: Wednesday 2-4 pm and by appointment

### RECOMMENDED TEXTS:

Feibelman. 1993. A Ph.D. is Not Enough. Basic Books.

Day and Gastel. 2006. How to Write and Publish a Scientific Paper. (6th ed.) Greenwood Press.

Gordon. 2007. Planning Research. A Concise Guide for the Environmental and Natural Resource Sciences. Yale University Press

- OBJECTIVES:** FNR 5608 is designed for beginning graduate students who intend to conduct research and write a thesis.
1. To provide an understanding of the planning, funding, conducting and reporting of research.
  2. To provide an appreciation of the history, philosophy of science, and the scientific method, including the responsibilities of a scientist.
  3. To provide an appreciation of the opportunities and facilities for research within the University of Florida, IFAS and especially SFRC.
  4. To prepare a **research proposal**. For most students this project will be a first attempt at producing a proposal for thesis research. Students that already have an approved thesis proposal may target a federal granting agency for their proposal. NSF programs such as the Doctoral Dissertation Improvement Grant or the Graduate Research Fellowship are appropriate. A standard research proposal for an approved RFP (Request for Proposals) may also be used.

**GRADING:**

Class Participation/discussion	10%
Problem Statement	10%
Literature Review	5%
Oral Presentation	5%
Poster	5%
Group Presentation	5%
Abstract Exercise	5%
Data Management Plan	5%

Final Proposal 50%  
(Problem Statement; Literature Review; Methods;  
Budget and Budget Justification). You can not receive an A  
In this course without receiving an A grade for the final proposal.

Late assignments will be penalized. -10% (per day or fraction of a day after deadline).

**FNR 5608 RESEARCH PLANNING  
CLASS SCHEDULE - FALL 2019**

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Reading</b>	<b>Due dates</b>
1	08/26	Introduction: Objectives, Format, Projects Grading	Planning Research by Gordon	
2	09/02	Analyze Proposal Problem Statements Philosophy of Science	A Feynman and Colinvaux	In class discussion
3	09/09	Analyze Selected Proposal Literature Review	A	Abstract assignment due

4	09/16	Data Management	G Michener; Hart et al	
5	09/23	Ethics in Science	C	
6	09/30	Ethics in Science	C	Data Management Plan Due
7	10/07	Homecoming: No Class		
8	10/14	Data Analysis Discussion	G Kass et al	Problem statement due
9	10/21	Presenting Research; Preparing a Poster; Job Interview	E, F	
10	10/28	Writing a Scientific Paper; Federal Grants, Peer Review	D, B	Literature Review due
11	11/04	Group Presentations: Research in SFRC	Group Presentations (half class)	
12	11/11			
13	11/18	Group Presentations: Research in SFRC	Group Presentations (half class)	
14	11/25	Thanksgiving No Class		
15	12/02	Oral Individual Proposal Presentation Posters (entire class)		Posters Due
16	12/07	Last day of UF Classes <b>**Wednesday**</b>		Full Proposal Due

**Proposal Folder:**

Anderson; Chmura; Jansen; Gwen (Ecology)  
Student\_proposal draft.doc (Social Science)  
Committee Meeting Proposal-Bev.doc (Molecular Biology)

Platt1964.pdf  
Chamberlin1965.pdf

Feynman; Cargo Cult Science  
Colinvaux; Amazon Expeditions

miner.htm (guide to writing proposals)

**A. Federal Folder**

2006\_star\_fellow.html; nsf05601.htm; nsf05607.htm  
Results\_EPA.htm  
GRFP\_Applicant\_User\_Guide.pdf; DDIG\_advice.pdf  
Indirect\_costs.pdf  
Soil C and roots at Amerflux.pdf  
ProposalCheck.htm

Cost sharing letter.pdf; DSR-1 form.pdf; Budget 2005.xls

Feibelman Chapter 7

**B. Ethics Folder**

Fraud1.pdf; Fraud2.pdf; Fraud3.pdf; Fraud4.pdf; Fraud5.pdf; Fraud6.pdf  
Ethics\_marsh\_an\_kenchington\_2004.pdf  
Retraction.pdf  
Become a Certified Ecologist.doc  
Misconduct.pdf, Consequences.pdf  
Misconduct\_Mayhem.pdf  
Science\_oath.jpg  
UF\_research\_misconduct.pdf

**C. Publishing Folder**

Authorship.pdf; Authorship.jpg; Journals\_2006.pdf  
Mss folder  
Peer\_review  
Peer\_review2.pdf; Peer\_review3.pdf; Peer\_review4.pdf; Peer\_review5.pdf; Peer\_review6.pdf  
Publish-Perish.png  
Prolific\_scientists.pdf  
Scooped-Nature06.pdf

Abstracts: Chapt. 9, Day and Gastel

Day and Gastel cover a broad range of scientific publishing issues.

Feibelman Chapter 4

**D. Presenting Folder**

Is PowerPoint Evil.ppt  
Power\_Point.pdf  
Posteradvice.htm  
Block.pdf  
PosterTemplate1.ppt; PosterTemplate2.ppt; PosterTemplate3.ppt; PosterTemplate4.ppt; PosterTemplate5.ppt  
ChmuraProposal.ppt; CommMeeting-040606\_Loudermilk.ppt

Day and Gastel, Chapt. 27-28

Feibelman Chapter 3

**E. Academic Job Folder**

Hiring.pdf  
Interviewing\_for\_academic\_jobs.pdf

Day and Gastel Chapters 36, 38

Feibelman Chapter 6

**F. Data Management and Analysis Folder**

Hart\_et\_al\_journal.pcbi.1005097.pdf  
Kass\_et\_al\_journal.pcbi.1004961.pdf  
Michener\_journal.pcbi.1004525.pdf

## **Assignments**

1. Abstract Writing: Select a scientific paper with methods, results and conclusions. **Do not read the abstract.** Write an abstract for the paper and compare your abstract with the published version. Write a short statement about the differences and relative strengths of the two abstracts. The exercise will be graded primarily on your

analysis.

2. Write a **Problem Statement** for your proposal. The elements of a good problem statement should include:

What is the objective of your research?

What hypotheses (if any) are you testing?

What question(s) will you answer?

How might this research expand understanding?

The Problem Statement may be a single section of your final proposal, or elements of it may appear in different sections.

3. Write a **Literature Review** for your proposed research. The elements of the literature review may appear in different sections of the proposal. For this assignment there must be a minimum of 25 cited references. This should not be an annotated bibliography. The literature review is a narrative discussion of sources of information relevant to your research. Analysis, synthesis, and evaluation are appropriate.

A. Papers that review broad fields (Good source of additional papers to read). Placing your research in context of "the Big Picture"

B. Papers that describe other attempts to address Problem Statement questions, perhaps unsuccessfully; perhaps in a different ecosystem/organism etc.

C. Key papers in your field. Even identifying one key paper can lead to a large body of relevant literature in the Literature Cited section.

D. History (selective) of previous studies

E. Methods (How to do it)

**Read the papers that you cite!**

4. **Group Presentations of SFRC Research**. Each group will learn about a research focus area of the SFRC. The web site, faculty publications, faculty interviews, graduate students not in this course, etc. can all be used as resources. Examples of focus areas include (but not limited to, and not mutually exclusive):

A. Social Science/Human Dimensions

B. Geomatics

C. Genetics and Molecular Biology

D. Tree, Forest, and Landscape Biology

E. Fisheries

F. Tropical Forestry

G. Urban Forestry

Each group should prepare a discussion to introduce the class to the research focus area, representative research methods, and the faculty researchers in the focus area.

5. **Data Management Plan:** Draft a data management plan (DMP), guided by the readings below and the in-class discussion, as part of the proposal (< 2 pages, ideally 1 page).

**Reading:**

Michener, W. K. Ten Simple Rules for Creating a Good Data Management Plan. *PLoS Comput Biol* **11**, e1004525–9 (2015).

NSF BIO DMP : [https://www.nsf.gov/bio/pubs/BIODMP\\_Guidance.pdf](https://www.nsf.gov/bio/pubs/BIODMP_Guidance.pdf)  
(and/or NSF ENG DMP : [https://nsf.gov/eng/general/ENG\\_DMP\\_Policy.pdf](https://nsf.gov/eng/general/ENG_DMP_Policy.pdf))

Hart, E. M. *et al.* Ten Simple Rules for Digital Data Storage. *PLoS Comput Biol* **12**, e1005097–12 (2016).

6. **The Full Proposal.** The proposal should include the elements of the Problem Statement, the Literature Review, Methods (including data management and analysis), Budget, and Budget Justification. The organization should conform to the standards of your Major Advisor/research area.

The university's honesty policy regarding cheating, plagiarism, etc. suggested wording: • UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor or TAs in this class.

In-Class Recording : • Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student

**Campus Resources:**

**Health and Wellness**

*U Matter, We Care:* If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

*Counseling and Wellness Center:* Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

*Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

*University Police Department:* Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

*UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road,

Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

*GatorWell Health Promotion Services:* For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

#### Academic Resources

*E-learning technical support:* Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

*Career Connections Center:* Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

*Library Support:* Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center:* Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

*Writing Studio:* 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

*Student Complaints On-Campus:* Visit the Student Honor Code and Student Conduct Code webpage for more information.

*On-Line Students Complaints:* View the Distance Learning Student Complaint Process.