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INNOVATION FOR A HEALTHIER PLANET

GUIDE TO RESEARCH INTEGRITY WITH UNDERGRADUATE RESEARCHERS

- Objectives
  - Acknowledge the significance of research integrity/RCR for undergraduate education
  - Define 6 core values of research and scholarship
  - Introduce simple guide to undergraduate RCR
  - Questions

Ethics is knowing the difference between what you have a right to do and what is right to do
- Potter Stewart

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SIGNIFICANCE OF RCR FOR UNDERGRADUATE EDUCATION

- Roughly 41% of UNE undergraduates engage in some sort of R/S experience during their time at UNE.

- UGR/S is fundamentally a pedagogical approach to teaching and learning CUR).

- RCR training for undergraduates falls under new NSF requirements

- Instilling the importance of research integrity should be part of your goal as a mentor.

6 CORE VALUES OF RESEARCH AND SCHOLARSHIP

- Objectivity
- Honesty
- Openness
- Accountability
- Fairness
- Stewardship

Click to access NIH description of 6 core values

- At UNE, **safety** is an additional core value.
  - prioritize safe environments and safe behaviors, including completing safety trainings.

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SIMPLE GUIDE FOR RCER/RCR TRAINING WITH UNDERGRADUATES

- Simple guide developed to assist researchers who oversee the work of undergraduate trainees.

- Begins with the core values of research integrity, followed by basic concepts/topics for discussion.

- Oversight and roles
- Time management
- Communication
- Safety and safety trainings
- Professional and respectful behavior

- Data management
- Research misconduct
- Authorship
- AI writing tools (e.g., LLMs)
- RCR trainings

BASIC CONCEPTS/TOPICS FOR DISCUSSION

- Oversight and roles
  - Find out early who will be overseeing your learning, who you should go to with questions, seek advice from, and look to for guidance in your work. It may be one person or several individuals.

- Time management
  - Managing time effectively reduces the likelihood that you will rush through experiments or cut corners to meet a deadline.
  - If you have concerns about time management click here

BASIC CONCEPTS/TOPICS FOR DISCUSSION

- Communication
  - Individual responsibilities and duties; On-going progress on project; Problems/mistakes/concerns; Unexpected results
  - Mistakes are common– honesty can help you improve

- Safety
  - Complete all required safety trainings (e.g., Laboratory Safety, CITI training, etc.)
  - Reach out to Human Resources(hr@une.edu) for a list of required safety trainings

- Professional and respectful behavior
  - Research team members should be treated with respect
  - UNE's policy on research misconduct can be found here and UNE's Office of Title IX and Civil Rights Compliance can be found here, including reporting locations and resources.

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BASIC CONCEPTS/TOPICS FOR DISCUSSION

- Data management
  - The integrity of research depends on accurate, organized, complete, and accessible data

- Research misconduct
  - Misconduct: *the knowing, intentional or reckless fabrication, falsification, or plagiarism in the conduct of scholarly activity.*
  - UNE policy
  - Avoiding plagiarism, self-plagiarism, and other questionable writing practices

BASIC CONCEPTS/TOPICS FOR DISCUSSION

- Authorship
  - Significant contributions to at least one of the following areas:
    - Theoretical development, concept, or design
    - Execution of the work
    - Modeling or simulation of processes
    - Analysis and interpretation of data
    - Preparation and revision of the manuscript

- AI writing tools (LLMs – like ChatGPT)
  - Ask what, if any, use is acceptable and how it should be disclosed and cited.

ADDITIONAL RCR MENTORING RESOURCES

- UNE RCR trainings
  - Events
- AI Ethics
  - Hosseini, M., Resnik, D. B., & Holmes, K. (2023). The ethics of disclosing the use of artificial intelligence tools in writing scholarly manuscripts. *Research Ethics* https://doi.org/10.1177/17470161231180449
- Health and Human Services (HHS) ORI
  - RCR Research mentoring
- NIH
  - https://oir.nih.gov/sourcebook/ethical-conduct/responsible-conduct-research-training
- American Psychological Association (APA)
  - Responsible Mentoring

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Special thanks to current and past members of the Self and Close Relationships Lab