Conducting high-impact science goes beyond data analysis and laboratory research. Early stage scientists need to identify research projects, design studies, conduct experiments, critically evaluate relevant literature, publish papers, and present their findings. They also need to be aware of how their research practices and conduct, and those of their peers, can impact the field. EHS 790 focuses on key skills that unify doctoral students and scientists across scientific disciplines. This course is designed to provide students with specific training at the nexus of scientific methods and practice, building skills that are fundamental to the scientific enterprise, which support the ethical and responsible conduct of science.

The course will address the program competencies by training students in the range of skills needed to conduct research in the areas of exposure science, biological mechanisms of disease, and environmental determinants of population health. Importantly, we also envision that this class will serve as a key forum for EHS community-building. Our weekly meetings will allow us to interact with other EHS students and program faculty, exchange and develop new ideas in research and mentoring, and share relevant difficulties and opportunities encountered during your doctoral training. EHS 790 is required for all students during their pre-candidacy training, however, all doctoral students in the program are permitted and encouraged to attend.
PROGRAM COMPETENCIES

The EHS PhD program competency partially addressed by this course is:

- Conduct a novel research project that addresses key challenges in environmental health sciences.

EVALUATION

This course is graded and evaluated based on class participation, journal club discussions, and research-in-progress presentations. Students are expected to:

a) Attend class and actively participate in class discussions, informed by assigned pre-class reading(s) (40%);
b) Work in groups to select a suitable journal club article and lead a discussion on the selected article (20%);
c) Make a 15-minute research-in-progress presentation on their semester’s research rotation and/or pre-candidacy research activities (40%).

The grading scheme is as follows:

- ≥ 94% A
- 90 – 93% A-
- 86 – 89% B+
- 82 – 85% B
- 78 – 82% B-
- 70 – 77% C
- < 70% F

COURSE STRUCTURE

EHS 790 is structured around a variety of topics, led respectively by the course instructors, EHS students, and other EHS program faculty. Topics include lessons and discussions centered on how to be an EH scientist; identifying research that has been conducted, obtaining support for new research, and publishing findings. The ethical principles that guide scientific decision-making will be discussed. Discussions will also be geared towards broadening perspectives on individual strategies for advancing careers in EH, as well as tips for dealing with scientific, logistical, and interpersonal challenges. Lastly, EHS 790 will include student-led journal club presentations as part of our ‘EHS Journal Club’ series and our ‘EHS Work-in-Progress’ seminars. The aim of both of these forums is to give students a platform for presenting results and critically-evaluating EH science - in the peer-reviewed literature and their own.

First and second year EHS students are expected to attend all lectures. Grading for all first and second year students will be based on attendance and their participation in weekly discussions.
EHS Program Competency Assessed | Representative Assignment
--- | ---
Conduct a novel research project that addresses key challenges in environmental health sciences | 1. Research-in-progress presentation

**COURSE POLICIES**

As noted above, attendance and completion of assignments is required to receive a passing grade. To promote an engaging and productive learning environment, students are encouraged to fully participate in class discussion and to restrict use of technology (cell phone, laptop) to activities relevant to the class.

Canvas will be used to post important announcements, required readings, and slides.

Instructor office hours are by appointment. Please schedule a meeting with either course instructors via e-mail.

As the instructors of this course, we endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with us and the Office for Equity and Inclusion, 404-727-9877.

**RSPH POLICIES**

**Accessibility and Accommodations**

Accessibility Services works with students who have disabilities to provide reasonable accommodations. In order to receive consideration for reasonable accommodations, you must contact the Office of Accessibility Services (OAS). It is the responsibility of the student to register with OAS. Please note that accommodations are not retroactive and that disability accommodations are not provided until an accommodation letter has been processed.

Students who registered with OAS and have a letter outlining their academic accommodations are strongly encouraged to coordinate a meeting time with me to discuss a protocol to implement the accommodations as needed throughout the semester. This meeting should occur as early in the semester as possible.

Contact Accessibility Services for more information at (404) 727-9877 or accessibility@emory.edu. Additional information is available at the OAS website at http://equityandinclusion.emory.edu/access/students/index.html
**Honor Code**

You are bound by Emory University’s Student Honor and Conduct Code. RSPH requires that all material submitted by a student fulfilling his or her academic course of study must be the original work of the student. Violations of academic honor include any action by a student indicating dishonesty or a lack of integrity in academic ethics. **Academic dishonesty refers to cheating, plagiarizing, assisting other students without authorization, lying, tampering, or stealing in performing any academic work, and will not be tolerated under any circumstances.**

The RSPH Honor Code states: “Plagiarism is the act of presenting as one’s own work the expression, words, or ideas of another person whether published or unpublished (including the work of another student). A writer’s work should be regarded as his/her own property.”

(www.sph.emory.edu/cms/current_students/enrollment_services/honor_code.html)
The Course Calendar reflects the stated Course Structure, with classes focused on 1) research conduct-related topics covering ethics, science communications, writing and reviewing articles and grant proposals; and 2) EHS program-related topics. The research conduct and EHS discussion topics will be put into practice during student-led research-in-progress (RIP) presentations and journal club discussions.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9/9/2019</td>
<td>Course Introduction</td>
<td>All</td>
</tr>
<tr>
<td>2</td>
<td>9/16/2019</td>
<td>2nd Year Summer Rotation Recaps</td>
<td>2nd Year Students</td>
</tr>
<tr>
<td>3</td>
<td>9/23/2019</td>
<td>2nd Year Summer Rotation Recaps</td>
<td>2nd Year Students</td>
</tr>
<tr>
<td>4</td>
<td>9/30/2019</td>
<td>Journal Club</td>
<td>Students^</td>
</tr>
<tr>
<td>5</td>
<td>10/7/2019</td>
<td>Translating Science to Policy</td>
<td>Erin Lebow-Skelley, Melanie Pearson, HERCULES Community Engagement Core</td>
</tr>
<tr>
<td>6</td>
<td>10/14/2019</td>
<td>Fall Break -- No Class</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>10/21/2019</td>
<td>Policy Briefs Peer Review &amp; Discussion</td>
<td>All^</td>
</tr>
<tr>
<td>8</td>
<td>10/28/2019</td>
<td>Community-Engaged Research</td>
<td>Melanie Pearson</td>
</tr>
<tr>
<td>9</td>
<td>11/4/2019</td>
<td>Misconduct in Research, Making a Mistake</td>
<td>Carmen &amp; Stefanie</td>
</tr>
<tr>
<td>10</td>
<td>11/11/2019</td>
<td>Rigor, Reproducibility, Replication</td>
<td>Carmen &amp; Stefanie</td>
</tr>
<tr>
<td>11</td>
<td>11/18/2019</td>
<td>Journal Club</td>
<td>Students*</td>
</tr>
<tr>
<td>12</td>
<td>11/25/2019</td>
<td>Choosing a Lab and Mentor(s)</td>
<td>Carmen &amp; Stefanie</td>
</tr>
<tr>
<td>13</td>
<td>12/2/2019</td>
<td>1st Year Rotation Recaps</td>
<td>1st Year Students</td>
</tr>
<tr>
<td>14</td>
<td>12/9/2019</td>
<td>1st Year Rotation Recaps</td>
<td>1st Year Students</td>
</tr>
</tbody>
</table>

Weeks with student-led activities are in italics.
* Carmen not in class; ^ Stefanie not in class

Note that topics and dates may change as the semester progresses.