

Responsible Conduct of Research Training
Implementation Plan
Lyman Briggs College
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Background: Training in the Responsible Conduct of Research (RCR) for all undergraduate students, graduate students, and post-doctoral personnel engaged in the conduct of research is now required as part of all proposals submitted to the National Science Foundation or to certain programs in the National Institutes of Health. Accordingly, MSU now requires all academic units participating in research to develop plans for providing such training [1]. The Association of American Universities (AAU) has recommended five hours in the first year of a person's research career and three years annually thereafter or as required by a specific funding agency, whichever is larger. MSU has endorsed this time standard in its implementation of RCR training.

Due to the broad range of disciplines in which research is undertaken within Lyman Briggs College, the college is developing a plan that establishes general principles and encourages PIs to make full use of the discipline-specific training and resources being developed by their disciplinary departments (or the disciplinary departments of their collaborators, as appropriate). This plan draws upon those drafted by the College of Engineering and the Graduate School.

Implementation: RCR training potentially includes both face-to-face and on-line components. MSU PI's have access to online modules from the Collaborative Institutional Training Initiative (CITI) and are encouraged to make use of these, especially for the first 2-3 hours of initial training of new supervised researchers. MSU is also requiring some face-to-face time annually to allow supervised researchers the opportunity to ask questions. The face-to-face components can include participation in workshops that include Q&A sessions, individual meetings between the PI and a supervised researcher, or RCR-focused meetings of the entire research group.

Starting summer 2010, LBC will incorporate an RCR component into its undergraduate research grant program.

Tracking of compliance for undergraduate students, graduate students, and post-doctoral researchers (especially on research not funded by NSF or NIH) is an open topic on which the college awaits guidance from the central administration.

The balance of this document details potential resources for meeting the university requirements in RCR training.

Resources for the Online Component of RCR Training

Projects involving human subjects:

All individuals associated with a project involving human subjects must be certified by the MSU Human Research Protection Program (HRPP). <http://www.humanresearch.msu.edu/>
This required training includes both an online MSU tutorial for HRPP http://35.8.104.116:591/ucrihs/ucrihs_tutorial/ and the related CITI modules to which MSU has access <https://www.citiprogram.org/>. This training takes 2-3 hours.

Other projects:

CITI (Collaborative Institutional Training Initiative) <https://www.citiprogram.org/> has extensive free on-line tutorials in RCR that include both general introductory material and material specific to various disciplinary areas (e.g. physical sciences, humanities, research involving live animals). PI's should select appropriate modules for their undergraduate, graduate, or postdoctoral researchers to complete and require proof of completion with a "passing" score. This training takes 2-3 hours.

Resources for the Face-to-face Component of RCR Training:

This component should include both discussion of general RCR issues and discussion of specific issues related to the research project. Focusing the discussion around assigned readings or the material discussed at an RCR workshop is strongly recommended. Key topics in Responsible Conduct of Research Training include [2]:

1. General RCR education
2. Authorship/Plagiarism
3. Conflict of Interest [e.g. discuss the COI form and its implications]
4. Acquisition, Management, Sharing and Ownership of Data
5. Research Misconduct
6. Peer Review
7. Collaboration
8. Animal Welfare
9. Mentoring
10. Human Subject Protections

Workshops on RCR:

The Graduate School is providing sessions for MSU personnel as part of its RCR program (see: <http://grad.msu.edu/rcr/>). These sessions occur approximately monthly and require pre-registration at: gradwrsp@msu.edu.

Other colleges are likewise providing such sessions. The PIs are encouraged to consult the websites of their joint appointment departments/colleges or those of their research collaborators to find sessions appropriate to their field of scholarship.

Online Resources for PIs [sources of readings and materials]

Michigan State University: <http://grad.msu.edu/rcr/> MSU will be providing resources that can be incorporated in either face-to-face or on-line training opportunities.

Penn State University: <http://www.research.psu.edu/orp/sari/> Penn State has extensive on-line content as part of its RCR program. This includes PowerPoint presentations on: Authorship/plagiarism; conflict of interest; acquisition, management, sharing, and ownership of data; research misconduct; peer review; collaboration; animal welfare; mentoring; and human subject protections.

University of Minnesota: This program aimed at PIs covers social responsibilities, authorship, plagiarism, and peer review.

<http://cflegacy.research.umn.edu/first/CourseSchedReg.htm>.

On-line training <http://cflegacy.research.umn.edu/first/electroniccourses.htm> has four modules (conflict of interest, fiscal responsibility, intellectual property, and quantitative/qualitative research data management).

University of Michigan: <http://my.research.umich.edu/peerrs/> The UofM system includes Institutional Review Board (IRB) training with more general responsible conduct of research training, focused on the biological and social sciences.

The Poynter Center for the Study of Ethics and American Institutions at Indiana University Bloomington poynter.indiana.edu

Center for the Study of Ethics in the Professions (CSEP) at Illinois Institute of Technology <http://ethics.iit.edu/>

References

1. Kim Wilcox and J. Ian Gray, Memorandum, 13 October 2009 (see: <http://grad.msu.edu/researchintegrity/>).
2. Penn State Senior Vice President for Research Site, Research Protections: <http://www.research.psu.edu/orp/sari/>.
3. Guidelines for Integrity in Research, MSU Graduate School, <http://grad.msu.edu/publications/docs/integrityresearch.pdf>