Research Ethics (CHEM 5350)
First Half of Spring Semester 2020 (1 credit)
Fridays, 3:00 – 5:00 pm
HEB 2004

Instructor
Aaron Puri
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801.213.1408
Crocker Science Center 224F

Contact Info
Preferred mode of contact: E-mail
Office hours: By appointment

Required Materials
Two required texts are available to download:

http://www.nap.edu/catalog/12192.html
(NAS in Class Schedule)

http://ori.hhs.gov/education/products/RCRintro/index.html
(ORI in Class Schedule)

Course Description
This course will provide an overview of major topics relevant to responsible conduct in research. The course is designed to initiate a discussion amongst graduate students and faculty concerning the responsible pursuit of scholarship in the chemical sciences.

Expected Learning Outcomes
Over the course of this course, you will be able to:

- Identify common ethical issues that may arise during your research career
- Articulate the problems at the foundation of these issues
- Define what responsible scholarship means for researchers in chemistry
- Openly discuss responsible conduct in research with your peers and mentors

Teaching and Learning Methods
This course is centered around student-led presentations on research ethics topics. Many of these presentations will discuss case studies. For this class to be successful, active participation is required in the discussion of both hypothetical and documented scenarios related to responsible conduct in research.
Attendance

Attendance is mandatory for those enrolled. Please find substitutes for TA duties, meetings, etc.

One missed class is permitted. Students who miss a class are required to turn in a paper discussing a case that was presented during the missed class. The paper must be at least one page. **Papers should be uploaded to Canvas by the end of the day on February 28th, 2020.**

Discussion Leader Presentations

Groups of 3-4 students will lead the discussion of each week’s topic, which will include presenting a case study. Possible case studies will be provided on Canvas, however discussion leaders may also identify their own case study. The presentation should outline: (i) the background information, the codes of conduct, and the policies relevant to the presented scenario, (ii) a summary of the issues, ideas, and questions brought up by the scenario, and (iii) the resolution of the scenario following the principles of Responsible Research Conduct.

Prior to each Friday’s class, the discussion leaders will meet with Professor Puri to go over their presentation. Discussion leaders are responsible for uploading their slides to Canvas following class on their presentation day.

Term Paper

Students who do not serve as discussion leaders are required to turn in a term paper at the conclusion of the class. The paper should describe one case of a scientific misconduct that occurred in the chemical sciences. The case must be DIFFERENT from those presented in the class. The paper will include: (i) a detailed history of the case, how the case was uncovered and what the current fate of those responsible is; (ii) a discussion of what factors motivated/encouraged or enabled the misconduct; (iii) an outline of how the situation could have been prevented or stopped at an early stage. **Papers should be uploaded to Canvas by the end of the day on February 28th, 2020.**

The Americans with Disabilities Act

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

University Safety Statement

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive
important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

**Addressing Sexual Misconduct**

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677 (COPS).

**Academic Dishonesty**

Incidents of academic misconduct (including cheating, plagiarizing, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (http://www.regulations.utah.edu/academics/6-400.html). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate.

**Grading Policy (Evaluation Methods & Criteria)**

The grading for this course is Pass/Fail. Students who meet the following criteria will receive a Pass:

- Attend class
- Participate in class discussions
- Complete the assigned readings
- Serve as a discussion leader OR turn in a satisfactory term paper at the conclusion of the class
## Schedule

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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td>Jan 10</td>
<td>Introduction + Plagiarism &amp; Copyright</td>
<td>NAS: p.1-3</td>
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<td>ORI: Ch. 1</td>
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<td>Jan 17</td>
<td>Data Management/ Record Keeping/ Public Access to Data</td>
<td>NAS: p8-14</td>
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<td>ORI: Ch. 6</td>
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<td>Jan 24</td>
<td>Research Misconduct</td>
<td>NAS: p15-23</td>
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<td>ORI: Ch. 2</td>
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<td>Jan 31</td>
<td>Laboratory Safety, Human Participants and Animal Safety in Research</td>
<td>NAS: p24-28</td>
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<td>ORI: Ch. 3-4</td>
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<td>Feb 7</td>
<td>Responsible Authorship, Responsibilities of Editors and Reviewers</td>
<td>NAS: p29-42</td>
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<td>ORI: Ch. 9-10</td>
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<td>Feb 14</td>
<td>Case Study in Analytical/Physical Chemistry</td>
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<td>Feb 21</td>
<td>Case Study in Organic/Biological Chemistry</td>
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<td>Feb 28</td>
<td>Directing Research, Grant Administration, Conflict of Interest</td>
<td>NAS: p4-5, 43-47</td>
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<td>ORI: Ch. 5, 7, 8</td>
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*Note: This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas under Announcements.*