FOS6915: Research Planning (Fall 2025)
Tuesdays/Thursdays, Period 3 (8:30 a.m. – 9:20 a.m.)
MCCB 1108

INSTRUCTOR:

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Office Hours: By appointment - email Dr. Cheng to schedule. Walk-in – if my office door is open, feel free to stop by.

COURSE DESCRIPTION:
Two (2) credits. Required of first-year graduate students. Literature search and management, experimental techniques and facilities, designing studies and initiating research, analyzing and managing data, reporting results.

COURSE OBJECTIVES: After completing this course, students will be able to.

1. Determine and complete appropriate training for their area of research.
2. Improve skills for conducting literature searches.
3. Design and plan a feasible study to test hypothesis.
4. Develop data management and science communication skills.

TEXT AND MATERIALS:
No text is required; however, access to journals for literature review relevant to your research project is required. Additional resources are provided on e-Learning in Canvas: https://elearning.ufl.edu. E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail - helpdesk@ufl.edu.

STUDENT EVALUATION:
Students will be evaluated on assignments, presentations, participation, and attendance.

ASSIGNMENTS:

- **Introductory PowerPoint presentation: Who am I? What research does my lab or program do or what research theme particularly interests me? What training do I need? (4+/-1 min)** Put together a PowerPoint presentation that introduces you and your lab or your program. You are encouraged to talk with your advisor in the research lab or program director. The presentation should contain at least one slide on each of the following.
    1. Introduction to you (e.g., name, where are you from, where did you attend college/graduate school, interests, hobbies, interesting facts about you, etc.)
    2. Who is your faculty mentor/chair? What research is being done in your lab or program or what research theme particularly interests you?
    3. What training do I need to succeed in my lab or program?
- **Training for research and teaching responsibilities.** Upload the certificates showing completion of training or a screenshot of your training transcript that shows that you completed the training required for your research and teaching responsibilities. For training and training transcripts: https://mytraining.hr.ufl.edu/
- **My Research Proposal 1.0.** Put together a PowerPoint document for a study design, to the best you know how, to test a hypothesis that you are most interested in. The document should contain at least one slide on each of the following.
    1. Brief background on research and hypothesis.
    2. Describe the study design used to test the hypothesis.
    3. Strengths and limitations.
- **Group PowerPoint presentation: a close look at published studies (15+/-1 min).** Your group will examine a credible published study. This study should be broadly relevant to your research interests and hypotheses to test in My Research Proposal 1.0. As a group, put together a PowerPoint presentation of the study, with at least one slide on each of the following.

1. What knowledge gaps existed before the study?
2. What was the hypothesis and how was it tested as an overview?
3. What are the methods used in the study? Were they carefully selected and sufficient?
4. What are key data that validate the hypothesis?
5. Were the data organized effectively, of high quality, and convincing?
6. How did the findings from the study bridge the existing knowledge gap(s)?
7. Strengths and limitations.

- **Reflection on ICBR tour (one page max).** Write about your impression of the tour, how the ICBE facilities might benefit your research, and what measurements you could perform in the facilities to test your hypothesis.
- **PowerPoint presentation: My Research Proposal 2.0 (8+/-1 min).** Put together a PowerPoint presentation of a study design, to the best you know how, to test a hypothesis that you are most interested in. The presentation should contain at least one slide on each of the following.
    1. Brief background on research and hypothesis.
    2. Describe the study design used to test the hypothesis. Address the "participants", controls, variables, replications, ethical considerations, methods, anticipated results or outcomes, etc.
    3. Potential pitfalls and alternative approaches.
- **Class attendance and participation.** Attendance is expected/required for all classes. You will score your attendance/participation using the included rubric. The instructor will then use the information and record to assign a final score.

GRADING:

Assignments	Points
Introductory presentation - Who am I? What research does my lab or program do or what research theme particularly interests me? What training do I need?	10
Upload training certificates	10
My Research Proposal 1.0	10
A close look at published studies: group presentation	20
Reflection on ICBR Tour	10
My Research Proposal 2.0	30
Class attendance and participation	10
Total	**100**

A = 100-94.0; A- = <94.0-90.0; B+ = <90.0-87.0; B = <87.0-84.0; B- <84.0-80.0; C+ = <80.0-77.0; C = <77.0-74.0; etc.

Academic Policies & Resources: https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Online Course Evaluation Process: Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/.

GRADING RUBRICS:

Introductory presentation			
Criteria	**Ratings**		**Pts**
Who am I? (both academic and non-academic aspects)	3 pts Full Marks	0 pts No Marks	
Who is your faculty mentor/chair? What research is being done in your lab or program or what research theme particularly interests me? (with both an overview and details, answering the question in a clear, impactful way)	4 pts Full Marks	0 pts No Marks	
What training do I need? (technically and academically)	3 pts Full Marks	0 pts No Marks	
		Total Possible Points: 10	

My Research Proposal 1.0			
Criteria	**Ratings**		**Pts**
Brief background on research and hypothesis. (context, research question, and hypothetic answer)	3 pts Full Marks	0 pts No Marks	
Describe the study design used to test the hypothesis. (what should be done to validate the hypothesis)	4 pts Full Marks	0 pts No Marks	
Strengths and limitations. (pros and cons)	3 pts Full Marks	0 pts No Marks	
		Total Possible Points: 10	

A close look at published studies - Group presentation			
Criteria	**Ratings**		**Pts**
Knowledge gaps, hypothesis, and an overview of how it was tested (accurately recapped)	5 pts Full Marks	0 pts No Marks	
Selection and sufficiency of methods (accurately recapped and critically reviewed)	5 pts Full Marks	0 pts No Marks	
Key Data, quality, and effectiveness to validate hypothesis and bridge the gaps (accurately recapped and critically reviewed)	5 pts Full Marks	0 pts No Marks	
Strengths and limitations (accurately recapped and critically reviewed)	5 pts Full Marks	0 pts No Marks	
		Total Possible Points: 20	

Reflection on ICBR Tour			
Criteria	**Ratings**		**Pts**
What impressed you most on the tour?	2 pts Full Marks	0 pts No Marks	

How may ICBR facilities benefit your research? (If not applicable, what else facility or equipment do you need for your research?)	4 pts Full Marks 0 pts No Marks	
Describe 1-2 measurements that you could perform in the facilities to test your hypothesis (If not applicable, describe 1-2 measurements that you could perform using other facilities or equipment to test your hypothesis).	4 pts Full Marks 0 pts No Marks	
	Total Possible Points: 10	

PowerPoint presentation: My Research Proposal 2.0		
Criteria	**Ratings**	**Pts**
Brief background on research and hypothesis. (with strong evidence or references supporting the context, research question, and hypothesis)	5 pts Full Marks 0 pts No Marks	
Describe the study design used to test the hypothesis. (clearly addressing participants, controls, variables, replications, ethical considerations, methods, anticipated results or outcomes)	20 pts Full Marks 0 pts No Marks	
Potential pitfalls and alternative approaches. (clearly addressing the limitations and proposing alternative solutions to the limitations)	5 pts Full Marks 0 pts No Marks	
	Total Possible Points: 30	

Attendance/Participation Rubric

Please use this rubric to score your attendance/participation in this course and provide an explanation for the score you've determined. The instructor will then use this information assign your final attendance and participation grade. *Adopted from Carnegie Mellon – Participation Rubric 11/19/14 https://www.cmu.edu/teaching/assessment/examples/courselevel-bycollege/cfa/tools/participationrubric-cfa.pdf*

Criteria	Unsatisfactory-Beginning	Developing	Accomplished	Exemplary	Total
Attendance	**0-1.6 points**	**1.7-1.9 points**	**2.0-2.2 points**	**2.3-2.5 points**	**/2.5**
	3 or more unexcused absences	2 unexcused absences	1 unexcused absence	Attended all class sessions or received approval for all necessary absences	
Frequency	**0-1.6 points**	**1.7-1.9 points**	**2.0-2.2 points**	**2.3-2.5 points**	**/2.5**
	Student does not initiate contribution & needs instructor to solicit input.	Student initiates contribution at least in half of the class sessions	Student initiates contribution once in each recitation.	Student initiates contributions more than once in each class session.	
Quality	**0-1.6 points**	**1.7-1.9 points**	**2.0-2.2 points**	**2.3-2.5 points**	**/2.5**
	Comments are uninformative, lacking in appropriate terminology. Heavy reliance on opinion & personal taste, e.g., "I love it", "I hate it", "It's bad" etc.	Comments are sometimes constructive, with occasional signs of insight. Student does not use appropriate terminology; comments not always relevant to the discussion.	Comments mostly insightful & constructive; mostly uses appropriate terminology. Occasionally comments are too general or not relevant to the discussion.	Comments always insightful & constructive; uses appropriate terminology. Comments balanced between general impressions, opinions & specific, thoughtful criticisms or contributions.	
Listening	**0-1.6 points**	**1.7-1.9 points**	**2.0-2.2 points**	**2.3-2.5 points**	**/2.5**
	Does not listen to others; regularly talks while others speak or does not pay attention while others speak; detracts from discussion; sleeps, etc.	Student is often inattentive and needs reminder of focus of class. Occasionally makes disruptive comments while others are speaking.	Student is mostly attentive when others present ideas, materials, as indicated by comments that reflect & build on others' remarks.	Student listens attentively when others present materials, perspectives, as indicated by comments that build on others' remarks, i.e., student hears what others say & contributes to the dialogue.	
				TOTAL	**/10.0**

Explanation:

Tentative Course Schedule

August	Day	Topic	Note
	21	Course overview	
	26	Working with IRB, IACUC, and IBC	
	28	Taking online Biosafety training (UF_EHS851_OLT) OR Bloodborne Pathogens (UF_EHS850G_OLT) and earning a certificate at (no class) https://mytraining.hr.ufl.edu/	
September	2	Taking online IRB (UF_IRB803v_OLT) or IACUC training (UF_ACS807v_OLT) for your research needs and earning a certificate (no class) https://mytraining.hr.ufl.edu/	Two certificates due 11:59pm
	4	Storytelling in Science – Communicating Your Work Effectively (Ms. Jessie Erwin)	Decide on presentation dates
	9	Introductory presentations - Who am I? What research does my lab or program do or what research theme particularly interests me? What training do I need?	PowerPoint due 8:30 am.
	11	Introductory presentations - Who am I? What research does my lab or program do or what research theme particularly interests me? What training do I need?	
	16	Database searching, predatory journals, and peer-review vs. popular press (Ms. Melody Royster)	Marston Science Library Rm 308
	18	Citation management (Ms. Melody Royster)	Marston Science Library Rm 308
	23	My research proposal 1.0	PPT due 11:59 pm
	25	Research design – the key factors to consider	Pick a Proposal 1.0
	30	Research design – the key factors to consider	
October	2	Research design – the key factors to consider	Proposal 1.0 assigned
	7	Peer critics and response: research proposal 1.0	C:2 min/R:2min
	9	Peer critics and response: research proposal 1.0	Start identifying a published study
	14	How to critically evaluate the literature	
	16	A close look at published studies: group presentation	PPT due 8:30 am
	21	Facility tour: ICBR and Core Labs (Dr. Steven Madore)	Reflection paper due 11:59 pm
	23	A close look at published studies: group presentation	
	28	Data analysis and organization (Dr. Natya Hans)	
	30	Research Reproducibility and Open Science (Dr. Natya Hans)	
November	4	Research & publication ethics	
	6	Working on my research proposal 2.0 (no class)	
	11	Holiday	
	13	My research proposal 2.0 presentation	PPT due 8:30 am
	18	My research proposal 2.0 presentation	
	20	My research proposal 2.0 presentation	
	25	Holiday	
	27	Holiday	
December	2	My research proposal 2.0 presentation	Class A&P self-score due
	4	Reading day	