INSTRUCTOR NAME: Paige Tolbert

INSTRUCTOR CONTACT INFORMATION

EMAIL: ptolber@emory.edu

PHONE: 404-727-3801

SCHOOL ADDRESS OR MAILBOX LOCATION: Office - CNR 2011, Mailbox – CNR 2nd floor mailroom.

OFFICE HOURS: Immediately after class, or by appointment

BRIEF COURSE DESCRIPTION

Introduces basic concepts underpinning the conduct of research in environmental health. The course takes place during the first half of the fall (second year, for most students) semesters. Students will have opportunities to identify and/or refine potential culminating experience project topics. Students will also review: criteria for selection of a project topic, objectivity in science, research design issues, and use of the literature. Students will complete a brief plan for the steps in the development of their potential projects. Students will then have opportunities to develop and apply their analytical and writing skills in the development of their culminating experience project proposal. Students will refine their research questions and/or project objectives, formulate plans for data management and analysis, and prepare and present their project proposal to departmental faculty for review, comment and approval.

LIST SCHOOL LEVEL, DEPARTMENT, AND/ OR PROGRAM COMPETENCIES

The completion of a culminating experience project allows students to apply the knowledge and skills they have gained from their coursework and practicum to a public health issue.

EH and GEH competency for this course: Design environmental health programs, policies, interventions and/or research intended to improve the health of individuals, communities, and populations
LIST LEARNING OBJECTIVES ASSOCIATED WITH THE COMPETENCIES

1. Teach students the basic concepts involved in developing and pursuing a project in the field of environmental health
2. Provide opportunities for students to identify potential project topics and evaluate their feasibility
3. Guide students in choosing between thesis and capstone culminating experience options
4. Provide opportunities for students to plan, develop, and write sections of their culminating experience project proposal
5. Provide opportunities for students to receive peer and faculty feedback on their project ideas

EVALUATION

This course is graded on S/U grading basis. Throughout the course, students will be required to turn in assignments that will move them toward presentation of their project proposals in late October/early November. Students will receive qualitative comments throughout the course.

ACADEMIC HONOR CODE

The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student.

COURSE OVERVIEW (class meeting location: GCR P53)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 30, 2016</td>
<td>Course Introduction</td>
<td>Paige Tolbert</td>
</tr>
<tr>
<td>September 6, 2016</td>
<td>Thesis vs. Capstone Considerations - 30 min</td>
<td>Paige Tolbert / Stef Sarnat</td>
</tr>
<tr>
<td></td>
<td>Transfer to the Health Sciences Library - 10 min</td>
<td>Paige Tolbert</td>
</tr>
<tr>
<td></td>
<td>Locating the Literature - 50 min</td>
<td>Barbara Abu-Zeid</td>
</tr>
<tr>
<td>September 13, 2016</td>
<td>Objectivity in Science - 60 min</td>
<td>Jeremy Sarnat</td>
</tr>
<tr>
<td></td>
<td>Research Design, Part I - 30 min</td>
<td>Paige Tolbert</td>
</tr>
<tr>
<td>September 20, 2016</td>
<td>Research Design, Part II - 50 min</td>
<td>Mitch Klein</td>
</tr>
<tr>
<td></td>
<td>Project Management - 20 min</td>
<td>Tom Clasen</td>
</tr>
<tr>
<td>September 27, 2016</td>
<td>Choosing Appropriate Statistical Methods</td>
<td>Kyle Steenland</td>
</tr>
<tr>
<td>October 4, 2016</td>
<td>Peer Review of Proposal Drafts</td>
<td>Paige Tolbert</td>
</tr>
<tr>
<td>October 11, 2016</td>
<td>No class (Fall Break)</td>
<td></td>
</tr>
<tr>
<td>October 18, 2016</td>
<td>Peer Review of Practice Presentations</td>
<td>Paige Tolbert</td>
</tr>
<tr>
<td>October 24, 2016</td>
<td>Proposals Due to Ariadne</td>
<td>Ariadne Swichtenberg</td>
</tr>
<tr>
<td>October 28 and November 3, 2016</td>
<td>Proposal Presentations</td>
<td>ALL</td>
</tr>
</tbody>
</table>
DETAILED SCHEDULE AND ASSIGNMENTS

Note that there are multiple assignments, leading up to your proposal submission and presentation in late October and early November. All of the assignments are geared toward your proposal write-up and presentation with many of them being parts of either your written proposal or oral presentation. The timing of the assignments and the in-class presentations is designed to keep you on track and moving toward the formal presentation of your proposals to the faculty. Class meets Tuesdays 1-2:50p, in GCR P53, unless otherwise noted.

- August 30, 2016: Course Introduction (Tolbert)
  - Course goals, objectives, assignments

Assignment 1 (to be completed prior to class September 6, 2016 unless otherwise noted):
1. Read the EH Culminating Experience Guide (available on the EH Blackboard site under “Thesis/Capstone”) during first week.
2. Samples of previous theses and capstones will be posted on the class Blackboard. Peruse these to get an idea of thesis/capstone scope and expectations.
3. If you have not already done so, complete the CITI human subjects certification by September 12, 2016 (an EH Departmental requirement for all students). Please email certification to Ariadne (ascarl@emory.edu) by September 12, 2016 – she will provide me status summary. (Also be sure to attend the Institutional Review Board (IRB) session that will be advertised to all EH students this fall to learn what you need to do regarding IRB approval of your project.)
4. Schedule a meeting with your thesis advisor or capstone mentor if you have one, or your faculty advisor asap, unless you have met with them in the past month (note below, summary of meeting due September 12, 2016).

Assignment 2 (post on class Blackboard by 5p Friday, September 2, 2016):
1. Prepare a brief summary of the progress you have made to date on identifying a culminating experience project and your current thoughts on pursuing a thesis vs. capstone as your culminating experience.
   a. If you have already chosen a topic, provide a brief introduction to the topic, its relevance to environmental health, and a research design strategy or management process that could be used for this project.
   OR
   If you are still searching for a topic, list several areas of interest and strategies for finding and pursuing projects in these areas. How will you find a mentor?
   b. Include in your write-up your current career goals upon completion of your degree
   c. Who is your thesis advisor or capstone mentor (if already identified)?
   d. In preparation for next class, create a list of focus areas/keywords that you might use to perform a literature search for your project.
2. Prepare a timeline with action items that will lead up to submission of your proposal (latest by October 24, 2016, for May 2017 graduation) and ultimately your final project. Overarching categories to consider include departmental and school-wide deadlines, IRB submission, literature search/review, research design, data collection, data processing, data analysis, writing, etc.
- September 6, 2016: Thesis vs. Capstone Considerations (S Sarnat and Tolbert) and Locating the Literature (Abu-Zeid, at Health Sciences Library)
  - Considerations in deciding about whether to pursue thesis or capstone for culminating experience
  - Literature resources available - library, web
  - How to organize and use the literature (use of EndNote, keywords, abstraction)

Assignment 3 (post on class Blackboard by 5p Monday, September 12, 2016):
(1) Sometime in the first two weeks of class, meet with your thesis advisor or capstone mentor if you have one, or your faculty advisor, unless you have met with them in the past month, to discuss your progress on identifying a project and any relevant issues, including research design and IRB considerations. Create brief notes and action items stemming from your meeting and post on Blackboard.
(2) Searching, documenting, and organizing the literature:
   a. Use an online database to search for literature on your topic.
   b. Conduct several searches to find at least 10 articles relevant to your project topic that you might select and abstract for your understanding of the literature. Download these references to EndNote. Insert them as citations into Word and create a bibliography.
   c. Document your search strategy by identifying the databases that you searched and the keywords/terms that you used.
   d. Post on Blackboard.
(3) Abstraction exercise:
   a. Find full-length articles for at least two of these references. Review both articles in depth and abstract relevant information for your project topic (either paragraph or bullet form).
   b. Include information (as appropriate) such as: bibliographic information, study objectives and/or hypotheses, study design, location of the study, study population, short descriptions of the exposure and/or health data, data analysis, key findings that relate to your project, interpretation of findings, limitations.
   c. Post on Blackboard.

Assignment 4 (prior to class, September 13, 2016):
Read article by Weed and McKeown posted on class Blackboard site prior to class on September 13, 2016.

- September 13, 2016: Objectivity in Science (J Sarnat) and Research Design, Part I (Tolbert)
  - Objectivity in science
  - Considerations of research design in project development

Assignment 5 (post on class Blackboard by 5p Friday, September 16, 2016):
(1) Prepare a 1-page Word document that contains a brief (bullet point) outline of your project, with the following (as complete as possible):
   a. Your name
   b. Whether you are pursuing a capstone, a thesis, or are undecided
   c. Your capstone mentor/thesis advisor
   d. Project title
   e. Background
   f. Purpose of project (hypothesis, if applicable)
g. Study design, methods
h. Measurements and/or data (sources of data and key variables, such as main exposure of interest, if applicable)
i. Analytic plan or strategy for managing your information
j. NOTE: Keep each bullet short

This document will be used in conjunction with Dr. Klein’s presentation on September 20, 2016, and should reflect your discussion with your capstone mentor or thesis advisor.

- September 20, 2016: Research Design, Part II (Klein) and Qualitative Methods and Project Management (Clasen)
  - Formulation of project objectives and hypotheses
    Dr. Klein will choose from project outlines turned in the previous week to discuss concrete examples of objectives and hypotheses.
  - Qualitative methods
  - Project management

Assignment 5 (post on class Blackboard and email to assigned partner(s) by 9a Monday, September 26, 2016):
1. Prepare a 1-2 page draft project proposal (as complete as possible). Include the following information:
   a. Project title and advisor/mentor (if applicable)
   b. Background and significance
   c. Purpose of your project. Include your research hypothesis or study question (if applicable) and your specific aims.
   d. The design of your project and methodology to be used (e.g., data collection methods, and strategy for analyzing or managing the data or information)
   e. Provide 3+ citations as part of the justification for your topic
   f. Detailed timeline outlining the anticipated progression of your project. Include what steps of the project you have already accomplished; what steps are still required for completion of your project, and a proposed timeline.

- September 27, 2016: Choosing Appropriate Statistical Methods (Steenland)
  - Quantitative analysis approaches
Dr. Steenland will discuss selection of appropriate statistical methods to be used in assessing your data. He will draw from materials turned in prior to class and from class discussion and questions.

Assignment 6 (post on class Blackboard and email to partner(s) by 5p Monday, October 3, 2016):
1. Peer review: Files of draft proposals will be exchanged with assigned peer reviewers for peer review discussion session October 4, 2016. Prepare a brief review of your colleague’s draft project proposal - no more than one page. Your job is to be constructive and help your colleague. Make sure you are convinced that the topic is important and that the framework, project design and/or methods are appropriate and feasible.

- October 4, 2016: Peer Review of Proposal Drafts

- October 11, 2016: Fall Break - No Class

Assignment 7 (post on class Blackboard by 5p Friday, October 14, 2016):
(1) Revise and continue to flesh out your project proposal, incorporating comments and feedback received on your project to date. In the revised version, be sure to include details of the data management and/or statistical procedures you plan to use for your project. If your project is qualitative or informational, describe how you intend to organize and manage your information.

Assignment 8 (post your draft powerpoint slides to class Blackboard by 5p Monday, October 17, 2016, and bring to class on October 18, 2016, on laptop):

(1) Prepare a 5-minute PowerPoint presentation describing your proposal. Include the following information: Title slide including your name and advisors/mentors with affiliations, background and significance, purpose/research questions/hypotheses (if applicable)/specific aims, proposed methods including analysis plan. Have timeline as extra slide in case there are questions about timetable for completion.

- October 18, 2016: Practice Presentations and Course Wrap-up / Evaluations
  You will bring your presentation and laptop to class. You will be assigned to a small group. Each person in the group will do a practice run-through of their presentation, and the group will provide feedback and suggestions. This is the last meeting of the class. After this you will finalize your written proposal and obtain your advisor’s/mentor’s approval, and finalize your slides for your oral presentation of your proposal to the faculty, as described below.

IMPORTANT REMAINING DEADLINES...

- October 24, 2016: Thesis/Capstone Proposals due to Ariadne by 5p with scanned email approval from thesis advisor or capstone mentor

- October 27, 2016 and November 2, 2016: Final slides (e.g., powerpoint file) of your proposal presentation due to Ariadne by 5p the evening prior to your scheduled presentation

- October 28, 2016, and November 3, 2016: Final oral presentations of proposals to faculty
  The formal proposal presentation sessions will take place during the morning and afternoon of October 28, and November 3, 2016. Presentation slots within each session will be assigned and the schedule will be posted on Blackboard. You are required to attend the entire session (morning or afternoon) in which you are scheduled to present. You will have sent your slides ahead of time to Ariadne (per above) so they can be loaded and ready to go. The session will be attended by EH faculty. Your talk must be no more than 5-minutes long, and you should be prepared for 3-5 minutes of questions. Be sure to practice your presentation several times to keep within the 5-minute timeframe.