

Plan for Instruction in the Responsible Conduct of Research

1. Format - the required format of instruction, i.e., face-to-face lectures, coursework, and/or real time discussion groups (a plan with only on-line instruction is not acceptable):

Cornell utilizes the training program delivered by CITI (Collaborative Institutional Training Initiative) to provide some online courses in research ethics for Cornell students, faculty and staff. A [specialized CITI course](#) is available online and must be completed by all graduate students. A more [comprehensive RCR course](#) is mandatory for all graduate students paid on NSF, NIH or USDA-NIFA awards. All trainees, fellows, participants, and scholars receiving support through any National Institutes of Health (NIH) training award, career development award (individual or institutional), research education grant, or dissertation research grant must receive instruction in responsible conduct of research (RCR).

This policy applies to the following programs (as well as any other NIH-funded programs that specify an RCR training requirement): D43, D71, F05, F30, F31, F32, F33, F34, F37, F38, K01, K02, K05, K07, K08, K12, K18, K22, K23, K24, K25, K26, K30, K99/R00, KL1, KL2, R25, R36, T15, T32, T34, T35, T36, T37, T90/R90, TL1, TU2, and U2R.

Undergraduate students, graduate students, and postdoctoral researchers who receive salaries or stipend support to conduct research on an NSF or USDA-NIFA award must successfully complete the full online CITI Course on RCR (the short, foundational course does not fulfill the requirement applicable to these persons). Graduate students in the life sciences must also take part in BioMG7510 – Ethical Issues and Professional Responsibilities, a course specifically designed to prepare students to face many ethical issues as they undertake their scientific training.

Online training must be completed within 60 days of first being paid on the award. Successful completion requires a cumulative score of 80% or higher on the quizzes for the modules included in the full RCR course. Individuals who do not complete the training within 60 days cannot draw salaries on the sponsored award. Departments will need to identify alternate sources of funding for such individuals.

Cornell Grad School sponsored “Ethics Café”: Ethics Café brings together graduate and professional students to discuss responsible mentoring, authorship, peer review, intellectual conflicts of interest, acknowledging the work of others in research and academic papers and publications, and questions about responsible research and scholarship.

Cornell College of Engineering sponsored Bovay Program: The Bovay Program pursues the mandate of “Be a catalyst for consideration of social and ethical issues in the Cornell Engineering College” by hosting workshops and panels, moderating discussions and giving guest lectures in engineering classes (with an emphasis on first year

engineering students), teaching stand alone upper level ethics courses, hosting a seminar series, hosting a campus-wide lecture, providing case study resources, and having numerous informal interactions and discussions with both faculty and students. The Bovay Program takes an 'Ethics Across the Curriculum' approach where interactions with Engineering College faculty are considered essential instigations in order for them to incorporate social and ethical issues into their own classes and teaching. The Bovay program is always open to new kinds of experimentation and collaboration to further their mandate (see the links to our 'Ethics Play' on this site).

Other events/seminars/workshops held in various ways include:

- Office of Research Integrity RCR Symposium: A twice yearly symposium, mandatory for all trainees supported by NIH training grants, but open to all trainees, is held at Cornell University.
- Graduate student seminar at the Johnson School of Management
- Graduate Seminar at the Department of Fiber Science & Apparel Design
- Incoming Graduate Students at the College of Engineering
- Incoming Class of Rawlings Presidential Scholars
- Investigative Biology
- Seminar in Biophysics
- Faculty workshop offered by the Center for Excellence in Teaching

2. Subject Matter - the breadth of subject matter, e.g., conflict of interest, authorship, data management, human subjects and animal use, laboratory safety, research misconduct, research ethics;

Beginning September 2015, all incoming graduate students pursuing research degrees will be required to successfully complete a short, "Foundational" course in RCR by the end of their second semester of enrollment into the Graduate School. The Foundational course is available online through CITI, and is comprised of the following modules:

- Authorship
- Peer Review
- Plagiarism
- Research misconduct (data falsification, data fabrication, plagiarism)

Other training for new graduate students includes:

- Financial Conflicts of Interest in Research: Online CITI training
- Use of Animals in Research: Online training offered by AALAS International
- Use of Bloodborne Pathogens in Research

[Cornell RCR Symposia:](#) Offer comprehensive coverage of RCR topics such as:

- Plagiarism
- Data Management

- Ethical issues in Ethnographic Research
- Authorship
- Undergraduate students in Biology
- Use of genetic materials in research
- Academic misconduct
- Collaborative Research
- Conflicts of Interest
- Mentoring
- Peer Review
- Research involving humans/animals
- Rigor and reproducibility

Seminars, presentations by faculty and real-life case studies are used during the symposia, which are partially organized by the trainees themselves, adding a further dimension of training to their repertoire. Following the presentations, groups of trainees and faculty break out into small teams to discuss specific case studies on RCR-related topics. Materials for teaching and discussion of RCR-related issues are available online, including discussion notes and [case study materials](#) for all of the above scenarios.

Cornell Graduate School also offers instruction for all graduate students in RCR, interdisciplinary research and ethics programs, a comprehensive list of these is below:

BioMG7510 – Ethical Issues and Professional Responsibilities (This course is mandatory for NIH-funded trainees, and is a one semester course, completed during the trainees first two years of study)

COMM 6830 - Qualitative Research Methods in Communication

AEM 3390 - Research Methods in International Development

ARTH 6000 - Graduate Research Methods in Art History

AEM 6390 - Research Methods in International Development

PSYCH 4910 - Research Methods in Psychology

PSYCH 6910 - Research Methods in Psychology

STS 6311 - Qualitative Research Methods for Studying Science

DSOC 6150 - Qualitative Research Methods

ILROB 4710 - Social Science Research Methods

DEA 6560 - Research Methods in Social Sciences

ILRHR 9630 - Research Methods in HR/SHRM

HD 2830 - Research Methods in Human Development

ILRHR 9650 - Advanced Research Methods

ASIAN 6613 - [Southeast Asian Bibliography and Research Methods]

CLASS 7742 - [Research Methods in Archaeology]

COMM 2820 - Research Methods in Communication Studies

DSOC 6190 - Quantitative Research Methods

ILRST 5150 - Statistical Research Methods

BIOG 2990 - Introduction to Research Methods in Biology

PLSCI 2990 - Introduction to Research Methods in Plant Science
PLBRG 2990 - Introduction to Research Methods in Plant Breeding and Genetics
ANTHR 7742 - [Research Methods in Archaeology]
ARKEO 7742 - [Research Methods in Archaeology]
ARTH 6252 - [Research Methods in Archaeology]
PLBIO 4430 - Topics and Research Methods in Systematics
COGST 4910 - Research Methods in Psychology
COGST 6910 - Research Methods in Psychology
HADM 2720 - Information Retrieval and Research Methods
SOC 6310 - Qualitative Research Methods for Studying Science
COMM 6750 - Research Methods for Social Networks and Social Media
BIOSM 2500 - Coastal Habitat Field Research Methods
PAM 3120 - Research Design, Practice, and Policy
LA 6900 - Methods of Landscape Architectural Inquiry
PAM 6040 - Qualitative, Survey, and Mixed Method Approaches to Policy Research
SOC 4080 - [Qualitative Methods]
SOC 5080 - [Qualitative Methods]
ARCH 8911 - Proseminar in Design Research
BIOG 3020 - Seminar in Research Skills for Biologists: II
PLHRT 6170 - [Advanced Analytical Methods for Plant Systems]
PSYCH 3500 - Statistics and Research Design

3. Faculty Participation - the role of the mentor(s) and other faculty involvement in the instruction;

Mentors are encouraged to participate in one-on-one RCR training with their trainees, both NIH-sponsored and not. Faculty are also integrally involved in the RCR symposia, both in terms of organization and giving lectures/seminars/RCR discussion groups. Faculty also team teach the BioMG7510 – Ethical Issues and Professional Responsibilities course mandatory for trainees.

4. Duration of Instruction - the total number of contact hours of instruction

The duration of instruction depends on the level of RCR training the trainees undertakes, however at minimum trainees are required to take either the short CITI course (2 hours) or longer course for NIH, NSF and USDA-NIFA funded trainees (4 hours), financial conflict of interest training (1 hour), plus the mandatory BioMG7510 – Ethical Issues and Professional Responsibilities course, required for NIH-funded trainees. This is a one semester long course, with two hours per week of lectures. Any trainee working with human subjects of animals also has to take training pertinent to those research activities.

5. Frequency of Instruction – instruction must occur during each career stage and at least once every four years. Document any prior instruction during the applicant's current career stage, including the inclusive dates instruction was last completed.

- CITI RCR training- once during trainees' studies
- IRB training- updated every 5 years
- IACUC training- updated every 5 years

In addition, the plan must describe how participation in RCR instruction will be monitored. Note that Senior Fellows may fulfill requirements for instruction in responsible conduct of research by participating as lecturers and discussion leaders.

Training records are kept for all RCR training, including CITI training, fCOI training, IRB and IACUC training. These records are available for faculty to check if their trainees are compliant. RCR training must be completed within 60 days of being paid on a sponsored award, and this is monitored by the Office for Research Integrity and Assurance at Cornell University. If trainees are non-compliant, the trainee and their mentor are alerted to this by email, should they not become complaint within 60 days, they will be removed from a sponsored award until they become compliant.

In addition, Renewal applications must describe any changes in formal instruction over the past project period and plans for the future that address any weaknesses in the current RCR instruction.