



Loyola University Maryland
Responsible Conduct of Research Education Plan
For Students Supported by the National Science Foundation (NSF)

Background

The National Science Foundation (NSF) has implemented Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (42 U.S.C. 1862o-1). This section of the Act requires that "each institution that applies for financial assistance from the Foundation 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 the proposed research project."

NSF requires that, at the time of proposal submission to NSF, a proposing institution's Authorized Organizational Representative certify that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research.

While training plans are not required to be included in proposals submitted to NSF, institutions are advised that they are subject to review upon request.

The responsible conduct of research requirement mandates that:

1. The institution will determine the content, frequency, and delivery method of the training.
2. Any student who is being paid by or receiving support (salary and/or stipends) to conduct research through an award and/or subaward from NSF is required to complete the training program.
3. The institution will track, verify, and keep records that students have completed the training program.

Loyola University Maryland Training

General

Loyola University Maryland is dedicated not only to learning and the advancement of knowledge but also to the development of ethically sensitive, socially responsible persons. The University charges faculty and students with shared responsibility for maintaining the academic integrity of the University in all respects. All registered students are bound to uphold the principles of academic integrity and students are expected to understand the meaning and standards of academic integrity.

The University requires all first-year students to enroll in and complete WR100, Effective Writing. This course provides an introduction on plagiarism as well as appropriate citation. In the course students are expected to formulate an original thesis, focus, or controlling idea and

support it by using a variety of strategies, including analysis and the integration of ideas and information gathered through research. Students attend a general library orientation as part of the course during which appropriate citation is covered. All first-year students take an online tutorial on plagiarism.

Required Training for NSF-Supported Students

All students and postdoctoral students supported by the NSF will be required to complete the Collaborative Institute Training Initiatives Responsible Conduct of Research program. The training program is available on-line at www.citiprogram.org. Completion of the training program will provide a foundation in the responsible conduct of research. Once the training program is completed, the student may print out the certification page. The certification page must be signed by both the student and the principal investigator on the grant. The original signed copy must be forwarded to the Assistant Director, Office of Research and Sponsored Programs. The ORSP will be responsible for maintaining institutional records confirming that training was completed by students performing research funded by the NSF. Faculty members also are encouraged to supplement the on-line training with guidance in the responsible conduct of research tied to the specifics of the student's involvement in the NSF-funded research project.

The required on-line training must be completed prior to starting any research funded by the NSF. Students participating in the Hauber Research project funded by the NSF must complete the training no later than April 30th.

The required training consists of the following topic areas: Research Misconduct; Data Management; Conflict of Interest; Collaborative Science; Responsible Authorship; Mentor and Trainee Responsibilities; Peer Review; Lab Animals; and Human Subjects. Content is modified to address the needs specific to: Biomedical Science; Social and Behavioral; Physical Sciences; and Humanities and Arts research. The module generally takes five hours to complete.

Additional training is available on specialized topics. Principal investigators may wish to require additional training if appropriate to the requirements of a particular research project.

Faculty members who are applying to the NSF may wish to include a brief statement of efforts that they take to mentor students in the responsible conduct of research as well as the institutional response.

Availability of Resources for all Students and Employees

While completion of the CITI program is mandatory only for those students who are funded to conduct research through NSF grants, it is available to all employees and students of Loyola University Maryland. Faculty members are encouraged to use this resource to educate students and other members of the research community with an understanding of the responsible conduct of research.