

BIOL5801-270 Research Ethics

Spring 2024 | Wednesdays 6:00 – 6:50pm BO213

Course Instructor

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Office Hours: Tuesdays 8:00 – 10:00am and 1:00 – 2:00pm; Thursdays 8:00 – 10:00am



Required Websites

Desire 2 Learn (D2L) platform accessible through the MSU portal and website

The Office of Research Integrity (ORI): <https://ori.hhs.gov>

Retraction Watch: retractionwatch.com

Resources for Research Ethics Education (UCSD): research-ethics.net

Federal Register: <http://www.federalregister.gov>

Purpose of the Syllabus

The purpose of the syllabus is to apprise you of course expectations, policies, and content. Ignorance of course policies because you did not read your syllabus is not an acceptable excuse for not adhering to these policies. The syllabus is also available online. **By accepting this syllabus and remaining enrolled in the course, you affirm that you understand the contents of this syllabus and that you will adhere to its requirements.**

Course Description

Research ethics is concerned with the problem of scientific misconduct and includes such things as fabrication, falsification, plagiarism, conflicts of interest, authorship, and so forth. Research ethics is distinct from bioethics; for example, we might talk about fabricating data as it relates to stem cell research in research ethics, but we will not talk about whether it is morally permissible to work with the stem cells themselves. This class will be discussion based and writing intensive. All opinions are welcome and may be expressed. However, all students must recognize that everyone is entitled to their own opinion and students must accept that you are not allowed to abuse others verbally for their opinions. Debates are welcome, verbal fighting is not.

Lecture Attendance and Late Assignments

This is a graduate level course that meets once per week – you are expected to attend all meetings of this class and you will be penalized for missing class. All of you are graduate students, and thus no late assignments will be accepted for any reason.

Phones

All phones are to be turned off in class. If playing with your phone is more important than paying attention to the discussion around you, then you do not need to be in this class and I will drop you.

Academic Dishonesty

Cheating, plagiarism, and collusion (as well as several other forms of conduct) are all strictly prohibited at MSU. Please read the MSU Student Handbook definitions of cheating, plagiarism, and collusion and MAKE SURE that you do not engage in any of these behaviors. If you are unclear on what may count as cheating, plagiarism, or collusion, please see me.

Plagiarism

Plagiarism will not be tolerated in this class, especially as this is a class on research ethics. There are many websites dedicated to helping you avoid plagiarism if you still need help at this point in your biology careers. Information of what plagiarism is (with examples) can be found on the Texas A&M Library website and many other institutional websites (<https://library.tamu.edu/help/help-yourself/using-materials-services/online-tutorials/academic-integrity/index.html>). Additionally, there are many online plagiarism (and grammar) checkers you can use for free. There is no such thing as ‘accidental’ plagiarism; thus, any papers found to contain plagiarized elements, even if minor, will receive a zero.

AI Assistance

As this is a course in research ethics, the use of any AI assistance (ChatGPT, GrammarlyGo, etc.) is strictly prohibited.

Assessments

You will be assessed using three basic categories:

1. **Writing:** Each week you will be given a case study to analyze and write about. You will also write a major term paper analyzing an actual case of scientific misconduct. I will assign the case studies, but you will be allowed to pick your own misconduct case to research and write about.
2. **Class Presentation:** You will present the misconduct case you research to the class and lead a discussion of it.
3. **Class Participation:** Each week will consist of a brief lecture followed by class discussion of the material, various readings, and/or case studies. You are expected to actually speak in class – offering your opinion, analysis, thoughts, etc.

Writing in General

Most scientists are poor writers because they simply don't write enough. One of my major goals (in addition to helping you be ethical scientists) is to help you learn to express yourself well in writing. Thus, you will be writing every week for this course. I will NOT, however, help you with the mechanics of writing (grammar, punctuation, etc.). I have been a science editor for over 20 years, but you should have already learned mechanics and thus I will not pre-edit your papers. I will at least partially edit your papers in the beginning with the idea that you will, on your own, begin to thoroughly edit your own papers prior to submission. No paper is good enough to turn in on the first version. No paper written at the last minute should ever grace my desk. Every paper you write, for every class, journal, etc., should be edited at least three times and will often be re-written more than once in the course of preparation. You should get in the habit of editing and rewriting now so that you carry good habits with you when you leave MSU. If you need help with the mechanics of writing, the Writing Center over in the English Department can help you. If you need help with ideas, then stop by my office.

Weekly Case Studies – General Instructions

The weekly case studies are meant to be short papers that analyze simple case studies. All weekly case studies must be **3 pages or less**, 12 point font, 1 inch margins, 1.5 spacing – do NOT deviate from these specifications. The major portion of the case study should be your solution to the problem – YOU thinking your way through the problem. You need to identify the major conflict, state how you would resolve the conflict, and then offer some sort of support for your resolution (i.e., is there a specific regulation to be followed, or a moral imperative, etc.). I am not looking for a lot of outside resources, but anything that does not come out of your own mind must be cited.

Misconduct Case – Written Assessment and Class Presentation

The ORI website has a repository of misconduct cases and their resolutions. You are to choose one of these cases to present to the class (everyone must choose a different case, so I will require you to tell me your choice on February 7th so that I can keep track of who is doing what). You may NOT recycle old presentations used by previous students in the class.

Written Assessment: The written assessment will consist of a summary of the case (who was involved, what was the source of misconduct, what did the investigation find, what was the punitive action taken) and an analysis of the case (was this an egregious case of misconduct, how common is this type of misconduct, does the punishment fit the crime, was a crime committed, etc. – you need to do the analysis, which means you have to dissect the case and its resolution). You should read any relevant documents you can find about the case including retracted papers, if any, and weave these documents into your assessment. **You should have a minimum of 10 references included in your assessment.** You likely will have more.

Class Presentation: You either need a written handout or a PowerPoint presentation of the case summary so that we all know what case you covered. You then need to lead the class in a discussion (i.e., you and the class together will analyze your case; you can share your analysis and see if the class agrees or disagrees, you can ask for their assessment, etc. – this is up to you; what do you want to talk about with

regard to your case). Two students will present per class, meaning that your summary and discussion can last no longer than 25 minutes.

Grading

I am not an easy grader, so please do not be complacent about this course. Grades will be assessed based off of the points you earn for the following as calculated by straight percentages (i.e., I will total your points at the end and divide by the points possible and that is your grade).

Free Writing (Case Study #1, 25 points each)	50 points
Weekly Case Studies (8 at 100 points each)	800 points
Class Presentation of Misconduct Case	100 points (will include peer review)
Written Analysis of Misconduct Case	100 points
Class Participation	50 points

Total possible points for the class: 1100 points. As the majority of the points is based on your writing, your writing must be sophisticated and as free from error as possible. Mistakes do occur and these will not be a problem if they are rare, but papers where the grammar or logic is so poor that I cannot figure out what you are trying to say will be scored very poorly. To get an A, you have to earn an A.

Schedule

Date	Topic/Assessment
Jan 17	<p>Course Introduction: Falsification, Fabrication, and Fraud</p> <p>Fanelli D (2013) “Why Growing Retractions Are (Mostly) a Good Sign” <i>PLoS Medicine</i> 10(12): e1001563</p> <p>Brainard J, You J, Bonazzi D (2018) “Rethinking Retractions” <i>Science</i> 362(6413): 390-393.</p> <p>Free Writing: Case Study #1 (written in class)</p>
Jan 24 Jan 31	<p>Human Subjects Research</p> <p>Presidential Commission for the Study of Bioethical Issues (2011) “ ‘Ethically Impossible’: STD Research in Guatemala from 1946 to 1948”. Read at least the Preface and Background; the rest is suggested but it is hard reading.</p> <p>Capps B, Chadwick R, Joly Y, Mulvihill JJ, Lysaght T, and Zwart H (2017) “Falling giants and the rise of gene editing: ethics, private interests and the public good” <i>Human Genetics</i> 11:20</p> <p>Bredenoord AL, Clevers H, Knoblich JA (2017) “Human tissues in a dish: The research and ethical implications of organoid technology” <i>Science</i> 355(6322)</p>
Feb 7 Feb 14	<p>How Science is Done</p> <p>Misconduct Case Selection DUE</p> <p>Couzin-Frankel J (2018) “Journals under the microscope” <i>Science</i> 361(6408): 1180-1183</p> <p>de Vriese J (2018) “The metawars” <i>Science</i> 361(6408): 1184-1188</p> <p>Stokstad E (2018) “The truth squad” <i>Science</i> 361(6408): 1189-1191</p> <p>Kupferschmidt K (2018) “A recipe for rigor” <i>Science</i> 361(6408): 1192-1193</p> <p>Azoulay P, Graff-Zivin J, Uzzi B, Wang D et al. (2018) “Toward a more scientific science” <i>Science</i> 361(6408): 1194-1197</p>
Feb 21	<p>Conflicts of Interest</p> <p>Rosenbaum L (2015) “Reconnecting the Dots—Reinterpreting Industry-Physician Relations” <i>The New England Journal of Medicine</i> 372(19): 1860-1864</p> <p>Rosenbaum L (2015) “Understanding Bias—The Case for Careful Study” <i>The New England Journal of Medicine</i> 372(20): 1959-1963</p> <p>Rosenbaum L (2015) “Beyond Moral Outrage—Weighing the Trade-Offs of COI Regulation” <i>The New England Journal of Medicine</i> 372(21): 2064-2068</p> <p>Bero LA, Grundy Q (2016) “Why having a (nonfinancial) interest is not a conflict of interest” <i>PLoS Biology</i> 14(12): e2001221</p>
Feb 28	<p>Harassment in Science</p> <p>Enserink M (2018) “Evidence-based medicine group expels internal critic” <i>Science</i> 361(6408): 1173-1174</p> <p>Wadman M (2018) “AAAS adopts new policy for ejecting harassers” <i>Science</i> 361(6408): 1175</p> <p>Witze A (2018) “Sexual harassment is rife in US science” <i>Nature</i> 558:352-353</p> <p>Hamburg M, Hockfield S, Chu S (2018) “Address harassment now” <i>Science</i> 361(6408): 1167</p> <p>The National Academies of Sciences, Engineering, and Medicine (2018) “Sexual Harassment in Academic Sciences, Engineering, and Medicine” Chapter 3 in <i>Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine</i> (National Academies Press; full report available for free at http://nap.edu/24994)</p>

Date	Topic/Assessment
Mar 6	Authorship, Publication, and Peer Review Elsevier (2017) “Ethics in Research & Publication” ethics.elsevier.com Shaw D (2016) “The Trojan Citation and the ‘Accidental’ Plagiarist” <i>Bioethical Inquiry</i> 13: 7-9 Bosch X (2011) “Exorcising Ghostwriting...” <i>EMBO reports</i> 12(6): 489-494 Haug CJ (2015) “Peer-Review Fraud – Hacking the Scientific Publication Process” <i>The New England Journal of Medicine</i> 373(25): 2393-2395 Van Noorden R (2013) “The true cost of science publishing” <i>Nature</i> 495: 426-429
Mar 13	SPRING BREAK, NO CLASS
Mar 20	Authorship, Publication, and Peer Review continued
Mar 27 Apr 3	Retractions Kupferschmidt K, Carnevale SG (2018) “Tide of Lies” <i>Science</i> 361(6403): 636-641 Investigative results on Dr. Yoshitaka Fujii (retractionwatch) Retracted Article: Kern JK, Geier DA, Deth RC et al. (2017) “Systematic Assessment of Research on Autism Spectrum Disorder and Mercury Reveals Conflicts of Interest and the Need for Transparency in Autism Research” <i>Sci Eng Ethics</i> 23: 1691-1718 and 23: 169-1690
Apr 10	Student Presentations 1. 2.
Apr 17	Student Presentations 3. 4.
Apr 24	Student Presentations 5. 6.
May 1	Student Presentations 7. Course Conclusion Free Writing: Revisiting Case Study #1
May 8	We will not do a final in this class All outstanding papers are due by Monday, May 6th, 2024 at NOON (no excuses!!)