

## The Ethics of Scientific Research

**Description:** This course will be a survey of the main ethical issues in scientific research. Topics to be covered include data fabrication, data falsification, plagiarism, interpersonal conflicts, conflicts of interest, institutional responsibility, and protection of human and animal subjects.

**Class schedule:** Tuesdays, 11:00–11:50, in 4011 Wescoe Hall  
(enrollment code 87749 for BIOL 420, 87346 for PHIL 500)

### **Meeting with me and contacting me:**

The location of my office is 3071 Wescoe Hall. I will have office hours on Tuesdays at 2:00–2:50 and Fridays at 1:00–1:50, but you should feel free to come by my office at any time. I anticipate being in and around my office most Mondays, Tuesdays, Wednesdays, and Fridays; and although in rare cases I may have to ask you to come back at another time, in general I will be happy to speak to you at your convenience. You are also quite welcome to make an appointment with me, by e-mailing me at the address given above. Please note that I tend to use e-mail only for scheduling appointments and handling logistical matters, not for substantive discussions of course material.

### **Requirements/grading:**

At the end of the course, I'll give you a grade between A and F. The grades A, B, C, and D are given specific interpretations in KU's University Senate Rules and Regulations, which I adhere to. Article 2 of those rules and regulations—"Academic Work and Its Evaluation"—contains a section called "The Grading System" (at <https://documents.ku.edu/policies/governance/USRR.htm#art2sect2>), which says that an A should be given for achievement of outstanding quality, a B for achievement of high quality, a C for achievement of acceptable quality, and a D for achievement that is minimally passing, but of less than acceptable quality.

What letter grade I give you will depend on the final average of the scores you get on the various assignments in the course (which I'll outline below). I'll use the following scale to convert your final average to a letter grade. (For an explanation of how I arrived at these numbers, see the "Plus/Minus Grading" document on my web site.)

<u>final average</u>	<u>letter grade</u>
93.50 and above	A
90.00 through 93.49	A–
86.50 through 89.99	B+
83.50 through 86.49	B
80.00 through 83.49	B–
76.50 through 79.99	C+
73.50 through 76.49	C
70.00 through 73.49	C–
66.50 through 69.99	D+
63.50 through 66.49	D
60.00 through 63.49	D–
59.99 and below	F

Many (if not all) assignments will be graded numerically, rather than with letter grades, and you can also use this scale to interpret the numerical scores you get in this course during the semester.

Your overall grade will be determined by your scores on papers, and on class participation and attendance. If you are taking this course for 1 credit, you will write up three or four papers (your choice), and your three best papers will count for 25 percent each, with class participation and attendance also being worth 25 percent; and if you are taking this course for 2 credits, you will write up six or seven papers (your choice), and your six best papers will count for 15 percent each, with class participation and attendance being worth 10 percent.

**Paper assignments:** Each of your papers should be a maximum of 300 words long. Each paper should be on just one topic—that is, if you are writing a paper in a week for which there are multiple topics listed, write your paper on just one of the topics listed.

**Formatting your papers:** At the beginning of every paper, include at least the following identifying information: your name, the date when you are turning it in, and its word count.

**Stylistic expectations:** Every paper you turn in should be a finished, polished piece of writing. Additionally, it should be written as if intended for the general reader, not just for me or the members of this class.

**Due dates:** You can choose the weeks in which you'll write your papers. Just be sure to start writing them soon enough in the semester to leave yourself time to write as many papers as you need, as determined by the number of credits for which you are enrolled.

**Deadlines:** The deadline for each paper will be the beginning of the class period with which it is associated. This deadline will be strictly enforced: late papers' scores will be reduced by 25 percentage points for each full or partial day of lateness (with each "day" starting at 11 a.m.). Papers submitted in class, or shortly before, will be returned the next week. Papers turned in at least 24 hours early may be graded and returned in the associated class period rather than a week later.

**Formatting your files:** You can turn in your paper either in hard copy or by e-mail. Any paper you turn in by e-mail should be in .doc format—that is, the format associated with Microsoft Word, versions 97 through 2003. If you use Word 2007, please take care to use the .doc format rather than the .docx format (the format associated with Word 2007) for work that you turn in. Note that merely changing a filename extension (from, e.g., .docx or .wpd) will not change the format of the file itself. Versions of Word capable of saving files in the .doc format are available on most, if not all, of the computers in KU's computer labs, and many other word processors than Word are also capable of saving files in the .doc format.

**Attendance and participation:** Your attendance and participation score will be based, mainly, on the following considerations. First, you can miss up to one class period at your discretion, without providing an excuse for your absence; if you have more than one absence, you should be prepared to provide excuses for all of them. Second, good class participation consists of offering intelligent, relevant, and helpful comments and questions. You should be an active discussant and should feel free to introduce your own perspective and concerns into the discussion; at the same time, however, you should not think that more participation is always better. Ideal class participation involves not only being willing and able to contribute; it also involves being respectful of others' time and interests, being aware of what concerns are already under discussion and unresolved at any particular point, and being aware of those occasions when a particular topic or thread that interests you would be more appropriately pursued later or outside of class.

**Book to buy:**

*Research Ethics: A Reader*, edited by Deni Elliott and Judy E. Stern (University Press of New England, 1997)

**Course materials on the web:**

Some course documents, including this syllabus, will be available on the web site for the course, the URL of which is

<http://web.ku.edu/~utile/courses/esr1>

(If you don't want to type in this whole thing, you can stop after 'utile'—at which point you'll be at my personal web site—and then follow the links to the web site for this particular course.)

Most of the readings mentioned below—every one for which URLs are not provided (and some for which they are)—will be provided on the course Blackboard site.

***E-mail distribution list:***

I've had the KU computer folks set up an e-mail distribution list for the course, and its address is the following:

biol420\_87749sp10\_dl@mail.ku.edu

I've had it set up so that not only I, but also you, can use it, so that you can communicate with everyone in the class (including me) whenever you have a reason to do so.

In general, I'll try to mention everything important (whether substantive or procedural) in class. But at times, I may use the e-mail distribution list to send you information that you will be responsible for having or acting on, so it is your responsibility to make sure that you read mail that I send to this list. You can do this by making sure that you (1) have an e-mail address, (2) are registered for the course (because this list is updated every night to reflect current enrollment, taking account of drops and adds), and (3) read your e-mail. There is one complication that you should be aware of: if you have both an Exchange e-mail address (e.g., so-and-so@ku.edu) and a non-Exchange e-mail address (e.g., so-and-so@gmail.com), and you prefer to receive e-mail at the latter address, then mail sent to the e-mail distribution list for the course will not necessarily go to it, even if you have registered it with KU as your primary e-mail address. (This is a known problem with the KU distribution-list system.) To deal with this problem, either check your Exchange account as often as you check your non-Exchange account, or arrange for mail sent to your Exchange account to be forwarded to your non-Exchange account. For more information on this problem and how to solve it, see the Distribution List Primer (<http://www.email.ku.edu/dlists/primer.shtml>) and look at the answer to the second question: "Some of the people on my list say they're not getting my list mail. Why?"

Also in regard to this list, note that you cannot send e-mail to this list just by sending a message to its address. You also have to send your message *from an authorized e-mail account*. Normally, that is whatever account you use to receive e-mail sent to this list. So, even if you receive mail sent to this list by having your KU e-mail forwarded to (e.g.) your Gmail account, you should not count on being able to use the e-mail list (as a sender) from your Gmail account. You may have to send your message from your Exchange account.

***Academic misconduct:***

I take academic misconduct, especially cheating on tests and plagiarizing papers, extremely seriously, and am generally disposed to impose the harshest available penalties when it occurs. KU's policy on academic integrity is in article 2, section 6 of the University Senate Rules and Regulations (<https://documents.ku.edu/policies/governance/USRR.htm#art2sect6>).

***Disability accommodation:***

If you have a disability for which you may be requesting special services or accommodations for this course, be sure to contact Disability Resources (<http://www.disability.ku.edu>), at 22 Strong Hall or at 864-2620 (V/TTY), if you have not already done so, and give me a letter from that office documenting the accommodations to which you are entitled. Please also see me privately, at your earliest convenience, so that I can be aware of your situation and can begin to prepare the appropriate accommodations in advance of receiving the letter from Disability Resources.

***Possible H1N1 flu (swine flu) pandemic:***

The interim provost has asked faculty to include links on syllabi and course web sites to the following resources:

KU Pandemic Response Plan: <http://www.pandemic.ku.edu>

"Personal Planning Guide for Pandemic Influenza": <http://www.pandemic.ku.edu/pdf/tipSheet.pdf>

He has also asked faculty to avoid policies that encourage you to come to class if you are infected. So, let me say explicitly: *If you might have the flu, don't come to class.* Absences in such circumstances will be excused.

## **Schedule:**

### ***Introduction***

**January 19**     *introduction to course*

**January 26**     *introduction to research ethics*

Judith P. Swazey and Stephanie J. Bird, "Teaching and Learning Research Ethics" sections I–III (Elliott and Stern, pp. 1–6)

Bernard Gert, "Morality and Scientific Research" (Elliott and Stern, pp. 20–30)

paper topics (choose one):

1. Gert writes that the sense of rationality concerned with the avoidance of harms is more fundamental than the sense of rationality concerned with the seeking of new truth (p. 23.8). What are his reasons for this claim? Do you agree with his claim? Why or why not?
2. Gert writes that no violation of a moral rule is justified unless it satisfies the three conditions of impartiality, rationality, and publicity. Give an example of when a person might want to violate a moral rule and evaluate that case along these three dimensions.

### ***Data Fabrication, Data Falsification, and Plagiarism***

**February 2**     *the David Baltimore case*

Philip J. Hilts, "The Science Mob" (*The New Republic*, May 18, 1992, pp. 24–31)

Daniel J. Kevles, "The Assault on David Baltimore" (*The New Yorker*, May 27, 1996, pp. 94–109)

David Warsh, "The Fortune That Never Was" (*The Boston Globe*, June 30, 1996)

paper topic:

3. How would you evaluate David Baltimore's conduct in this case? Are there ways in which he handled this case well, and are there ways in which he handled it badly?

**February 9**     *later cases*

Leslie Roberts, "Misconduct: Caltech's Trial by Fire"  
(*Science* vol. 253, no. 5026 [September 20, 1991], pp. 1344–1347;  
<http://dx.doi.org/10.1126/science.1896840>)

Donald Kennedy, "Editorial Retraction"  
(*Science* vol. 311, no. 5759 [January 20, 2006], p. 335;  
<http://dx.doi.org/10.1126/science.1124926>)

Dennis Normile, "Hwang Convicted but Dodges Jail; Stem Cell Research Has Moved On"  
(*Science* vol. 326, no. 5953 [October 30, 2009], pp. 650–651;  
[http://dx.doi.org/10.1126/science.326\\_650a](http://dx.doi.org/10.1126/science.326_650a))

paper topic:

4. How would you evaluate Leroy Hood's conduct in the case in which he was involved? Are there ways in which he handled this case well, and are there ways in which he handled it badly?

### ***Interpersonal Conflicts***

#### ***February 16      overview and cases***

Vivian Weil and Robert Arzbaeher, "Relationships in Laboratories and Research Communities" (Elliott and Stern, pp. 69–90)

"Cases for Consideration" (Elliott and Stern, pp. 91–92)

paper topics (choose one):

5. What are the benefits of collaboration in a research group? What are the benefits of cooperation in a research group? Can both sets of benefits be achieved? If not, is one set of benefits more valuable than the other?
6. Suppose you were in Jay Patel's situation (as described on pp. 82–84). What would you do? What ethical considerations would guide your deliberations and conduct?
7. What do you regard as the most challenging sort of interpersonal conflict this chapter is concerned with? What ethical considerations should guide the resolution of instances of this sort of conflict?

### ***Research Practices***

#### ***February 23      conducting research***

Stephanie J. Bird and David E. Housman, "Conducting Research" (Elliott and Stern, pp. 98–108)

"Cases for Consideration" (Elliott and Stern, pp. 109–112)

John C. Bailar III, "Science, Statistics, and Deception" (Elliott and Stern, pp. 113–116)

Robert Pool, "More Squabbling Over Unbelievable Result" (Elliott and Stern, pp. 117–119)

paper topic:

8. What do you regard as the most significant ethical issue under discussion in this chapter? Is this an issue on which reasonable people might disagree, or is there a single "right answer"?

#### ***March 2      reporting and funding research***

Elliott and Stern, "Reporting and Funding Research" (Elliott and Stern, pp. 120–138)

paper topic:

9. A recurring theme in this chapter is the conflict between reasons in favor of publishing results quickly and reasons in favor of waiting. What are the weightiest reasons on the two sides of this conflict, and how would you advise a researcher to weigh them against each other?

## ***Conflicts of Interest and Conflicts of Commitment***

### ***March 9      overview***

Patricia Werhane and Jeffrey Doering, “Conflicts of Interest and Conflicts of Commitment,” sections I–IV (Elliott and Stern, pp. 165–181)

paper topics (choose one):

10. Would any of the career paths you are considering be likely to confront you with conflicts of interest? How might you deal with them in order to avoid acting unethically?
11. Can you think of an example (not from a case discussed in this course) in which a person acted in disregard of a conflict of interest? How would you evaluate that person’s behavior using the three criteria explained in section III?

*March 16:* no class (spring break)

### ***March 23      overview (cont’d) and cases***

Werhane and Doering, sections V–VI (note that the section called ‘V. CONCLUSION’ is really section VI) (Elliott and Stern, pp. 181–189)

“Cases for Consideration” (Elliott and Stern, pp. 190–192)

Christopher Anderson, “Scripps Backs Down on Controversial Sandoz Deal” (Elliott and Stern, pp. 193–196)

Paul Basken, “Ethicists Prod NIH to Spend Money Investigating Conflicts of Interest” (*Chronicle of Higher Education*, November 19, 2009)

paper topics (choose one):

12. Disclosing one’s conflict of interest is generally seen as the most important step to take in order to appropriately deal with a conflict of interest when it cannot be avoided beforehand. Why is this considered important? What is accomplished by such disclosure?
13. Answer questions 1–3 on p. 190 of the Elliott and Stern collection.

## ***Institutional Responsibility***

### ***March 30      overview and cases***

Edward Berger and Bernard Gert, “Institutional Responsibility” (Elliott and Stern, pp. 197–208)

“Cases for Consideration” (Elliott and Stern, pp. 209–212)

paper topics (choose one):

14. An institution’s handling of a possible case of scientific misconduct typically includes both an inquiry stage and an investigation stage. What is the purpose of having these two separate stages? Are there any disadvantages associated with having these two separate stages?
15. Answer questions 1–2 on p. 210 of the Elliott and Stern collection.

### ***Animal Experimentation***

#### ***April 6 overview***

Deni Elliott and Marilyn Brown, “Animal Experimentation and Ethics” (Elliott and Stern, pp. 246–258) (you do not have to read “Cases for Consideration”)

B. Taylor Bennett, “Regulations and Requirements” (Elliott and Stern, pp. 262–271)

paper topic:

16. Elliott and Brown give three arguments in support of their claim that animals deserve some protections against death, suffering, and distress. Compare and contrast the merits of these arguments: Are they equally rational and convincing, or are some better than others? Be specific in your comparisons and contrasts.

#### ***April 13 a philosophical perspective***

Peter Singer, “All Animals Are Equal” (*Philosophic Exchange* vol. 1, no. 5 [Summer 1974], pp. 103–116)

paper topics (choose one):

17. What does Singer mean by the claim (in the title of his paper) “All animals are equal”? (For example, does he mean that all animals are equally intelligent, or anything like that?) Does his view imply the immorality of all animal experimentation, or might it allow for some animal experimentation?
18. Singer criticizes both a perspective he calls “speciesism” and several views and practices that he regards as reflecting speciesism. Is he right that speciesism is unjustifiable, and is he right that it is reflected in many common views and practices?

### ***Human Experimentation***

#### ***April 20 overview***

“Research Ethics: The Tuskegee Syphilis Study” (<http://www.tuskegee.edu/Global/Story.asp?s=1207598>)

Judy E. Stern and Karen Lomax, “Human Experimentation” and “Cases for Consideration” (Stern and Elliott, pp. 286–299)

optional: The Belmont Report (<http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htm>)

paper topic:

19. The exposure of the Tuskegee syphilis led to the development of many of the guidelines for experimentation on humans that Stern and Lomax describe. What were the ethical shortcomings of the Tuskegee syphilis study, and how do the guidelines that Stern and Lomax describe address those shortcomings?

in class: clips from *Extreme Measures* (directed by Michael Apted, 1996)

#### ***April 27 stem-cell research***

“Stem Cells” (*New York Times*, updated March 9, 2009; <http://topics.nytimes.com/topics/news/health/diseasesconditionsandhealthtopics/stemcells/index.html>)

Katharine Q. Seelye, "The President's Decision: The Overview; Bush Gives His Backing for Limited Research on Existing Stem Cells" (*New York Times*, August 10, 2001; <http://www.nytimes.com/2001/08/10/us/president-s-decision-overview-bush-gives-his-backing-for-limited-research.html>)

Sheryl Gay Stolberg, "Obama Lifts Bush's Strict Limits on Stem Cell Research" (*New York Times*, March 9, 2009; <http://www.nytimes.com/2009/03/10/us/politics/10stem.html>)

paper topics (choose one):

20. The remarks of President Bush and of President Obama offer sharply contrasting views on the moral permissibility of stem-cell research. What are the ethical issues at stake in this debate, and how to you evaluate the relative strength of the competing reasons on the two sides of this debate?
21. In regard to stem-cell research, both President Bush and President Obama have sought to position themselves as moderates rather than extremists. How, specifically, have they sought to do this, and have they succeeded?

**May 4**     *reserve*

***end-of-semester information:***

The papers are the only written assignments in the course. There is no final exam.

If you would like to retrieve any work that you have turned in, but have not yet had returned to you, please retrieve it by November 30, 2010. After that date, I may discard unclaimed work from this semester.