

July 3, 2018

To Whom It May Concern:

As required by the National Science Foundation (NSF), effective January 4th, 2010, all proposals submitted that included salary or stipend support for students (undergraduate and graduate), and postdoctoral researchers conducting research have been accompanied by an institutional certification that CMU will provide Responsible Conduct of Research (RCR) training to these students and postdoctoral researchers if the grant is funded.

The enclosed implementation plan is amended to delete the detailed instructions associated with the CITI training and to update the document to reflect the Office of Research and Graduate Studies (ORGS) department's name modification.

I certify that the enclosed Central Michigan University Responsible Conduct of Research Implementation Plan is in place to meet the RCR training requirement for the National Science Foundation and other federal sponsors as necessary.

Sincerely,



David E. Ash
Vice President for Research and Dean of Graduate Studies

Central Michigan University Responsible Conduct of Research Implementation Plan

In response to the mandate in the America COMPETES act, effective January 4, 2010, the National Science Foundation (NSF) requires that, at the time of proposal submission, the Authorized Organizational Representative certify that the institution has a plan to provide responsible and ethical conduct of research training to undergraduate students, graduate students, and postdoctoral researchers receiving a salary or stipend to conduct research from a NSF funded project, if awarded.

Effective January 4, 2010, a Central Michigan University Principal Investigator (PI) receiving NSF funding which will provide salary or stipends to any undergraduate students, graduate students, or postdoctoral researchers conducting research is required to follow the university's plan outlined below in providing Responsible Conduct of Research (RCR) training. Additionally, Central Michigan University strongly recommends all researchers take RCR training as understanding how to be a responsible member of the research community is key to being a researcher.

Federal Funding – non-NSF

This implementation plan applies to all federal sponsors requiring RCR training. If the federal sponsor has additional requirements not listed within this plan, ORGS will work with the PI to ensure the necessary RCR training requirements are fulfilled.

PI Responsibility

It is up to the PI to inform undergraduate students, graduate students, or postdoctoral researchers receiving salary or stipend payments from an NSF funded project to conduct research about the RCR training requirement and to ensure that they complete it in a timely fashion. Furthermore, PIs are encouraged to openly discuss responsible conduct of research with their research staff. It is highly important that PIs have a vested interest in their trainees not only completing their research, but doing it responsibly; research misconduct can result in returning grants, fines, and censure from future grants.

Training Mechanism

PIs have two options to train undergraduate students, graduate students, and postdoctoral researchers:

1. CMU is an institutional member of the Collaborative Institutional Training Initiative* (CITI) and has worked with them to provide online training through their web site:
<https://www.citiprogram.org>.

While each individual that requires training must complete the quizzes under their registration in the CITI program, it may be beneficial to read through the training modules as a group to promote discussion and understanding of best and common practices in a specific field of research.

**Please note that the CITI RCR modules are separate from the CITI course modules available for Human Subjects training, required for all personnel involved in human subject research. The RCR courses may not be used to satisfy CMU's requirements for training in human subjects and vice versa.*

2. PIs may develop a customized training for undergraduate students, graduate students, and postdoctoral researchers which addresses the core information presented by CITI's RCR courses.

Updated May 29, 2018

Please see attached document to learn about specific requirements. *Note: all customized trainings must be preapproved by the Vice President for Research.*

Training Timeline

All undergraduate students, graduate students, and postdoctoral researchers must complete RCR training **within one month** of having started research-related work on a NSF grant.

1. If the Office of Research and Graduate Studies has not received verification of RCR training completion within one month, the individual's salary or stipend will be taken off of the grant account. No payroll expenses for the time period prior to successful completion of RCR training will be allowed to be charged to the grant account.
2. Trainings can be completed prior to each undergraduate student, graduate student, and postdoctoral researcher's start date on the funded project. Documentation must be provided and approval is at the discretion of the Vice President for Research.

Payment

RCR training costs (for example related to an individual's time to complete the training) cannot be expensed to the funded project.

RCR TRAINING REQUIREMENTS

FOR CUSTOMIZED TRAININGS

If a PI determines that it will be best for the research project to conduct a customized RCR training program with students being supported by a NSF funded project, please note the following requirements.

1. A syllabus outlining the content and method of the training program, including all support materials such as PowerPoint presentations, case studies, and worksheets must be submitted to the Vice President for Research for approval prior to conducting the RCR training. Note: if RCR training is provided to undergraduates, graduate students and postdoctoral researchers without proper approval, it is done at the PI's own risk and additional training may be required.
2. Proper documentation will be required to demonstrate participation in the training. (for example, sign-in sheets, email confirmation from students stating participation in training, etc..) This documentation must be given to ORGS within the first month of each individual's work on the NSF funded project. If the Office of Research and Graduate Studies has not received verification of RCR training completion within one month, the individual's salary or stipend will be taken off of the grant account. No payroll expenses for the time period prior to successful completion of RCR training will be allowed to be charged to the grant account.
3. All procedures and guidelines provided through the CMU's Responsible Conduct of Research Implementation Plan must be followed and will be enforced by ORGS.
4. Trainings must thoroughly address the following topics, including the use of case studies, to meet CMU's minimal standards for RCR training:
 - a. Definition of Responsible Conduct of Research: Researching with integrity:ⁱ
 - i. Honesty - conveying information truthfully and honoring commitments
 - ii. Accuracy- reporting findings precisely and taking care to avoid errors
 - iii. Efficiency -using resources wisely and avoiding waste
 - iv. Objectivity - letting the facts speak for themselves and avoiding improper bias
 - b. CMU's Research Integrity and Misconduct Policy: Research misconduct encompasses actions committed intentionally, knowingly, or recklessly.
 - i. Some common areas of misconduct include:
 1. **Fabrication:** making up data or results and recording or reporting them
 2. **Falsification:** manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the Research Record
 3. **Plagiarism:** the appropriation of another person's ideas, processes, results or words without giving them appropriate credit

- ii. Actions to Take if Research Misconduct is suspected:
 1. Immediately report to supervisor in a confidential manner
 2. If supervisor is suspected of research misconduct, report concern to the Office of Research and Graduate Studies confidentially: 774-6777
- iii. Consequences of Research Misconduct:
 1. Withdrawal or correction of all pending or published abstracts and papers emanating from the research where Research Misconduct was found
 2. Notification to professional organizations
 3. Removal of the Respondent from the particular project, letter of reprimand, special monitoring of future work, probation, suspension, salary reduction, rank reduction or termination of employment
 4. Denial of access to university research funds
 5. Restitution of funds as appropriate
- c. Data Acquisition, Management, Sharing, and Ownership:
 - i. **Data Acquisition and Management:** Methodically acquiring and managing data with integrity helps to validate findings and may build the foundation for future research
 - ii. **Sharing:** Understanding how data will be disseminated and guidelines related to what information can be shared with the public
 - iii. **Ownership:** Understanding who legally owns the data produced during and after a project
- d. Publication Practices and Responsible Authorship:
 - i. The activities of preparing research findings for dissemination in a manner that ensures the integrity of the research process. Some common mistakes include, but are not limited to:ⁱⁱ
 1. Improper interpretation of statistics and results
 2. Plagiarism
 3. Not adhering to publishing limitations by sponsor or collaborator
 4. Improper recognition for contribution
 - b. Peer Review:
 - i. The evaluation of research/work by an experienced professional in one's field to provide useful evaluation, critiques, and help ensure data credibility
 - c. Conflicts of Interest and Commitment:
 - i. Situations in which a person or organization's interests and obligations may inhibit their ability to properly and ethically conduct research

ⁱ "CITI PROGRAM - Responsible Conduct of Research - RCR for Engineers, Administrators, Biomedical, Social and Behavior, Physical Sciences, Humanities." CITI Home Page. Web. 10 Dec. 2010. <<https://www.citiprogram.org/rcrpage.asp>>.

ⁱⁱ "Responsible Authorship Quick Guide: Detecting Common Mistakes and Considering Dilemmas in Research Publication." Office of Research Integrity. Web. 10 Dec. 2010. http://ori.hhs.gov/education/products/niu_authorship/index.htm.