

San José State University
Philosophy 133
“Ethics in Science”
Fall 2017

Course and Contact Information

Instructor:	Janet D. Stemwedel
Office Location:	Faculty Office Building 203
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Office Hours:	Tuesdays 9:00-10:00 am, Wednesdays 11:00 am-12:00 pm, or by appointment
Class Days/Time:	Tuesdays and Thursdays 12:00-1:15 pm
Classroom:	SH 100
Prerequisites:	Completion of core GE requirements, upper division standing, successful completion of WST. 100W is a prerequisite or co-requisite for the course
GE/SJSU Studies Category:	V (Culture, Civilization & Global Understanding)

Faculty Web Page and MYSJSU Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on my web page at <http://www.stemwedel.org/ethicsinscience/>. You are responsible for regularly checking with the messaging system through MySJSU to learn any updates.

Course Description

The purpose of this course is to explore the ways in which values play a role in the practice of science. This course will consider the values and practices of scientific countries (including the U.S., Japan, and India), and the historical development of particular scientific values and practices (e.g., objectivity, proper methods for communicating results, proper treatment of human or animal experimental subjects), and the interactions between cultures that influence the development of scientific values and practices (e.g., the particular departures from the western model of science seen in Japan and India).

Another purpose of this course is to recognize that within a country like the U.S. science is a culture, with its own values and practices distinct from those of the lay culture in which it is embedded. Such mundane matters as choice of research question, experimental design, and relationships within research labs are reflections of the values of a scientific community. This course will examine the interactions between the embedded culture of science and the larger embedding culture, exploring how the interplay between these cultures affects the values and practices of each.

Readings will draw heavily on case studies, both to illuminate conflicts over values and over the practices that best embody a value, and to illuminate the advantages of taking a pro-active approach to incorporating ethical considerations in real-life research and learning environments. Since scientific practices embody values, a central goal of this course is to emphasize that ethical considerations are a crucial element of the conduct of science and of good research design.

GE Learning Outcomes (GELO)

“Ethics in Science” is designed to meet the G.E. learning objectives for Area V (culture, civilization, and global understanding). At the end of the course, students should be able to:

1. *“Compare systematically the ideas, values, images, cultural artifacts, economic structures, technological developments, or attitudes of people from different societies.”* In particular, you should be able to compare the values of the culture of science, and the way those values are reflected in scientific practices and methodologies, with the values of the larger societies in which scientists are embedded (including the U.S., but also considering Japan and the developing world).

2. *“Identify the historical context of ideas and cultural practices and their dynamic relation to other historical contexts.”* For example, you should be able to identify the influence the Nazi Doctors’ Trial at Nuremberg and the exposure of the Tuskegee syphilis experiment in the U.S. had on local and international standards for experiments on human subjects; to assess the ways in which the Nuremberg and Helsinki codes embody the interests of the research subject against the interests of scientific research; and to discuss the pressure placed on these codes by current AIDS research.

3. *“Explain how a culture outside the U.S. changes in response to internal and external pressures.”* For example, you should be able to explain how prominent allegations of scientific fraud recently have influenced definitions of scientific misconduct proposed by governmental and funding agencies; how financial and professional pressures can act as a counterforce to the scientific value of free exchange of information; and how attitudes toward gender and race in the larger society can influence the objectivity of scientific work.

Required Texts/Readings

Textbooks (available at Spartan Book Store and from online book sellers)

Carl Djerassi, *Cantor's Dilemma*
ISBN 9780140143591

Deni Elliott and Judy E. Stern (eds.), *Research Ethics: A Reader (E&S)*
ISBN 0874517974

Philosophy 133 Course Reader

Available online (via Canvas) or for purchase (print-on-demand)
at Maple Press (330 S. Tenth Street, 408-297-1001)

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on.

Course ground rules agreement: Read and sign, indicating that you understand and agree to the rules. *If you do not understand them, you must schedule a conference with me to go over them. This is required before other assignments will be accepted.* Due no later than Tuesday, September 13, and worth 2% of your course grade.

Quiz: Understanding (and avoiding) plagiarism: Delivered online (via Canvas), this quiz is due no later than Friday, September 16, and is worth 4% of your course grade.

Quiz: Basic concepts and background information for case studies: Delivered online (via Canvas), this quiz is due no later than Friday, September 16, and is worth 5% of your course grade.

Case study responses: Over the course of the term, you will explore 4 case studies. After reading the case, you will write an initial response (of approximately 300 words) defending a course of action for the protagonist, participate in a discussion about the case, and then answer some focused questions about the case (the case quiz). Three of the case study responses will be done in class. One of the case studies will be done as an assignment outside of class, making use of online discussion of the case with your classmates. No late case study responses will be accepted, but I will drop your lowest case study initial response grade and your lowest case study quiz grade before calculating your final grade. Taken together, the case study initial responses will count for 12% of your course grade and the case study quizzes will count for 12% of your course grade.

Reading response essays: For 3 of the reading assignments, you will be asked to write a short essay (500 words, approximately 2 typed, double-spaced page) engaging with some issue or issues in the reading. (Specific instructions for each reading response essay will be distributed in class.) The goal of these assignments is to help you read in an active, engaged way, and to encourage you to develop your own views about these issues. Reading response essays will be assessed for correctness, clarity, and conciseness and returned to you promptly. You are encouraged to make use of the tutors in the Logic and Philosophy Lab (FOB 231) for additional help with writing for this course. Reading response essays are due at the beginning of class on the dates listed in the program. No late reading response essays will be accepted, but I will drop your lowest reading response essay grade before calculating your final grade. Taken together, the reading response essays will count for 15% of your course grade.

Research reports: Over the course of the term, each student will locate two articles on a topic relevant to the class and report to the class (via our online discussion board) on each of these articles. One article must be from the popular press and the other must be from the scholarly scientific press. The research report (of approximately 600 words) should highlight the assumptions the article makes about science and the norms these assumptions reflect. The two research reports will count for 15% of your course grade.

Review of an ethics training module: Each student will complete an ethics training activity or module (such as ORI's interactive movie "The Lab" or a CITI training module accessed through SJSU's institutional subscription) and write a reflective essay (of approximately 600 words) about this experience. The review of an ethics training module will count for 10% of your course grade. *Submitting this review before the last class meeting will earn extra credit points towards your final grade, as indicated in the course schedule.*

Final exam: The final exam is intended to evaluate your grasp of the material from assigned readings, lectures, and class discussions. It will include shorter objective items (e.g., definitions of key terms) and longer essays that will require that you reflect critically on the course material. More details on the format and content of the exam will be distributed later in the term. The final exam will count for 15% of the course grade.

Class participation: Because dialogue and discussion are central to philosophy, one generally cannot excel in a philosophy class without a passing grade in class participation. Class participation presupposes attendance. Generally, students who miss more than three weeks of class are unlikely to be able to earn sufficient class participation credit to receive a passing participation grade. I expect that you will come to class having done the readings and thought about the issues they raise before our class meetings, and ready to participate in general discussion, in-class writing exercises, and periodic small group exercises. Your class participation will count for 10% of your course grade.

Grading Information

Course ground rules agreement	2%
Quiz: Understanding (and avoiding) plagiarism	4%
Quiz: Basic concepts and background information for case studies	5%
Case study initial responses:	12%
Case study quizzes:	12%
Reading responses:	15%
Research reports:	15%
Review of an ethics training module:	10%
Final exam:	15%
<u>Class participation:</u>	<u>10%</u>
Total:	100%

Your marks on assignments will be converted to percentages (e.g., 15/20 = 75%) and used to compute letter grades as follows:

A+ = 100-97%	A = 96-93%	A- = 92-90%
B+ = 89-87%	B = 86-83%	B- = 82-80%
C+ = 79-77%	C = 76-73%	C- = 72-70%
D+ = 69-67%	D = 66-63%	D- = 62-60%
F = 59-0% Unsatisfactory		

Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), and completion of Core General Education are prerequisite to all SJSU Studies courses. Completion of, or co-registration in, 100W is strongly recommended. A minimum aggregate GPA of 2.0 in GE Areas R, S, & V shall be required of all students.

Classroom Protocol

1. Treat class meetings as a serious commitment. When you are not in class, you miss material, and we miss your questions and comments.

2. Being in class means more than just being a warm body in a chair. Prepare for class by doing assigned readings, thinking hard about this reading, and making a list of questions you have about them or issues you hope to clarify in class. Bring your books with you to class. Participate in class by listening to the lecture, listening to your classmates, taking notes, asking questions, answering questions, participating fully in any class activities, and thinking.
3. Arrive and be ready to go by the official start time, and stay until the conclusion of the class meeting. Wandering in (or out) partway through disrupts the flow of the class. Budget extra time for parking if you need to!
4. If at all possible, don't schedule appointments (medical check-ups, job interviews, club meetings, etc.) during class time.
5. Turn OFF your cell phone during class time. Don't use your laptop for non-class-related purposes during our class meeting.
6. If you must miss class, it is YOUR responsibility to make up the material you missed. Ask a classmate if you may copy his/her notes.
7. If you miss class on a day when an assignment is due, it is still YOUR responsibility to make sure the assignment is turned in to me by class time.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>"

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Course Schedule

This schedule is subject to change with fair notice (i.e., by announcement in class and via MySJSU email messaging).

Course Schedule

Class	Date	Topics, Readings, Assignments, Deadlines
1	24 August.	INTRODUCTORY REMARKS <i>Distributed in class/online:</i> Kenneth D. Pimple, "The ten most important things to know about research ethics" Muriel J. Bebeau, "Developing a Well-Reasoned Response to a Moral Problem in Scientific Research" Case Study: "The Jessica Banks Case"
2	29 August.	HOW DOES SCIENCE WORK? WHAT DOES SCIENCE DO? On Being a Scientist (WWW only; not in printed Course Reader) Committee on Science, Engineering, and Public Policy, Panel on Scientific Responsibility and the Conduct of Research, "The Nature of Science" (CR) Fred Grinnell, "Doing Science" (CR) Peter Godfrey-Smith, Merton's norms of science (CR)
3	31 August.	ETHICAL FRAMEWORKS Aristotle, "Happiness, Function, and Virtue" (CR) Immanuel Kant, "Good Will, Duty, and the Categorical Imperative" (CR) John Stuart Mill, "Utilitarianism" (CR) Entry on "relativism" (CR)
4	5 September.	SCIENCE AND IDEOLOGY Michael Ruse, "Creation Science: The Ultimate Fraud" (CR) The Biology and Gender Study Group, "The Importance of Feminist Critique for Contemporary Cell Biology" (CR) Richard Levins and Richard Lewontin, "The Problem of Lysenkoism" (CR) Mark B. Adams, "Science, Ideology, and Structure: The Kol'tsov Institute, 1900-1970" (excerpt) (CR)

5	7 September.	<p>WHAT SCIENCE OWES TO SOCIETY (AND WHY)</p> <p>Kristin Shrader-Frechette, <i>Ethics of Scientific Research</i>: Chapter 2, "Professional Codes and the Duty to Do Scientific Research" (CR) Chapter 4, "Basic Principles: Promoting the Public Good" (CR)</p>
6	12 September.	<p>SPECIAL CONDITIONS, SPECIAL DUTIES</p> <p>Jean-Baptiste Meyer, "Science and Technology in South Africa: A New Society in the Making" (CR) V. V. Krishna, "A Portrait of the Scientific Community in India: Historical Growth and Contemporary Problems" (CR) Third World Network, "Modern Science in Crisis: A Third World Response" (CR)</p>
7	14 September.	<p>THE QUEST FOR KNOWLEDGE</p> <p>Philip Kitcher, "Subversive Truth and Ideals of Progress" (CR) Khor Kok Peng, "Science and Development: Underdeveloping the Third World" (CR) Michael Dummett, "Ought Research to be Unrestricted?" (CR)</p> <p>Course ground rules agreement due. Review of Ethics Training Module due-date #1 (worth 28 extra credit points)</p> <p>Quizzes ("Understanding & avoiding plagiarism" and "Basic concepts & background for case studies") due on Canvas by 11:59 PM Friday, 15 September.</p>
8	19 September.	<p>DATA MANAGEMENT</p> <p>Barbara Mishkin, "Urgently Needed: Policies on Access to Data by Erstwhile Collaborators" (CR) "Data Management Guidelines Issued by British Medical Research Council" (CR) "Instructions for Authors," <i>Journal of Bacteriology</i> (CR) "NRC Reports on Sharing Publication-Related Data and Materials" (CR) Donald L. Pavia, Gary M. Lampman, and George S. Kriz, Jr., "Advance Preparation and Laboratory Records" (CR) Daniel J. Kevles, <i>The Baltimore Case</i> (excerpts) (CR)</p> <p><i>Recommended:</i> Kevles, "A Beautiful Paper" (CR)</p> <p>Upload initial response to Case Study 1 by 11:59 pm Wednesday, 20 September.</p>

9	21 September.	<p>CASE STUDY 1 (part 2)</p> <p>Class will meet online.</p> <p>Participate in required discussion of Case Study 1 on Canvas.</p> <p>Case 1 Quiz due on Canvas by 11:59 pm Friday, 22 September.</p>
10	26 September.	<p>THE PROBLEM OF OBJECTIVITY: SOME HISTORY</p> <p>Bruce Bower, "Objective Visions: Historians track the rise and times of scientific objectivity" (CR)</p> <p>Marie Boas Hall, "The Frame of Man and Its Ills" (excerpts) (CR)</p> <p>Peter Machamer, "The Concept of the Individual and the Idea(l) of Method in Seventeenth-Century Natural Philosophy" (CR)</p> <p><i>Recommended:</i> Vandana Shiva, "Modern science as patriarchy's project" (CR)</p> <p><i>Recommended:</i> Helen Longino, "Gender and Racial Biases in Scientific Research" (CR)</p>
11	28 September.	<p>THE PROBLEM OF OBJECTIVITY: CULTURAL PERSPECTIVES</p> <p>National Academy of Sciences, "Methods and Values in Science" (CR)</p> <p>Pamela J. Asquith, "Japanese Science and Western Hegemonies: Primatology and the Limits Set to Questions" (CR)</p> <p><i>Recommended:</i> Donna Haraway, "The Bio-politics of a Multicultural Field" (CR)</p> <p>Reading response essay #1 due.</p>
12	3 October.	<p>ANIMAL RESEARCH</p> <p>Andrew Rowan, "The Benefits and Ethics of Animal Research" (CR)</p> <p>Neal D. Barnard and Stephen R. Kaufman, "Animal Research is Wasteful and Misleading" (CR)</p> <p>Jack H. Botting and Adrian R. Morrison, "Animal Research is Vital to Medicine" (CR)</p> <p>Madhusree Mukerjee, "Trends in Animal Research" (CR)</p> <p>Janet D. Stemwedel, "Impediments to Dialogue about Animal Research" (CR)</p> <p><i>Recommended:</i> D. Elliott and M. Brown, "Animal Experimentation and Ethics" (E&S)</p> <p><i>Recommended:</i> Richard P. Vance, "An Introduction to the Philosophical Presuppositions of the Animal Liberation/Rights Movement" (E&S)</p> <p>Review of Ethics Training Module due-date #2 (worth 21 extra credit points)</p>

13	5 October.	<p>HUMAN SUBJECT RESEARCH: HISTORY</p> <p>Telford Taylor, "Opening Statement of the Prosecution, December 9, 1946," "Judgment and Aftermath" (CR)</p> <p>Charles C. Mann, "Radiation: Balancing the Record" (E&S)</p> <p>James H. Jones, "A Moral Astigmatism" (CR)</p> <p>James H. Jones, " Nothing Learned will Prevent, Find, or Cure a Single Case" (CR)</p> <p><i>Recommended:</i> John C. Fletcher, "A Case Study in Historical Relativism: The Tuskegee (Public Health Service) Syphilis Study" (CR)</p>
14	10 October.	<p>HUMAN SUBJECT RESEARCH: REGULATIONS AND THE SHIFTING INTERPRETATION OF "JUSTICE"</p> <p>The Hippocratic Oath (CR)</p> <p>David C. Lindberg, "Hippocratic Medicine" (CR)</p> <p>The Nuremberg Code (E&S)</p> <p>World Medical Association Declaration of Helsinki, 1989 Version (E&S)</p> <p>The Belmont Report (WWW only; not in printed Course Reader)</p> <p>Carl Elliott, "Guinea-Pigging" (CR)</p> <p><i>Recommended:</i> Robert M. Veatch, "Abandoning Informed Consent" (CR)</p> <p><i>Recommended:</i> Anna Mastroianni and Jeffrey Kahn, "Swinging on the Pendulum: Shifting Views of Justice in Human Subjects Research" (CR)</p> <p><i>Recommended:</i> Jonathan D. Moreno, "Goodbye to All That: The End of Moderate Protectionism in Human Subjects Research" (CR)</p> <p><i>Recommended:</i> Wendy K. Mariner, "AIDS Research and the Nuremberg Code" (CR)</p>
15	12 October.	<p>Case Study 2</p>
16	17 October.	<p>HUMAN SUBJECT RESEARCH: GLOBAL ISSUES</p> <p>Marcia Angell, "The Ethics of Clinical Research in the Third World" (CR)</p> <p>Harold Varmus and David Satcher, "Ethical Complexities of Conducting Research in Developing Countries" (CR)</p> <p>Janet D. Stemwedel, "Research with Vulnerable Populations: Considering the Bucharest Early Intervention Project" (CR)</p> <p>Jon Cohen and Kai Kupferschmidt, "Ebola vaccine trials raise ethical issues" (CR)</p> <p>Clement Adebamowo et al., "Randomised controlled trials for Ebola: practical and ethical issues" (CR)</p> <p><i>Recommended:</i> S. R. Benatar and P. A. Singer, "A new look at international research ethics" (CR)</p> <p><i>Recommended:</i> E. Emanuel, "Fair Benefits for Research in Developing Countries" (CR)</p>

17	19 October.	RESEARCH DAY (Class will not meet) <i>Friday 20 October: Last day to post research report #1 on Canvas</i>
18	24 October.	SCIENTIFIC PAPERS AND COMMUNICATIONS Stephanie J. Bird and David E. Housman, "Reporting and Funding Research" (E&S) Patricia K. Woolf, "Pressure to Publish and Fraud in Research" (E&S) Jaime A. Teixeira da Silva, "Negative results: negative perceptions limit their potential for increasing reproducibility" (CR) Janet D. Stemwedel, "#overlyhonestmethods: Ethical implications when scientists joke with each other on public social media" (CR) Review of Ethics Training Module due-date #3 (worth 14 extra credit points)
19	27 October.	AUTHORSHIP ISSUES International Committee of Medical Journal Editors, "Guidelines on Authorship" (E&S) Ivan Amato, "Rustum Roy: PR Is a Better System Than Peer Review" (E&S) Charles W. McCutchen, "Peer Review: Treacherous Servant, Disastrous Master" (E&S) Christine Wennerås and Agnes Wold, "Nepotism and sexism in peer-review" (CR) <i>Recommended:</i> Paul J. Friedman, "A new standard for authorship" (CR) <i>Recommended:</i> Carlos Galindo-Leal, "Explicit Authorship" (CR) <i>Recommended:</i> Roderick Hunt, "Trying an Authorship Index" (CR)
20	31 October.	Case Study 3
21	1 November.	PATENTS AND INTELLECTUAL PROPERTY ISSUES Vandana Shiva, "The Role of Patents in History" (CR) Vandana Shiva, "The Myth of Patents" (CR) Vandana Shiva, "Biopiracy" (CR) Class meets online
22	7 November.	TELLING THE PUBLIC: PITFALLS OF THE POPULAR PRESS Edward S. Herman, "Corporate Junk Science in the Media" (CR) Mark Dowie, "What's Wrong with the New York Times's Science Reporting?" (CR)

23	9 November.	<p>INTERNATIONAL STRATEGIES FOR SCIENTIFIC DIALOGUE</p> <p>Sharon Traweek, "Kokusaika, Gaiatsu, and Bachigai: Japanese Physicists' Strategies for Moving into the International Political Economy of Science" (CR) Sharon Traweek, "Border Crossings: Narrative Strategies in Science Studies and among Physicists in Tsukuba Science City, Japan" (CR)</p> <p>Reading response essay #2 due.</p>
24	14 November.	Case Study 4
25	16 November.	<p>RESEARCH DAY (Class will not meet)</p> <p><i>Friday 17 November: Last day to post research report #2 on Canvas</i></p>
26	21 November.	<p>COMMUNITY STRUCTURES IN THE U.S. AND ABROAD</p> <p>Steven Fuller, "How Japan Taught the West the Secret of Its Own Success" (CR) Vivian Weil and Robert Arzebaecher, "Relationships in Laboratories and Research Communities" (E&S)</p> <p>Review of Ethics Training Module due-date #4 (worth 7 extra credit points)</p>
27	28 November.	<p>MENTORING ISSUES</p> <p>Vivian Weil, "Mentoring: Some Ethical Considerations" (CR) Carl Djerassi, <i>Cantor's Dilemma</i></p>
28	30 November.	<p>COLLABORATIONS AND CONFLICTS OF INTEREST</p> <p>Francis L. Macrina, "Collaborative Research" (CR) David Blumenthal, "Academic-Industrial Relationships in the Life Sciences" (CR) Annetine C. Gelijns and Samuel O. Thier, "Medical Innovation and Institutional Interdependence: Rethinking University-Industry Connections" (CR)</p> <p>Reading response essay #3 due.</p>

29	5 December.	<p>MISTAKES AND MISCONDUCT</p> <p>D. E. Buzzelli, "The Definition of Misconduct in Science: A View from NSF" (E&S)</p> <p>W. Leibel, "When Scientists are Wrong: Admitting Inadvertent Error in Research" (CR)</p> <p>Charles J. List, "Scientific Fraud: Social Deviance or Failure of Virtue?" (CR)</p> <p>Michael J. Zigmond and Beth A. Fischer, "Beyond fabrication and plagiarism: The little murders of everyday science" (CR)</p> <p><i>Recommended:</i> C.K. Gunsalus, "How to Blow the Whistle and Still Have a Career Afterwards" (CR)</p> <p><i>Recommended:</i> Howard K. Schachman, "What is Misconduct in Science?" (E&S)</p> <p><i>Recommended:</i> David Goodstein, "Scientific Fraud" (CR)</p> <p><i>Recommended:</i> Janet D. Stemwedel, "Life after Misconduct: Promoting Rehabilitation while Minimizing Damage" (CR)</p>
30	7 December.	<p>TAKING STOCK</p> <p>Last chance to submit Review of Ethics Training Module</p>
Final Exam	13 December.	9:45 am – 12:00 pm in SH 100