Responsible Conduct of Research

POLICY

SPECIAL WORDING

Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science (COMPETES)

National Science Foundation (NSF)

National Institutes of Health (NIH)

Research & Sponsored Programs (RASP)

Research Integrity Officer (RIO)

Responsible Conduct of Research (RCR)

BACKGROUND

The America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science (COMPETES) Act was signed into law in August 2007. Section 7009 requires that each institution that applies for financial assistance from the National Science Foundation (NSF) for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers participating in any capacity within the proposed research project.

In 2009, the National Institutes of Health (NIH) released Notice Number NOT-OD-10-019 which updated their requirement for instruction in the responsible conduct of research. The updated NIH policy requires that all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award (individual or institutional), research education grant, and dissertation research grant must receive instruction in the Responsible Conduct of Research (RCR) Training. These individuals are referred to collectively as "RCR Trainees" below.

At a minimum, Northeastern State University (NSU), trainees, fellows, undergraduate students, graduate students, and postdoctoral researchers participating in any capacity within a proposed NIH or NSF research or education project are to be considered as RCR Trainees regarding training and oversight in the responsible and ethical conduct of research.

KEY FEATURES

- Each institution must have an education plan. The following represents the plan for NSU.
- The plan is not required to be included in each proposal, but is subject to NIH and NSF review.

- One or more persons must oversee compliance. NSU's Research Integrity Officer (RIO) and the Director of Research & Sponsored Programs (RASP) will represent the contacts for training and record-keeping.
- There must be written verification that each RCR Trainee has completed the training.
- Training should include substantive contact hours with RCR Trainees' faculty mentor(s).
- There must be a single point of contact on each campus to coordinate training and keep record of those who have been certified.
- Separate training must be specifically designed for each level of education- bachelors, masters, and doctoral levels. The student must be recertified as they progress through each level.
- Faculty researchers are strongly encouraged to participate in the RCR training.
- There must be a curriculum and training plan in place prior to submission of NSF or NIH grant proposals.

APPLICABILITY

Proposals submitted to NSF on or after January 4, 2010

Proposals submitted to NIH on or after January 25, 2010 and for continuation applications submitted on or after January 1, 2011

NORTHEASTERN STATE UNIVERSITY PLAN

Northeastern State University (NSU) will meet the stated requirement by providing Responsible Conduct of Research Training video modules accessible to all RCR Trainees via NSU's Blackboard, augmented reading and face-to-face mentor contact.

Required modules for each Training Course include:

• *Introduction to Responsible Conduct of Research*

• *Research Misconduct*: (fabrication or falsification of data including image manipulation, plagiarism). The meaning of research misconduct and the regulations, policies, and guidelines that govern research misconduct in PHS-funded institutions, includes topics such as fabrication, falsification, and plagiarism; error vs. intentional misconduct; institutional misconduct policies; identifying misconduct; procedures for reporting misconduct; protection of whistleblowers; and outcomes of investigations, including institutional and Federal actions.

• *Data Acquisition, Management, Sharing, and Ownership*: Accepted practices for acquiring and maintaining research data. Proper methods for record keeping and electronic data collection and storage in scientific research. Includes defining what constitutes data; keeping data notebooks or electronic files; data privacy and confidentiality; data selection, retention, sharing, ownership, and analysis; data as legal documents and intellectual property, including copyright laws.

• *Publication Practices and Responsible Authorship*: The purpose and importance of scientific publication, and the responsibilities of the authors. Includes topics such as collaborative work and assigning appropriate credit, acknowledgments, appropriate citations, repetitive publications, fragmentary publication, sufficient description of methods, corrections and retractions, conventions for deciding upon authors, author responsibilities, and the pressure to publish.

• *Peer Review*: The purpose of peer review is determining merit for research funding and publications. Includes topics such as the definition of peer review, impartiality, how peer review works, editorial boards and ad hoc reviewers, responsibilities of the reviewers, privileged information and confidentiality.

• *Mentor and Trainee Responsibilities*: The responsibilities of mentors and trainees in predoctoral and postdoctoral research programs. Includes the role of a mentor, responsibilities of a mentor, conflicts between mentor and trainee, collaboration and competition, selection of a mentor, and abusing the mentor/trainee relationship.

• *Animal Welfare*: Issues important to conducting research involving animals. Includes topics such as definition of research involving animals, ethical principles for conducting research on animals, Federal regulations governing animal research, institutional animal care and use committees, and treatment of animals.

• *Conflicts of Interest and Commitment*: The definition of conflicts of interest and how to handle conflicts of interest. Types of conflicts encountered by researchers and institutions. Includes topics such as conflicts associated with collaborators, publication, financial conflicts, obligations to other constituencies, and other types of conflicts.

• *Collaborative Research*: Research collaborations and issues that may arise from such collaborations. Includes topics such as setting ground rules early in the collaboration, avoiding authorship disputes, and the sharing of materials and information with internal and external collaborating scientists.

• *Human Subjects*: Issues important in conducting research involving human subjects. Includes topics such as the definition of human subjects research, ethical principles for conducting human subjects research, informed consent, confidentiality and privacy of data and patient records, risks and benefits, preparation of a research protocol, institutional review boards, adherence to study protocol, proper conduct of the study, and special protections for targeted populations, e.g., children, minorities, and the elderly.

In addition, the RCR Trainees will receive the face-to-face instruction on relevant topics specific to their project from their faculty mentor during the course of the respective training or program.

To complement the RCR training, NSU will provide each RCR Trainee the opportunity to check out the book, “On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition”, ISBN 978-0-309-11970-2.

RESPONSIBILITIES

The Research Integrity Officer of NSU and the Director of the Office of Research and Sponsored Programs (RASP) have successfully completed the NIH-approved University of Oklahoma's Responsible Conduct of Research Train the Trainer program, both receiving certifications upon completion of this training. These two certified trainers will work collaboratively in the development, implementation and documentation of the RCR training

Each RCR Trainee should satisfactorily complete RCR training *prior* to participating in an NSF or NIH grant. Once the RCR Trainees have completely viewed each video module, Blackboard will document the respective viewing.

The Principal Investigator, in particular, is responsible for providing and updating RASP with the names of all RCR Trainees within his/her NIH or NSF research project, for notifying all RCR Trainees of the RCR Training requirements, and for ensuring that *all* RCR training is completed by RCR Trainees, to include face to face instruction by faculty mentors, prior to beginning work on a NIH or NSF grant. The Principal Investigator will maintain documentation of each RCR Trainees' successful completion of the RCR Training, and will notify RASP within thirty (30) days of completion.

With regard to actual RCR training, NSU's RIO will prepare (in conjunction with NSU's Media & Training department) the aforementioned video modules and is responsible for nationally recognized content. These video modules will be case based as well as deliver the content prescribed and vetted by NIH and NSF.

RASP is responsible for the general administration of the RCR policy. RASP will include information about the RCR Training requirement with each NIH or NSF proposal. When a RCR Trainee successfully completes the specified RCR course, RASP will receive notice from the Principal Investigator. RASP will maintain a list of RCR Trainees supported by NIH or NSF grants and verify that each RCR Trainee has completed the appropriate RCR course. Additionally, RASP will maintain numerous copies of the book titled, "On Being a Scientist: A Guide to Responsible Conduct in Research, Third Edition", ISBN 978-0-309-11970-2, and will oversee the checking in/checking out process of these books. In the event that a RCR Trainee fails to successfully complete the RCR Training in a timely manner, RASP will contact the Research Integrity Officer of NSU.