• **Responsible Conduct of Research Training Policy**

**Introduction**

New Mexico Tech (NM Tech) is committed to fostering a climate of intellectual honesty and ensuring responsible and ethical conduct of research and scholarship among its faculty, staff, and students. All members of the NM Tech community share responsibility for developing and maintaining standards to assure ethical conduct of research and detection of abuse of these standards.

Federal responsible conduct of research (RCR) training requirements vary by agency. The following are agency-specific (RCR) training requirements as of July 31, 2023.

At this time, three federal agencies, the National Science Foundation, the National Institutes of Health, and the U.S. Department of Agriculture’s National Institute of Food and Agriculture requires research personnel financially supported on a funded project to complete training in research ethics and integrity. Additional agencies may issue RCR training requirements in the future. Specific training requirements for each agency are described below.

National Science Foundation (NSF)

The NSF requires all project personnel supported by NSF funding to receive training in the responsible and ethical conduct of research (RECR). This includes faculty, Principal Investigators, and Co-investigators and other senior personnel, postdoctoral researchers, and graduate and undergraduate students.

This requirement, mandated through the America Competes Act, Section 7009 and the CHIPS + Science Act, section 10337, is effective on all NSF proposals submitted after July 30, 2023. NSF’s latest guidance is below and the complete policy can be accessed here.

*Chapter IX: Recipient Standards - Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 23-1) | NSF - National Science Foundation*

Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act (42 USC 1862o–1), as amended, 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, postdoctoral researchers, faculty, and other senior personnel supported by the proposed research project. Such training must include mentor training and mentorship.

NSF encourages consideration of the following reports by the National Academies of Sciences, Engineering, and Medicine in meeting RECR requirements: *Fostering Integrity in Research; Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*; and *Reproducibility and Replicability in Science*. 

National Institutes of Health (NIH)

NIH requires all trainees, fellows, participants, and scholars receiving support through any NIH training career development award, research education grant, and dissertation research grant to participate in a minimum of eight hours of training in the responsible conduct of research every four years, NIH’s latest guidance (NOT-OD-22-055) can be accessed here:


U.S. Department of Agriculture, National Institute of Food and Agriculture (USDA/NIFA)

All personnel supported by a USDA/NIFA award are required to complete research ethics training. This includes faculty, staff, students, postdoctoral researchers, and subrecipient participants. 2 CFR Part 422 is the source of these requirements.

Responsible and Ethical Conduct of Research | National Institute of Food and Agriculture (usda.gov)

NM Tech strives to maintain a research environment that exemplifies the highest ethical standards for all sponsored and non-sponsored research. It is expected, therefore, that all researchers engage in ongoing education in all core areas that comprise a comprehensive responsible conduct of research curriculum. These core areas include:

- Collaborative research
- Conflict of Interest (personal, professional, and financial), including Conflict of Commitment
- Data acquisition and analysis, scientific rigor and reproducibility
- Data confidentiality, management, sharing, and ownership
- Export controls (includes disclosure and reporting requirements)
- Human Subjects, animal, and safe laboratory practices
- Mentor/mentee responsibilities and relationships
- Peer review
- Research misconduct and questionable research practices
- Research security risks
- Responsible authorship and publication
- Safe research environments, laboratory safety, biosafety
- Secure and ethical data use, contemporary ethical issues in biomedical research
- Scientist as a responsible member of society
Recipients of awards from the National Science Foundation (NSF), the USDA National Institute of Food and Agriculture (NIFA), and the National Institutes of Health (NIH) are required to comply with specific requirements to ensure appropriate training in the responsible conduct of research. Researchers applying for, and receiving, support from NSF, NIFA, and the NIH shall be familiar with these requirements, and must provide documentation of appropriate training as required under the terms of the award. Regardless of funding, however, these core ethical values are expected to be upheld in all research conducted at NM Tech.

Definitions

Responsible Conduct of Research (RCR)

The practice of scientific investigation with integrity." It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.

The America COMPETES Act
govinfo.gov/content/pkg/PLAW-110publ69/html/PLAW-110publ69.htm

The America Creating Opportunities for Manufacturing, Pre-Eminence in Technology and Economic Strength Act of 2022. The America COMPETES Act authorizes a telecommunications-sector workforce-training grant program, Improving Minority Participation and Careers in Telecommunications Act (IMPACT), for minority-serving institutions to develop job-training programs in partnership with industry, Registered Apprenticeships, or labor organizations. The bill also accelerates efforts to increase diversity and inclusion in STEM by providing research on participation and trajectories of historically underrepresented groups, raising awareness within federal science agencies and higher-education institutions about barriers faced by these groups, and identifies and implements best practices to lower these barriers while creating grants for higher-education institutions to implement reforms to increase diversity.

The Act can be found here:
The CHIPS and Science Act of 2022

The Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (CHIPS Act), signed into law on August 9, 2022, is designed to boost US competitiveness, innovation, and national security. The law aims to catalyze investments in domestic semiconductor manufacturing capacity.

NMT Sponsored Projects Administration (SPA)
Provides pre-award and post-award fiscal administrative support to NM Tech faculty, staff and their sponsoring agencies. SPA acts as a liaison with all federal and non-federal auditors of sponsored research programs. SPA also monitors financial activity for compliance with the award's terms and conditions.

**Collaborative Institutional Training Initiative (CITI)**

A subscription service providing online research ethics training to members of the research community. [https://www.citiprogram.org/](https://www.citiprogram.org/).

**Principal Investigator (PI)**

Individual responsible for the preparation, conduct, and administration of a research grant, cooperative agreement, training or public service project, contract, or other sponsored projects.

**RCR Plan**

A guide to help Principal investigators, (PIs), develop appropriate RCR education plans in compliance with current NM Tech RCR requirements.

**NSF**

The National Science Foundation

**NIFA**

The United States Department of Agriculture (USDA) National Institute of Food and Agriculture.

**NIH**

The National Institutes of Health

**Responsible Conduct of Research (RCR) Requirements by Agency**

**NSF Requirements**

NSF has established a training requirement in RCR for all undergraduates, graduate students, postdoctoral fellows (postdocs), faculty, and other senior personnel supported by NSF projects. The requirements, implement provisions of the America COMPETES Act and the CHIPS and Science Act of 2022. The scope of the training requirements were recently expanded to include training in the areas of research security risks, federal export controls, and disclosure and reporting requirements.

At the time an NSF proposal is submitted, Sponsored Projects Administration (SPA) must certify
that NM Tech has a plan to provide appropriate training and oversight for students (undergraduate and graduate), postdoctoral fellows, faculty and senior personnel who will be supported by NSF, to conduct research. Plans are not required to be submitted with proposals but are subject to review upon request by NSF.

NSF has specified some of the content but not the mode of delivery of RCR training. Nonetheless, the agency has suggested that seminars, web-based programs, workshops and mentoring are some of the acceptable methods of delivery. NM Tech participates in the Collaborative Institutional Training Initiative (CITI), a subscription service providing online research ethics training to members of the research community. Therefore, all students, postdocs, faculty and other senior personnel supported by an NSF project are required to complete, at a minimum, CITI training in the RCR at https://www.citiprogram.org/.

NSF expects the RCR training to be delivered during the first year of an award; however, we highly recommend it be taken within 180 days of an individual starting work on the project to ensure integrity is maintained throughout.

**USDA NIFA Requirements for RCR**

USDA NIFA considers education in RCR critical for excellence, as well as public trust, in science and engineering. The agency requires that program directors, faculty, undergraduate students, postdoctoral researchers, and any staff participating in the awarded research project receive appropriate training and oversight in the responsible and ethical conduct of research; documentation of such training must be maintained and provided to NIFA upon request.

NIFA specifies general requirements for RCR training and indicates that grantees consider CITI training specifically. Therefore, all required research personnel supported by NIFA are required to complete, at a minimum, the CITI online training in RCR at https://www.citiprogram.org/.

**NIH requirements for RCR**

NIH requires that all Institutional Research Training Grants, Individual Fellowship Awards, Career Development Awards (institutional and individual), Research Education Grants, Dissertation Research Grants or other grant programs with a training component include a plan for how the PI will carry out instruction in responsible conduct of research. Specifically, this applies to the following types of grants: 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, U2R. Although this plan does not affect overall impact scores, applications will be considered incomplete and will not be reviewed until an acceptable plan of instruction is submitted.

All trainees, fellows, participants, and scholars receiving support are required to complete RCR training. Instruction should include **face-to-face** discussions. Substantial face-to-face discussion, a combination of didactic and small-group discussions (e.g. case studies), and
participation of research training faculty members in instruction are highly encouraged. A minimum of 8 contact hours are considered to be substantive (a semester-long series of seminars/programs is ideal). Instruction must be undertaken at least once during each career stage (undergraduate, post-baccalaureate, predoctoral, postdoctoral, faculty), but no less than once every four years. Additionally, “a more tailored, discipline-specific approach may better fit the needs of advanced graduate students and those who have transitioned to postdoctoral status” per the updated NIH guidance (NOT-OD-22-055).

NIH has not mandated specific subject requirements, but most acceptable plans have included conflict of interest and conflict of commitment; human subjects, animal, and safe laboratory practices; safe research environments, mentor/mentee responsibilities and relationships; collaborate research; peer review; data acquisition and analysis and lab tools, secure and ethical data use, data confidentiality and management, sharing and ownership; research misconduct; responsible authorship and publication; and scientist as a responsible member of society. (NIH's requirements and NOT-OD-22-055)

Policy

All faculty, postdocs, grad students, senior personnel on funded research, and any undergrads participating in research must complete basic RCR training. Basic RCR Training (can be achieved with either option “1” or option “2,” or by an appropriate combination):

1. Online CITI RCR program
   a. Authorship
   b. Collaborative Research
   c. Conflicts of Interest
   d. Data Management
   e. Mentoring
   f. Peer Review
   g. Plagiarism
   h. Research Involving Human subjects or animal subjects
   i. Research Misconduct

2. Attend Course/Seminar Series: face-to-face instruction over the following subject matter
   a. Authorship
   b. Collaborative Research
   c. Conflicts of Interest
   d. Data Management
   e. Mentoring
   f. Peer Review
   g. Plagiarism
   h. Research Involving Human subjects or animal subjects
   i. Research Misconduct
Responsibilities

**Principal Investigator (PI):** It is the responsibility of the PI to ensure that appropriate training has been completed by all individuals associated with the funded work.

**Departments and Research Centers:** Every department and research center is required to send a report twice a year of all researchers and students subject to RCR requirements and proof that they are in compliance.

**Research Compliance Office:** The Research Compliance Office will maintain completion records centrally and send informational and reminder notifications regarding NIH RCR training requirements. The Research Compliance Office will also, on an annual basis, monitor compliance with the PI’s RCR plan.

Noncompliance

After each reporting period, Deans and cognizant Vice Presidents will receive an assessment report detailing the level of compliance in their areas. Noncompliance of funded researchers shall be reported to Sponsored Projects Administration and the VP for research.