Biological Sciences First Year Seminar on Research Ethics

Units 3.0 **Time** Wednesday: 4:30–5:50PM **Location** CMUQ 2049

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Office Hours Sun, Tue, Thu: 9:30AM–12:00PM; Mon, Wed: 1:00–3:00PM

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Sun, Tue, Thu: 10:30AM–12:00PM; Mon, Wed: 3:00–4:30PM

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Course Overview

Description

Scientific progress is an undeniably valuable social good. Understanding the natural world and its operations allows us to more effectively interact with and even intervene in those operations for the betterment of humanity. Advancement of the biological sciences, however, requires investigators to adhere to principles of good scientific research while also being responsibly receptive to a host of ethical concerns inherent in the research enterprise. Among these latter concerns, investigators must grasp the commitments they have to both human and non-human research subjects, the integrity of the scientific community, and the broader needs and interests of society.

This course presents an introductory exploration of foundational issues in the ethical evaluation and regulation of biological research. We begin by exploring the tension between the immense value of scientific progress and what limits, if any, exist for what a researcher may do in pursuit of that goal. We then appraise how high profile cases of abuse and scandal in the United States after World War II raised this tension and gave birth to the discipline of research ethics. Against that historical backdrop, we examine various ethical issues in biological research including informed consent, the use of non-human animals, conflict of interests, fraud, and stem-cell research. We conclude by stepping back and considering the role of research within society and how this may influence our understanding of the ethical conduct of the researcher.

Readings

All readings will be posted on the course webpage. You are expected to read all the assigned material according to the class schedule on page 3.

Objectives

By the end of this term, we expect that you will be able to:

- Assess competing claims concerning the demands that morality places on the actions and decisions of biological researchers,
- Form considered positions concerning what you judge to be the most defensible position on these issues, and
- Communicate your analysis of these issues through both verbal and written discourse.

We have designed each course requirement with these objectives in mind.

Announcements & Other Communication

We will post important information on the course webpage, so please routinely check for updates at

> http://www.andrew.cmu.edu/user/degray/research-ethics/

Otherwise, we are glad to answer your questions, discuss your work, or respond to your concerns. Please see us at our office hours or get in touch via email.

Submitting Assignments

To encourage proper citation of sources, all assignments must be submitted to TurnItIn. Please refer to page 4 for more information about our academic integrity policy, and also see page 5 for setting up and using TurnItIn.

Requirements & Grading

Philosophy is a full-contact sport, but conducted as a cooperative process. Together we wrestle with arguments and not attack those making them. Classes will typically follow an instructor-guided seminar format, driven by discussion of the readings and the arguments they contain. As a result, the quality of the course depends critically on your individual attention and participation. The purpose of us coming together as a class is to learn and engage in philosophical activity as a group.

We strongly encourage you to discuss the course's material outside of class with your fellow classmates, friends, and family, as well as with us. However, all your work must be done independently, unless otherwise noted. You are expected to be familiar with the university policies on cheating and plagiarism. If you have any questions, please ask; do not assume.

Assignments include out-of-class participation via Twitter, research certificate training, and journal entries. Please refer to page 2 for details.

The total points will vary from assignment to assignment. However, each is ultimately scaled to a score from 0 to 5. Unless you are notified of otherwise, the grading distribution will be as follows:

4.00–5.00	A	2.00–2.99	C	0.00–0.99	R
3.00–3.99	B	1.00–1.99	D		

Your final course grade will be on the same 5-point scale, with each assignment weighted as indicated on page 2. (The wise student will realize this provides a chance to recover if you do extremely poorly on an assignment.)

If during the semester you wish to know how you are currently doing in more specific terms than what you can infer from this information, do not hesitate to meet with us. Please note, however: due to Family Educational Rights and Privacy Act (FERPA) regulations, *we will not transmit grade information over email*. All discussion of grades must be done face-to-face with us.

Late Assignment & Absence Policies

Given the fact that this class covers immensely thought-provoking material with only seven class meetings, we intend to encourage you to stay on task and not fall behind. To that end, we do *not* accept late assignments and you get *no* "free" absences. There is one exception: We agree on a reasonable accommodation *prior* to the due date or the day you are missing class. We will consider arrangements after the fact only in extraordinary, documented circumstances.

Participation & Attendance

Every class meeting will involve all of us actively *doing* philosophy, rather than passively absorbing what others may say about philosophical issues. As such, attendance and participation are very important. We expect you to show up to class on time, participate thoughtfully, ask questions when you are confused, take notes, and have a grasp of what we accomplish in each meeting. *Attendance is therefore required without exception, and anyone arriving more than 10 minutes late will be politely asked to leave and come back (on time) to our next class meeting*. To enforce this policy, we will promptly take attendance at 4:30PM. If you arrive after we have called your name, then you will be marked as tardy. Please refer to page 2 for more details.

Assignments

Reading

Most days of class will have an assigned reading (see the schedule on page 3) that you will be expected to have read and thought about *before* class. This will allow us to devote more time to discussing and assessing the texts rather than simply reviewing their contents. Hence, you need to do more than merely peruse the readings: you must endeavor to understand what they are trying to convey. Keep in mind that reading philosophy is not like reading a novel or a textbook. The majority of these readings are trying to provide reasons to *convince you* to accept a position. Therefore they require critical attention. There will be times when you must read slowly and carefully. Sometimes you may have to stop and think about things; and you should be prepared to go back and reread sections if necessary. In some cases, multiple readings of the entire text may be necessary. We expect that you will take notes while you read, so that you can remember the text's main points. Finally, feel free to bring questions about the reading to class.

To help guide you in this process, we will post reading questions on the course website that will highlight the concepts and arguments that will frame our class discussions of that material. Some questions have you demonstrate your comprehension of the readings' main claims and arguments, while others solicit your considered judgments about whether you agree or disagree the readings on those issues.

Participation

Class attendance and participation are very important in understanding and retaining the class material. We will therefore do our best to make our class meetings worthwhile and time well spent. We will also take special care to create an environment in which you feel comfortable asking questions and expressing your views about the course material. To that end, we expect both in- and out-of-class participation from you.

In-Class Participation (15% of Final Grade)

Your base in-class participation grade will be on the 5-point scale from page 1, and it will consist of your overall grade on all graded assignments. For example, if the weighted average of your grades on the assignments is a 3.57, then your base participation grade is also a 3.57, or a B. At the end of the semester, we will calculate your base in-class participation grade this way. After that, we will then take into consideration the items below in order to raise or lower this base in-class participation grade.

Absences, tardy arrivals, and other distracting behavior impact your participation grade in the following ways: each unexcused class absence will lower your participation grade by 1.0 point (one letter grade), while each time you are tardy will lower it by 0.5 points (one-half letter grade). Sleeping in class, chatting with the person sitting next to you, using your cell phone, leaving the classroom, or similar behavior will be treated as an absence or as tardiness depending on the particulars of the circumstances.

Active and *productive* class participation, on the other hand, boosts your participation grade by up to 2.0 points (two letter grades). Also, if you have perfect attendance with no tardy arrivals, your participation grade will be automatically boosted an additional 1.0 point (one letter grade).

Note that it is possible that your participation grade can go negative because of penalties. On the other hand, it is also possible that your participation grade could go well above 5.0 points. Strive for the latter!

Out-of-Class Participation 🐦 (15% of Final Grade)

The social media site Twitter provides a valuable—dare we say fun?—way to engage with the course material outside of class. During the course, you are required to tweet *a minimum of 10 times* between each class meeting. Tweets should be (1) relevant, (2) substantive, and (3) respectful. To allow us to collect your course-related tweets, each tweet must contain the course hashtag **#RE14M3**. Without that hashtag, we cannot collect your tweet.

Each tweet of yours that we collect from Twitter will be graded pass/fail. Your overall out-of-class participation grade will be determined at the end of the course by (1) taking the number of tweets you posted (capped at 10 tweets between each class) and dividing this by the total number required (there are 6 between-class periods, so a total of 60 tweets is expected), and (2) normalizing this ratio to the 5-point scale from page 1.

Research Training (30% of Final Grade)

While this class largely pursues research ethics from a somewhat abstract philosophical perspective, those planning on conducting actual research also require detailed practical guidance. The Collaborative Institutional Training Initiative (CITI) provides such guidance. Every week you are therefore required to complete designated CITI modules, which will culminate in you becoming certified to conduct undergraduate biological research at CMU-Q.

Your research training will be graded pass/fail. If you complete the certification process, then you will receive a 5.00 (A). If not, you will receive a 0.00 (R).

Journals (40% of Final Grade)

As already noted, we expect that you come to each class meeting prepared to discuss the claims and arguments made in the readings. We will monitor your progress in these activities by asking that you create a course journal.

Each of your journal's entries should be a brief (≈500-word) reading response where you collect your thoughts about the course readings prior to our in-class discussion of them. So before each class meeting, you should carefully read the assigned material and think critically about them. Each reading response should then succinctly present your own answers to the posted reading questions for that material. A response is required for each class meeting—except our first—and is due by 12:00PM (noon) that day via TurnItIn. We also recommend that you print out a copy for yourself to bring to class.

Each journal entry will be graded pass/fail. Your overall journal grade will be determined at the end of the course by (1) taking the total number of entries you passed and dividing this by the total number of entries required (there is a total of 6 journal entries expected), and (2) normalizing this ratio to the 5-point scale from page 1.

If you are ever struggling with putting together a journal entry, do not hesitate to schedule a meeting with us. We want to help you do well and succeed in writing these!

Schedule

wk	Date	Topic/Readings	# Pages	Assignments
1	1/15 (Wed)	**Introduction: Between Scandal & Protectionism** Michael D. Lemonick & Andrew Goldstein, with Alice Park, "At Your Own Risk". Martin E. P. Seligman, "Infectious Disease" and "Ethics and Institutional Review Boards".	18	
2	1/19 (Sun)			**CITI module set #1** completed.
	1/22 (Wed)	**American Post-War Research Scandals** John D. Arras, "The Jewish Chronic Disease Hospital Case". James H. Jones, "The Tuskegee Syphilis Experiment".	18	**Journal entry #1** due by 12:00PM (noon) via TurnItin.
3	1/26 (Sun)			**CITI module set #2** completed.
	1/29 (Wed)	**Informed Consent & The Therapeutic Misconception** Dan W. Brock, "Philosophical Justifications of Informed Consent in Research". Paul S. Appelbaum & Charles W. Lidz, "The Therapeutic Misconception".	19	**Journal entry #2** due by 12:00PM (noon) via TurnItin.
4	2/2 (Sun)			**CITI module set #3** completed.
	2/5 (Wed)	**Research Involving Non-Human Animals** Jerrold Tannenbaum and Andrew N. Rowan, "Rethinking the Morality of Animal Research". Harold A. Herzog, Jr., "The Moral Status of Mice". Lila Guterman, "New Attacks on Animal Researchers Provoke Anger and Worry".	20	**Journal entry #3** due by 12:00PM (noon) via TurnItin.
5	2/9 (Sun)			**CITI module set #4** completed.
	2/12 (Wed)	**Conflicts of Interest & Fraud** Ezekiel J. Emanuel & Dennis F. Thompson, "The Concept of Conflicts of Interest". David Resnik, "Fraud, Fabrication, and Falsification".	17	**Journal entry #4** due by 12:00PM (noon) via TurnItin.
6	2/16 (Sun)			**CITI module set #5** completed.
	2/19 (Wed)	**Fetal, Embryonic & Stem Cell Research** Ronald M. Green, "Research With Fetuses, Embryos, and Stem Cells".	12	**Journal entry #5** due by 12:00PM (noon) via TurnItin.
7	2/23 (Sun)			**Research training** completed by 12:00PM (noon). Email certificates to instructors by that time.
	2/26 (Wed)	**The Role of Research Within Society** Alvin Weinberg, "Can Technology Replace Social Engineering?" Mark A. Shiffrin and Avi Silberschatz, "Thumbs on the Wheel". Lewis Thomas, "The Hazards of Science". Mary Warnock, "The Ethical Regulation of Science". Cornelia Dean, "Handle With Care".	15	**Journal entry #6** due by 12:00PM (noon) via TurnItin.

Policies

Reasonable Accommodations

We recognize that you are a human being with occasional human problems associated with human finitude. Illness, family emergencies, job interviews, other professors, etc... will inevitably lead to legitimate conflicts over your time. If you expect that you will be missing class or be unable to turn in an assignment on time, please notify us (either in class or via email) *in advance* and we can agree on a reasonable accommodation. Please recognize that most reasonable accommodations will still carry a penalty: your grade on the assignment may be reduced (since you will be given more time than your classmates), or you may have to do additional work not required of your classmates. So when proposing a reasonable accommodation be prepared to state what you take to be a fair penalty for that accommodation. We will then decide whether to accept or reject your proposal. Any arrangements after the fact will only be considered in extraordinary, documented circumstances.

Challenging an Assignment Grade

Please recognize that we are human also: mistakes may occasionally occur when grading your assignments. Therefore, you have *one week* after an assignment is handed back to challenge its grade. To do so, you must return the assignment to us along with a clearly written explanation of your reason for challenging its grade. We will promptly and seriously consider all such requests and meet with you, if necessary, to resolve them. Assignments without a written explanation will not be considered. After one week, no challenges will be accepted. Of course, if you are not satisfied with your grade, but recognize that it was not due to a fault in the grading, we encourage you to talk with us to learn how to improve on future assignments.

Students with Disabilities

In compliance with university policy and equal access laws, we are available to discuss appropriate academic accommodations that you may require as a student with a disability. Request for academic accommodations should be made during the first week of the term, except for unusual circumstances, so arrangements can be made. Students are required to register for disability verification and for determination of reasonable academic accommodations. For more information, visit

> http://www.cmu.edu/hr/eos/disability/students/index.html

Sexual Harassment Policy

It is the policy of the university that no male or female member of the university community (i.e., students, faculty, administrators, or staff) may sexually harass any other member of the community. Sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute harassment when:

- Submission to such conduct is made or threatened to be made, either explicitly or implicitly, a term or condition of an individual's employment or education; or
- Submission to or rejection of such conduct is used or threatened to be used as the basis for academic or employment decisions affecting that individual; or
- Such conduct has the purpose or effect of substantially interfering with an individual's academic or professional performance or creating what a reasonable person would sense as an intimidating, hostile, or offensive employment, educational, or living environment.

For more information, visit

> http://www.cmu.edu/policies/documents/SexHarass.html

Video Taping and Audio Recording

We, students and instructors alike, have a reasonable expectation to not be recorded in this course. Therefore, videotaping and audio recording are prohibited without our expressed, unanimous permission.

Cell Phones, Laptops, and Related Technologies

Student interactions with portable technology devices can harm the dynamics of the classroom. Therefore, we expect you to silence mobile phones prior to class and to not use them during class. *All laptops should be closed unless you have made prior arrangements with us and have demonstrated that using a laptop is necessary for your learning.*

Academic Integrity

Academic integrity is embodied by commitments to honesty, respect, trust, diligence, and rigor in the pursuit of knowledge. As a student in this class, academic integrity means following all directions on assignments, clearly distinguishing your own original work from the work done by others in your assignments, and seeking help whenever you feel that you are struggling.

In this class, typical violations of academic integrity involve plagiarism. Examples of this include cutting-and-pasting material from the Internet without proper citation, paraphrasing material from external sources without attribution, and copying ideas from a classmate without reference. To avoid this, you must strive for clarity in your writing in order to distinguish between when you are presenting your own ideas (typically by using the pronoun "I") and when you are presenting someone else's ideas (by properly citing the source). Keep in mind, this includes both the ideas of your classmates and any assistance you receive from the Academic Resource Center (ARC). So if a classmate says something you want to use in your own writing, then you should simply cite it, for instance, as "from a conversation with X". Similarly, if you seek assistance from the ARC, then you should also cite it, for instance, as "X from the ARC helped me improve the grammar and spelling in this paragraph". (If you receive more thorough assistance from the ARC, e.g., spanning most/all of your assignment, then be sure to clearly indicate this in a footnote at the end of the paper.)

In general, proper citation lets us know what it is we are evaluating about your writing. Are we evaluating your own original ideas? or are we evaluating your presentation of someone else's ideas? or are we evaluating your expansion of someone else's ideas? All of these tasks are important in philosophy, so do not be ashamed when you are doing them. We honestly do not expect every single thing you write to be uniquely yours, but we do expect you to be clear and honest about what it is you are doing in your papers.

While we treat violations of academic integrity on a case-by-case basis, there are some basic patterns we follow. When we suspect a violation, we will first meet with the student for an explanation. If we remain convinced that there is a violation, we will write a letter to the Dean of Academic Affairs indicating that the student in question submitted plagiarized material. Beyond that, we typically impose a penalty that exceeds the penalty of not having done the assignment at all. For instance, the penalty for plagiarizing a journal entry is worse than for not having written that entry at all. Plagiarism is also a violation of the community standards at Carnegie Mellon University. As such, there may be further penalties imposed by a University Academic Review Board. For more information, see the section on "University Policies" in the most recent edition of *The Q Word: Undergraduate Student Handbook & Planner*.

If you ever find yourself tempted to violate these standards of academic integrity, please seek an alternative course of action. Email us for a reasonable accommodation, or turn in partially completed work. We assure you that the impact on you will be far gentler in these ways.

Using TurnItIn

Setting Up Your TurnItIn Account

For this course, we will be using TurnItIn to assist us in verifying that each of your assignments is an original piece of scholarly work. For those of you not familiar with this website, you submit a copy of each of your assignments to it, and TurnItIn examines your work against its database of papers and websites. This allows us to quickly confirm that you are correctly citing your sources. We will then print your assignments ourselves, so you do *not* need to hand in any hardcopies to us.

Before you can turn anything in, you must set up an account on TurnItIn and get it connected to this course. This is a relatively painless process so do not be scared. If computers frighten you, find a classmate who may help you set up your account.

Regardless, follow these simple instructions in order to begin your journey on the path of originality:

1. Get a computer with Internet access.
2. Open up a web browser and go to: **http://www.TurnItIn.com**.
3. You may be asked to select your language. If so, please click on **English (US)**.
4. Now look towards the top right of the webpage and click on **Create Account**.
5. On the next screen, look for the section entitled "Create a New Account". In that section, click on **student**.
6. On the next screen, enter the following information:

class ID:	**7423090**
class enrollment password:	**plato**

   Enter your (real) first and last name, along with your *university* email address (or whatever email address you actually check).

   Make up a password (and *write it down*! No seriously, write it down *right now*! Just write it here: _____) and enter it into the two fields.

   Select a secret question from the pull down menu and then type the answer in the space provided.

   Unless you are a child prodigy, please tick the circle next to "I am at least 13 years of age".

   Finally, read and understand the license agreement, or (like us) just skip it and click the "**I agree -- create profile**" button.
7. On the next screen it should say you are now setup and enrolled in my class. And so you are done. Ignore the instructions it gives you. You do not need to turn anything in right now—unless, of course, you put this off until the first assignment was due!

Turning It In with TurnItIn

Now that you have set up your TurnItIn account, you are now ready to submit your highly original assignments. Please note that you are expected to submit all assignments via the TurnItIn website *before* their respective due date/time in order to avoid any penalties. The website is set to stop accepting assignments after that time. Turning in a hardcopy in class is not required as long as the assignment has been successfully submitted to TurnItIn.

In order to turn in your first assignment, please follow these instructions:

1. Finish the assignment. Make sure it is all in a *single* text file (acceptable formats are MS Word, WordPerfect, PostScript, PDF, HTML, RTF, and plain text) on a computer.
2. Find a computer with Internet access and put your assignment's file on it.
3. Open up a web browser and go to: **http://www.TurnItIn.com**.
4. You may be asked to "Select your language". If so, please click on **English (US)**.
5. Look towards the top right of the webpage and enter your email address and password (which you had better have written down) and then click on the "**SIGN IN**" button.
6. On the next screen, click on **Ethical Theory**.
7. On the next screen, click the "**Submit**" button next to the name of the assignment you wish to turn in.
8. On the next screen, select "**single file upload**" from the pull down menu. Do *not* use "cut & paste upload", as it will remove all your document's precious formatting!

   Your first and last name should already be filled in.

   For the submission title enter "My Assignment" (or "Plato Approved" or something else witty and clever).

   Then click the "**Choose File**" button to find the location of the assignment's file on the computer.

   Finally, click the "**upload**" button and wait patiently until your file has indeed been uploaded.
9. On the next screen, make sure this is the file you wish to submit and then click the "**submit**" button.
10. On the next screen, it should that your submission was successful. Now you are almost done. Please *save a copy* of this "TurnItIn Digital Receipt" so that, in case anything goes wrong, we can verify that you turned it in on time. It is *your responsibility* to do this. Failure to do so means that you will not be absolved of any penalties. Now you are really done. Congratulations.

Problems Submitting Your Assignment?

If any problems occur when trying to submit, please email a copy of your assignment to us *before* the posted date and time that the assignment is due. We can then submit it for you. If you cannot do this, then you must submit a hardcopy to us personally (and we must actually have the assignment in hand before the due date/time).

Twitter & This Course

In order to encourage you to engage more fully with the course material outside of class time, we will all be using the social media site Twitter. In particular, we want you to use Twitter to post your thoughts about the course readings, ask questions when confused about those readings or other course elements, respond to your classmates' posts and questions, and *connect course topics to current events*. We assure you that making those connections will make this class far more interesting for all of us. We will be regularly checking on and responding to your tweets while using them to help us structure what we cover during class. Do feel free to follow us on Twitter (@ProfessorDEG and @ProfessorKenH). We also suggest that you use Twitter to follow not only people who share your interests but also leaders within your future fields. You may be surprised to see them post about ethical issues related to research! Very soon, you should even be able to use knowledge gained from this class to post a response to them.

For assessment purposes, you are required to tweet *a minimum of 10 times* between each class meeting. Tweets should be (1) relevant, (2) substantive, and (3) respectful. By *relevant*, we mean that it your tweet is clearly connected to some aspect of research ethics. By *substantive*, we mean more than giving generic commentary or retweeting someone else's post. For instance, do not simply say that you agree or disagree with something: go further by giving some sense of your reasoning/justification behind your position. Similarly, a relevant retweet is great, but do follow it up some interesting commentary of your own about it. By *respectful*, we mean that you critically assess the arguments others are making and not attack the person making that argument. It is fine to disagree with others—we want you to disagree, even with us!—but it is disrespectful to besmirch another person's integrity or character. Indeed, resorting to such personal attacks only suggests that your position is the one which is weak and without substance.

This means that you need access to a Twitter account. If you do not have a Twitter account—or if you prefer not to use your personal account for this class—please do not hesitate to create a new, disposable account. *We strongly encourage you to create a disposable account if for any reason you prefer not to share your personal account for classroom activities*. Indeed, you do not need to have this account connected to your real name or any other personal details. All we require is that you send us the name of the account you want us to track for this class and make sure that account's contents are publicly viewable. So even if your account is not connected to your real name, we still know to whom that account belongs for assessment purposes. Email us this information by 5:00PM on Thursday, January 16TH.

When tweeting for this course, please always use the hashtag **#RE14M3**. This hashtag is essential since we will not be checking your account's non-course-related tweets. Instead, we will be using an automated program to collect all tweets for us to read. So using that hashtag allows us to collect your course-related tweets. To summarize: if your tweet does not contain **#RE14M3**, then we will never see that tweet.

Finally, if you have any trouble using Twitter do not hesitate to seek help from one of us or one of your classmates. That said, your classmates probably know more about Twitter than we do, but we will do our best to resolve any technical issues!

Research Training

Due: Sunday, February 23ᴿᴰ by 12:00ᴘᴍ (noon) via email to us.

Late research training certification will *not* be accepted unless you have requested and we have granted a *prior* reasonable accommodation.

Background: Most research conducted at Carnegie Mellon University must be reviewed and approved by Institutional Review Boards (IRBs) in both Pittsburgh and Doha before the research can be initiated. In addition, both IRBs require all personnel involved in that research to demonstrate completion of an education program concerning proper research conduct. For this course, you are required to complete this education in order to become certified to conduct undergraduate-level research at Carnegie Mellon University. This program is online, provided by the Collaborative Institutional Training Initiative (CITI) at www.citiprogram.org.

Setting Up: Use the following information to create a CITI account.
- Institution: Carnegie Mellon University [in "participating institutions"]
- Language Preference: English
- Institutional email address: [your email]@qatar.cmu.edu
- Highest Degree: High School [we assume?]
- Employee Number: [leave blank]
- Department: Biological Sciences
- Role in research: Student Researcher - Undergraduate
- Address Field 1: [leave blank]
- Address Field 2: [leave blank]
- Address Field 3: [leave blank]
- City: Doha
- State: [leave blank]
- Zip/Postal Code: [leave blank]
- Country: Qatar
- Phone: [leave blank]

Answer with the following to select your curriculum.
- Question 1: Biomedical Research Investigators
- Question 2: RCR Undergraduates
- Question 3: "Working with the IACUC Course"
- Question 4: I do not need to take the Export Control course at this time

Module Sets: There will be 5 CITI module sets due throughout the course. We will not grade these; they are simply to keep you on track. Be warned, however, that some modules may take time to complete, so putting your certification off until the last minute is not advised. (Remember: your certification is graded pass/fail; there is *no partial credit* for completing some, but not all, of the required modules.)

CITI Module Set #1 (Due Sunday, January 19ᵀᴴ)

A. Course: Biomedical Research - Basic/Refresher
1. Belmont Report and CITI Course Introduction
2. History and Ethical Principles
3. Basic Institutional Review Board (IRB) Regulations and Review Process

B. Course: Investigators, Staff and Students
1. Introduction to Working with the IACUC
2. Working with the IACUC
3. Federal Mandates
4. The Veterinary Consultation
5. Getting Started
6. Alternatives
7. Avoiding Unnecessary Duplication
8. Surgery

CITI Module Set #2 (Due Sunday, January 26ᵀᴴ)

A. Course: Biomedical Research - Basic/Refresher
1. Informed Consent
2. Social and Behavioral Research (SBR) for Biomedical Researchers
3. Records-Based Research
4. Genetic Research in Human Populations

B. Course: Investigators, Staff and Students
1. Antibody Production
2. Collecting Blood Samples
3. Personnel Training and Experience
4. Occupational Health and Safety
5. USDA Pain/Distress Categories
6. Endpoint Criteria

CITI Module Set #3 (Due Sunday, February 2ᴺᴰ)

A. Course: Investigators, Staff and Students
1. Using Hazardous and Toxic Agents in Animals
2. Housing Social Animals
3. Housing Rodents on Wire Floors
4. Dog Exercise
5. Primate Psychological Enrichment
6. Prolonged Restraint
7. Euthanasia
8. Using Human Patient Care Areas for Animal Research

CITI Module Set #4 (Due Sunday, February 9ᵀᴴ)

A. Course: RCR Undergraduates
1. Carnegie Mellon University
2. Introduction to the Responsible Conduct of Research
3. Research Misconduct (RCR-Biomed)
4. Responsible Conduct of Research (RCR) Course Conclusion

B. Course: Investigators, Staff and Students
1. Using Explosive Agents in the Animal Facility
2. Making Changes after You Receive Approval
3. Reporting Misuse, Mistreatment, or Non-Compliance
4. Final Comments

CITI Module Set #5 (Due Sunday, February 16ᵀᴴ)

A. Course: Biomedical Research - Basic/Refresher
1. Research With Protected Populations - Vulnerable Subjects: An Overview
2. Vulnerable Subjects - Research Involving Prisoners
3. Vulnerable Subjects - Research Involving Children
4. Vulnerable Subjects - Research Involving Pregnant Women, Human Fetuses, and Neonates
5. Avoiding Group Harms - U.S. Research Perspectives
6. Carnegie Mellon University

Your Certificate: Once you have completed all these modules, please email us copies of your three CITI training certificates. Your certificates will be sent to Carnegie Mellon University's Pittsburgh IRB, with whom we will confirm that they have your certificate on file.

General Technical Requirements for Written Assignments

All written assignments are expected to satisfy the following:

1. Have a cover page consisting of a signed and dated copy of the course's Academic Honor Code (you sign by typing your name).

2. Adhere to the specified word count.

3. Be double-spaced.

4. Be written in 12PT, "Times New Roman" (or something very similar).

5. Have side-margins of 1 inch.

6. Have horizontal alignment that is fully justified.

7. Have no extra space between paragraphs.

8. Have each paragraph begin with a tab indentation.

9. Have the paper's total word count at the top left corner of the first page.

10. Have a descriptive title (see section on title pages below).

11. Have page numbers (see section on page numbering below).

12. Cite all quotes and other material with footnotes (see section on citing your sources below).

Yes, this is boring, and yes, it is pedantic. The point of all these requirements, however, is to allow us to focus more on the *contents* of your paper and not on your skills (or lack thereof) in design. Besides these should also be trivial to follow when using most word processing software. To help, *we have included a template satisfying these requirements on the course website.*

Title Pages: For the purposes of this course, your title information should occur at the top of the second page of your paper (after your signed copy of the course's Academic Honor Code) and only consist of (1) your paper's word count, (2) the assignment's name, (3) a descriptive and meaningful title, and (4) your name. The word count should be at the top left, while the rest should be centered. Everything should be single-spaced in the same font, size, and style as the rest of your paper. The following is an example:

Troy McClure – 2
Word Count: 503
Journal Entry #3
The Ethics of Chocolate Research
By Troy McClure
Since the dawn of time, man has enjoyed chocolate. In the days of

In order to be descriptive and meaningful, the title should give a good indication as to the contents of the paper—and you will have a better idea of this once you complete the paper. So do it last. Feel free to personalize it but do not go crazy.

While a title like "A Summary of the Ethics of Non-Human Animal Research" is not very exciting, it is perfectly adequate for a journal entry: it tells the reader the principle issue involved and that it is a summary. Keep it simple and direct, being clever and witty takes up time better spent writing the paper itself.

Page Numbers: Page numbers should appear on the top-right of each page, starting on the second page (i.e., there should be *no* page number on the cover page with the Honor Code). Page numbers should otherwise be in the same font, size, and style as the rest of your paper, and have your name followed by a hyphen and the page number. The following is an example:

Troy McClure – 3
chocolate, like we have today, it was mixed with shredded tobacco. And

Citing Your Sources: All citations should be done in footnotes, following the rules below. Footnote text should otherwise be in the same font, size, and style as the rest of your paper. The following is an example:

and they "summoned Southam before its Grievance Committee".[1]
[1]John D. Arras, "The Jewish Chronic Disease Hospital Case", p. 76.

You are required to properly cite all your sources (see the course syllabus for the academic integrity policy). Do this whenever you find yourself quoting or otherwise using the ideas of another person. When citing, please follow the rules below, keeping in mind that *you must cite all sources, even if you are only putting their ideas into your own words*.

For any text that was assigned for class, you only need to cite (1) the author, (2) the title, and (3) the page numbers, as in:

Ezekiel J. Emanuel and Dennis F. Thompson, "The Concept of Conflicts of Interest", pp. 759–760.

For Internet sources that were not assigned for class, you need to cite (as they are available) (1) the author, (2) the page title, (3) the editor, (4) the website name, (5) the publisher's location and name, (6) the date of publication (7) the date you accessed it, and (8) the URL, as in:

T.H. Irwin, "Aristotle" in E. Craig (Editor), *Routledge Encyclopedia of Philosophy* (London: Routledge, 1998), retrieved on September 15, 2012 from http://www.rep.routledge.com/article/A022.

Richard Kraut, "Plato", *The Stanford Encyclopedia of Philosophy* (2004), retrieved on September 15, 2012 from http://plato.stanford.edu/entries/plato/.

Thomas Brickhouse and Nicholas D. Smith, "Plato", *The Internet Encyclopedia of Philosophy*, retrieved on September 15, 2012 from http://www.iep.utm.edu/p/plato.htm.

"Aristotle", *Wikipedia, The Free Encyclopedia*, retrieved on September 15, 2012 from http://en.wikipedia.org/wiki/Aristotle.

For articles that were not assigned for class, you need to cite (1) the author, (2) the article title, (3) the periodical title, (4) the volume, (5) the date of publication, and (6) the page numbers, as in:

John Rawls, "The Domain of the Political and Overlapping Consensus", *New York University Law Review* 64 (1989), p. 235.

For books that were not assigned for class, you need to cite (1) the author, (2) the date, (3) the book title, (4) the publisher's information, and (5) the page numbers, as in:

John Rawls, *Political Liberalism* (New York: Columbia University Press, 1993), pp. 85–106.

Exception: In any journal entry, you should cite the papers being addressed (i.e., the papers being explicitly addressed by that journal entry) only when you directly quote them. There is no need to cite these papers when putting their ideas into your own words; given the nature of journal entries, such citations are already assumed. However, you must still cite *any* additional material—regardless of whether it is an assigned course reading or not, and regardless of whether you are directly quoting, paraphrasing, or otherwise adapting another person's ideas.

If you are ever uncertain, please ask; do not assume.

Academic Honor Code

Section 1: Statement of Purpose

The fundamental objective of this course is to provide students with a high quality education while developing their sense of ethics and social responsibility. Any instance of dishonesty hurts the entire community. It is with this in mind that the professors have set forth an Academic Honor Code for this class.

Section 2: Objectives

This Honor Code aims to cultivate a community based on trust, academic integrity and honor. It specifically aims to accomplish the following:

- Ensure that students and professors understand that the responsibility for upholding academic honesty lies with them;
- Prevent any students from gaining an unfair advantage over other students through academic misconduct;
- Ensure that students understand that academic dishonesty is a violation of the profound trust of the entire academic community.

Section 3: Student Responsibilities

The immediate objective of an Academic Honor Code is to prevent any students from gaining an unfair advantage over other students through academic misconduct. Academic misconduct is any act that does or could improperly distort student grades or other student academic records. Such acts include but need not be limited to the following:

- Possessing, using or exchanging improperly acquired written or verbal information in the preparation of any essay, report, examination, or other assignment included in an academic course;
- Substitution for, or unauthorized collaboration with, a student in the commission of academic requirements;
- Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating authorship (plagiarism);
- False claims of performance or work that has been submitted by the claimant.

While these acts constitute assured instances of academic misconduct, other acts of academic misconduct may be defined by the professors.

Each student in this class must sign an Honor Agreement affirming their commitment to uphold this Honor Code. This Honor Agreement may reappear on assignments to remind students of their responsibilities under this Academic Honor Code.

Section 4: Faculty Responsibilities

The professors are expected to create an environment where honesty flourishes. In creating this environment, the professors are expected to do the following:

- Make known to the class as specifically as possible what constitutes appropriate academic conduct as well as what comprises academic misconduct. This includes but is not limited to the use of previously submitted work, collaborative work on homework, etc.
- Include a paragraph containing their academic integrity policy on the course syllabus.

The professors are also expected to provide clarification to any student questions concerning any of the above.