

PSYC 489P: Scientific Ethics and Integrity



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Spring, 2020



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Office Hours: TBD

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[campus map](#)

Web: [course webpage](#)

Class Hours: M/W 4–4:50, F online

Class Room: BPS 0140

pronouns: she/her

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1 Course Description

Thinking about what it means to act responsibly and ethically while conducting research will be the emphasis of the course. The purpose of this course is less to teach specific facts but more

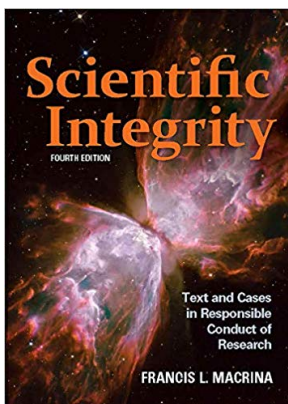
to convey ideas and concepts that can be applied to specific situations in a broad, fluid manner to reach ethical decisions. Students will be asked to think critically and discuss their opinions on a wide range of topics including (but not limited to) mentoring, scientific record keeping, authorship and peer review, ownership of data, use of animals and humans in research, and conflict of interest. Very often there are no clearly right or wrong answers on many of the issues we will discuss. In fact we can anticipate that the thinking of each of us on the various topics will change and evolve over the semester through class discussions. Acceptable standards also often change with time, culture, and discipline. What ethical considerations are researchers facing today? What might be some of the challenges a decade from now?

Thus, the goal of the course is to heighten your awareness of ethical issues as they pertain to scientific research and give you the tools to solve future ethical dilemmas. Hopefully, by the end of the semester, considerations of ethical issues have become a standard part of your thinking when you work in a lab, deal with colleagues, and conduct research. We also hope that as a result of this course you will be better able to evaluate issues that are bound to arise during your careers, whether in research or not.

Guest instructors may co-present from time-to-time in order to give you a sense of these topics from different disciplines. You do need to keep in mind that the concept scientific integrity is fixed at its core but also changes and evolves around the edges as circumstances change. While the facts will be important, it is the concepts of the course, and the awareness of issues, that are most important for you to appreciate.

2 Required Materials

In order to facilitate group discussion during class, READINGS MUST BE COMPLETED BEFORE CLASS. The following text is required for class (available at the bookstore) and additional readings will be linked to or provided on ELMS in the relevant module. (There are older versions of the Macrina text. However, the readings may not align.)



Scientific Integrity 4th edition
Francis L. Macrina
ISBN-13: 978-1555816612
ISBN-10: 9781555816612

3 Prerequisites

Prerequisites: n/a

4 Course Objectives

After taking this course, students should be able to do the following:

1. **Identify** policies and procedures that are foundational to the responsible conduct of research
2. **Evaluate** The costs and consequences to loss of trust in science and research
3. **Analyze** ethical problems in science
4. **Assemble** research and **Prepare** a cohesive presentation on a case study
5. **Compare and contrast** various solutions to ethical dilemmas in science
6. **Describe** and **Critique** professional codes and rules of scientifically responsible conduct in psychology-based research

Psychology Department Learning Objectives

In addition to the specific course content learning goals, this course includes assessments and activities designed to help meet the learning objective's of the Psychology department.

1. **Describe** key concepts, principles and themes in research ethics.
2. **Describe** applications of the study of responsible conduct of research.
3. **Engage** in innovative and integrative thinking and problem solving
4. **Demonstrate** effective writing for different purposes
5. **Exhibit** effective presentation skills for different purposes

Course Assessments have been designed to meet the above learning objectives.

5 Assessments & Activities

Course structure

The course is primarily reading and discussion, viewing of videos on selected topics, short lectures, and visits from experts in various aspects of research ethics. The text and videos are used to raise basic issues and additional readings are assigned on each topic. A portion of each class will be devoted to a general discussion of the topic of the day, often led by students. We will also evaluate and discuss topics through the use of case studies.

Participation

The course structure is primarily discussion-based. Student attendance, preparation, and participation is therefore, crucial. Students are expected to read material BEFORE class and to lead and/or participate during class discussions. Student participation is required and factored into your grade (see section on grading). Students are encouraged to share their views and, where possible, cite examples to support your arguments.

You may miss two classes for any reason (see grading). Any student missing more than two classes without a valid, documented excuse will lose the participation points for that day. To earn participation points for a class missed, a written assignment must be completed.

Blended Learning Assignments

These are guided written assignments, typically based on a case study that are due at 5 pm on the assigned due date. Assignments may be submitted earlier. However, **late assignments will lose 10% of the total assignment grade for each day they are late starting immediately after the deadline..**

Group project

Participants in the class are expected to complete a course project that will be presented at the end of the semester in class. You will be able to select (or be assigned) to review and synthesize a responsible conduct of research case study or research policy (e.g. How do Big 10 schools handle intellectual property?) in the area of responsible conduct of research.

Each group will be expected to thoroughly review and present their topic. This material will be presented on one of the last three days of the semester. The week before the presentation, the group will provide the class with one reasonably short reading that provides an overview of their case study or their topic. All students in the class are expected to read the material prior to the presentation so that the presenters can spend more of their time presenting results and analysis of the case.

There are no exams in this course. Your grade will be based solely on participation, blended learning assignments, and the group project.

6 Grading Policy

Grades are not given, but earned. Your grade is determined by your performance on the learning assessments in the course and is assigned individually (not curved). If earning a particular grade is important to you, please speak with me at the beginning of the semester so that I can offer some helpful suggestions for achieving your goal.

All assessment scores will be posted on the course ELMS page. If you would like to review any of your grades or have questions about how something was scored, please email me to schedule a time for us to meet in my office.

Letter Grade	Percentage Range	Letter Grade	Percentage Range	Letter Grade	Percentage Range
A ⁺	98.0 – 100%	C ⁺	77.0 – 79.9%	F	0 – 59.9%
A	93.0 – 97.9%	C	73.0 – 76.9%		
A ⁻	90.0 – 92.9%	C ⁻	70.0 – 72.9%		
B ⁺	87.0 – 89.9%	D ⁺	67.0 – 69.9%		
B	83.0 – 86.9%	D	63.0 – 66.9%		
B ⁻	80.0 – 82.9%	D ⁻	60.0 – 62.9%		

I am happy to discuss any of your grades with you, and if I have made a mistake I will immediately correct it. Any formal grade disputes must be submitted in writing and **within one week** of receiving the grade.

Final letter grades are assigned based on the percentage of total assessment points earned. To be fair to everyone I have to establish clear standards and apply them consistently. It is unethical to make exceptions for some and not others. **Grades will not be rounded up.** If you earn a 97.9%, you have earned an A in the course. Incomplete grades, which are awarded at the end of the semester, will not be given based on unsatisfactory performance. Students who are performing poorly should be mindful of the deadline to drop a course. You are encouraged to consult with me well in advance.

The following grading scheme will apply:

- **42.68%** of your grade will be determined by blended learning assignments (14 assignments * 25 pts each = 350 pts /820)
- **32.93%** of your grade will be determined by participation in class (or written make-up assignment) (27 class days graded * 10 pts a day = 270 pts/ 820)
- **24.4%** of your grade will be determined by the group project (200 pts /820)

Marking System

The University's marking system is as follows:

- A+, A, A- denotes excellent mastery of the subject and outstanding scholarship
- B+, B, B- denotes good mastery of the subject and good scholarship
- C+, C, C- denotes acceptable mastery of the subject
- D+, D, D- denotes borderline understanding of the subject, marginal performance, and it does not represent satisfactory progress toward a degree
- F denotes failure to understand the subject and unsatisfactory performance

7 Campus & Course Policies

Campus Policies

It is our shared responsibility to know and abide by the University of Maryland's policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit www.ugst.umd.edu/courserelatedpolicies.html for the Office of Undergraduate Studies' full list of campus-wide policies and follow up with me if you have questions.

Students with Disabilities

The course staff is committed to providing appropriate accommodation for students with recognized disabilities. If you have been evaluated by Disability Support Services (DSS) and qualify for specific services, **please inform me at the beginning of the semester**. If you think that you may qualify for some accommodation but have not yet been evaluated, please contact DSS at 301-314-7682 to arrange a consultation.

Religious Observances

The University System of Maryland policy "Assignments and Attendance on Dates of Religious Observance" provides that students should not be penalized because of observances of their religious beliefs; students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. **It is the student's responsibility to inform me in advance of any intended absences for religious observances as soon as possible.** Please note that travel time is not an excused absence. Assignments available for at least one week will still be due by the assigned due date, even if there is a day of religious observance sometime during that week.

Course Policies

This is a discussion class. The success or failure of the class will depend upon the free and open participation of every member of the class. No one can be quiet. Based on past experience, many in the class (including the instructors) may wind up discussing issues from their own personal experience (e.g., interactions with colleagues, problems with a mentor, etc.) to illustrate points about the topics being covered. In order to facilitate discussion, and to assure an openness and confidentiality to the class, we insist on the following rules.

- Listen respectfully in class to opinions of others.
- Do not interrupt others. Each person deserves time to express his/her ideas.
- When discussing personal experiences, avoid mentioning names in order to minimize potential for criticism of that person.

- Personal experiences of a sensitive nature mentioned in class must be treated as confidential and not be discussed outside the class.

In accordance with the above, **phones and computers may not be used during class.**

8 Resilience and Academic Success

You all belong in this class and can be successful! Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I will do whatever I can to help remove barriers to your success and encourage you to visit the following campus resources for additional help:

- Tutoring, general: tutoring.umd.edu
- Writing Center, for help with written assignments ter.ps/writing
- Student Resources go.umd.edu/assistance).
- Counseling Center - Includes DSS, learning assistance, & traditional counseling services counseling.umd.edu. (Note: I am a Responsible University Employee and any and all disclosures of different types of sexual misconduct disclosed to me I am obligated to report to the Title IX Office.)
- Academic Achievement Program - <http://www.aap.umd.edu> AAP provides academic and counseling services to promote the access and success of low income, first generation immigrant college students at the University of Maryland.
- Office of Civil Rights & Sexual Misconduct (Title IX Office)- <https://www.ocrsm.umd.edu/>

Most services free because you have already paid for it, and everyone needs help. I encourage all students to ask for help both in and outside of the classroom! Also see the following article encouraging students to visit office hours or make a one-on-one appointment with your professors: [Office hours](#)

9 Basic Needs & Security

If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live and believe this may affect your performance in this course, please visit go.umd.edu/basic-needs for information about resources the campus offers you and please let me know if I can help in any way.

10 Inclusive Learning Environment

Positive class community and climate is important for everyone's personal and academic success in the course. Students will be invited to share their thoughts in class; a diversity of opinions is welcome. Respectful communication is expected, even when expressing differing perspectives. Supporting one's statements with research findings is encouraged. In accordance with free speech statutes, speech that contains threats of violence is prohibited.

11 Names/Pronouns & Self Identifications

The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). Please note that the pronouns someone indicates are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity, is your choice whether to disclose (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

12 Course Outline

Note: This is a tentative schedule, and subject to change as necessary. Monitor the course ELMS page for current deadlines. In the unlikely event of a prolonged university closing, or an extended absence from the university, adjustments to the course schedule, deadlines, and assignments will be made based on the duration of the closing and the specific dates missed. All assignments and lectures will be posted on ELMS.

Date	Day	Topic	Reading/Watching	Due
Module 1: The Responsible Conduct of Research				
Jan. 27	M	Course Introduction	Syllabus	
Jan. 29	W	What is ethics and why is it important? Part I	Macrina: Forward and Preface	
Jan. 31	F	What is ethics and why is it important? Part II	Resnik, D. B. (2015) <i>What is Ethics in Research & Why is it Important?</i>	Blended Learning Assignment Due, includes pre-course quiz
Feb. 3	M	Responsible Conduct of Research	Macrina Ch.1	
Feb. 5	W	Ethics and the Scientist	Macrina Ch 2	
Module 2: Science and Society				
Feb. 7	F	Ethically questionable research	Read chapter 50, "Ethically Questionable Research" by William von Hippel in <i>Ethical Challenges in the Behavioral and Brain Sciences</i> (on ELMS)	Blended Learning Assignment Due
Feb. 10	M	Neuroethics	Illes, J., & Bird, S. J. (2006) <i>Neuroethics: a modern context for ethics in neuroscience. Trends in neurosciences, 29(9), 511-7</i>	
Feb. 12	W	Science, Technology, and Society	Macrina Ch.11	

Module 3: Risky Research

Feb. 14	F	Vaccine research and vaccinations	Multiple readings on ELMS	Blended Learning Assignment Due
Feb. 17	M	Human genome editing (President's Day)	Multiple readings on ELMS	
Feb. 19	W	It seemed like a good idea...	Multiple readings on ELMS	

Module 4: Human Consent

Feb. 21	F	It's all fun and games..	Readings on ELMS	Blended Learning Assignment Due
Feb. 24	M	Guest speaker from UMD IRB	Macrina Ch. 5	
Feb 26.	W	Human Consent Part 2	Macrina Ch 5.	

Module 5: The Use of Animals in Research

Feb. 28	F	The ethics of animals in research	Readings on ELMS	Blended Learning Assignment Due
Mar. 2	M	The Use of Animals in Biomedical Experimentation	Macrina Ch. 6	
Mar. 4	W	Discussion of UMD policy and IACUC		

Module 6: Fabrication and Falsification of Data

Mar. 6	F	Fabrication/Falsification	Readings on ELMS	Blended Learning Assignment Due
Mar. 9	M	Image Manipulation (Holi)	Readings on ELMS	
Mar. 11	W	Fabrication and Falsification Case studies	Readings on ELMS	

Module 7: Mentorship and authorship

Mar. 13	F	Authorship	Reading on ELMS and Macrina Ch. 4 pgs. 83–105	Blended Learning Assignment Due
Mar. 16	M	SPRING BREAK	SPRING BREAK	SPRING BREAK
Mar. 18	W	SPRING BREAK	SPRING BREAK	SPRING BREAK
Mar. 20	F	SPRING BREAK	SPRING BREAK	SPRING BREAK
Mar. 23	M	Peer Review	Macrina Ch. 4 pgs. 105–129	
Mar. 25	W	Mentorship	Macrina Ch. 3	

Module 8: Equity in science & power differentials

Mar. 27	F	Dartmouth study	Case	Readings on ELMS	Blended Learning Assignment Due
Mar. 30	M	Rochester study	Case	Readings and case studies on ELMS	
Apr. 1	W	Diversity and Inclusion in Science		Readings and case studies on ELMS	

Module 9: Intellectual property, Open Science, Self-plagiarism

Apr. 3	F	Research Data and IP		Macrina Ch.9	Blended Learning Assignment Due
Apr. 6	M	Discussion on IP and Open Science		Macrina Ch.9 & Readings on ELMS	
Apr. 8	W	Self-Plagiarism		Readings on ELMS	

Module 10: Reproducibility in Research

Apr. 10	F	Reproducibility (Good Friday/Passover)	Fri-	Readings on ELMS	Blended Learning Assignment Due
Apr. 13	M	Record Keeping		Macrina Ch 10	

Apr. 15	W	Lies and Statistics	Readings on ELMS
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Module 11: Compliance, and conflicts of interest

Apr. 17	F	Conflicts of Interest	Readings on ELMS	Blended Learning Assignment Due
Apr. 20	M	Competing Interests in Research	Macrina Ch 7	
Apr. 22	W	Compliance	Macrina Ch. 7 and readings on ELMS	

Module 12: Collaborative Research

Apr. 24	F	Group Work	Readings on ELMS	Blended Learning Assignment Due
Apr. 27	M	Collaborative search	Re- Macrina Ch. 8	
Apr. 29	W	Collaborative search Part 2	Re-	

Module 13: Incentivizing Our Values AND class presentations

May. 1	F	Aligning research philosophy, institutional values, and reporting	Readings on ELMS	Blended Learning Assignment Due
May. 4	M	Presentations on Misconduct Cases Day 1		
May. 6	W	Presentations on Misconduct Cases Day 2		
May. 8	F	Getting Meta: Research on Research Ethics	Readings on ELMS	Blended Learning Assignment Due

May. 11 M Presentations on
 Misconduct Cases
 Day 3