

ESM 512: Research ethics and conduct

Instructor: Mark Buntaine

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Course hours and location: Monday and Wednesday, 12:30-1:30pm, Bren 2436

September 30 - October 28 (10 sessions)

Course credit: 2 credit

Assessment:

Contributions to class discussions	70%
Memo on ethical issues in research	30%

Course description:

This course introduces the ethical principles that apply to scientists to incoming PhD students of the Bren School. We will discuss key concepts and cases in research conduct and research ethics. The goal of the course is to provide a good foundation in the principles of ethical research practice, while exploring themes not taught in traditional approaches like open science, reproducible workflow, positionality, and inclusion.

Key Resources:

Iphofen, Ron, Ed. [Handbook of Research Ethics and Scientific Integrity](#).

Committee on Publication Ethics, [COPE database on publication ethics](#)

Course content:

#	Content	Readings
1	Introduction: goals of ethical research <ul style="list-style-type: none">• Trust• Transparency• Equitable credit and benefit sharing• Inclusive and diverse scientific community	Resnik 2020
2	Plagiarism <ul style="list-style-type: none">• What constitutes plagiarism?• Self-plagiarism• Historical cases and examples• Large language models	Helgesson & Eriksson 2014 Mann et al. 2023 Case: Kannah 2024

3	<p>Falsification and fabrication</p> <ul style="list-style-type: none"> • What is falsification and fabrication? • What leads to falsification and fabrication? • What about selective reporting, p-hacking, etc.? 	<p>Gopalakrishna et al. 2022</p> <p>Case: Bolnick 2021</p>
4	<p>Authorship</p> <ul style="list-style-type: none"> • What contributions warrant authorship? • Various norms and disciplinary traditions • Author ordering • Ghost authorship and honorary authorship 	<p>Pain 2021 Albert & Wager 2003</p> <p>Case: COPE 17-04 Flemming 2021</p>
5	<p>Open science, data sharing, and confidentiality</p> <ul style="list-style-type: none"> • Emerging norms about data sharing • Open science practices that promote integrity • Pre-registration, selective reporting, etc. 	<p>Nosek et al. 2012 Allen & Mehler 2019</p> <p>Case: Royal Society</p>
6	<p>Advising, mentoring, and harassment</p> <ul style="list-style-type: none"> • Ethical obligations of advisors and advisees • “Managing up” • Reporting requirements and harassment • Bullying 	<p>Marín-Spiotta 2018</p> <p>Case: Wang 2017</p>
7	<p>Inclusive science</p> <ul style="list-style-type: none"> • Ethics of equity and inclusion • Structural racism and science • Best practices for inclusive science 	<p>Graves et al. 2022</p> <p>Case: Weir 2022</p>
8	<p>Human subjects & bioethics</p> <ul style="list-style-type: none"> • Ethical issues involving human subjects • Treatment of personal information and privacy • Helsinki declaration • Protocols / IRB requirements 	<p>Belmont Report 1979 Strauss et al. 2021</p> <p>Case: Ozler 2019</p>
9	<p>Positionality, partnerships, and participants</p> <ul style="list-style-type: none"> • Privilege and knowledge production • International partnerships • Working with vulnerable communities 	<p>Schroeder 2019 Haelewaters et al. 2021</p> <p>Case: Yan 2021</p>
10	<p>Potential ethical issues in individual research context</p>	<p>student presentations</p>

Supplementary reading materials

NY Times article: The Mind of a Con Man. [http://www.nytimes.com/2013/04/28/magazine/diederik-stapels-audacious-academic-fraud.html?_r=1&pagewanted=all&](http://www.nytimes.com/2013/04/28/magazine/diederik-stapels-audacious-academic-fraud.html?_r=1&pagewanted=all&_ga=2.111111111.111111111.111111111-111111111-111111111)

Nature commentary: Repairing research integrity.
<http://www.nature.com/nature/journal/v453/n7198/full/453980a.html>

FiveThirtyEight article: How Two Grad Students Uncovered An Apparent Fraud — And A Way To Change Opinions On Transgender Rights. <https://fivethirtyeight.com/features/how-two-grad-students-uncovered-michael-lacour-fraud-and-a-way-to-change-opinions-on-transgender-rights/>

NY Times article: Doubts About Study of Gay Canvassers Rattle the Field.
https://www.nytimes.com/2015/05/26/science/maligned-study-on-gay-marriage-is-shaking-trust.html?_r=0