

## Responsible Conduct of Research (RCR) Training Modules

Enrolment & Start the RCR course:

<https://www.citiprogram.org/index.cfm?pageID=14>

Starting from Spring 2022-23, all UROP students are required to **complete an online training of “Responsible Conduct of Research” (RCR), which includes 10 required (Modules 1-10) and supplemental modules** (if any, as required by individual supervisors), as a compulsory learning activity of UROP. A list of required and supplemental modules and their description are listed as follows.

No.	Module	Required (R)/ Supplemental (S)
1	Introduction to RCR	R
2	Authorship	R
3	Collaborative Research	R
4	Conflicts of Interest	R
5	Data Management	R
6	Mentoring	R
7	Peer Review	R
8	Plagiarism	R
9	Research Involving Human Subjects	R
10	Research Misconduct	R
11	Environmental and Social Dimensions of Engineering Research	S
12	Research, Ethics, and Society	S
13	Reproducibility of Research Results	S
14	Communicating with the Public	S
15	Presentation of Research Findings	S
16	Using Animal Subjects in Research	S

### **Key**

R=Required modules that must be taken

S= Supplemental modules that must be taken as required by project supervisors (if any)

The UROP Office will inform separately students who are required to take any supplemental modules within the first week after the end of the add/drop period. Students are required to watch all the lecture videos and complete the quizzes of all 10 required and supplemental modules (if any) **within one month after the end of the add/drop period**, at the latest. Students must submit the completion report to the UROP Office via email at [urop@ust.hk](mailto:urop@ust.hk) **within one week after the deadline.**

To complete the RCR training, students should complete the quiz (3-5 MC questions) at the end of each required (and supplemental) module and obtain **at least 80% for each**. Quizzes can be re-attempted as many times as needed until the requirement is met. **Students who fail the RCR training course will receive a Fail grade in the UROP course.**

## Module descriptions

Details: <https://about.citiprogram.org/course/responsible-conduct-of-research-basic/>

### 1. Introduction to RCR

Introduces concepts and principles relating to what has come to be known as the Responsible Conduct of Research (RCR), and provides an overview of the subject matter covered in this course.

### 2. Authorship

Provides an overview of the ethical responsibilities of authors. It also discusses the criteria used to determine authorship, the range of acceptable authorship practices, circumstances where acknowledgement is appropriate, and challenging and problematic authorship practices.

### 3. Collaborative Research

Discusses the ethical issues relating to collaborative research partnerships. It also includes a discussion of issues related to collaborating with researchers from other disciplines and with industry.

### 4. Conflicts of Interest

Describes the different types of conflicts of interest, conflicts of commitment, reasons why conflicts of interest and commitment can be problematic, and strategies that may mitigate or eliminate the impact of conflicts of interest.

### 5. Data Management

Discusses the ethical issues associated with data, including data collection, management, sharing, ownership, and protection.

### 6. Mentoring

Discusses the ethical responsibilities of mentors and trainees. Specifically covered are the roles of an advisor, supervisor, and mentor, as well as strategies for managing conflicts between mentors and trainees.

### 7. Peer Review

Focuses on the ethical responsibilities of authors, editors, and reviewers of manuscripts, as well as a discussion of the grant proposal review process.

### 8. Plagiarism

Discusses plagiarism, a major violation of academic integrity standards and research misconduct. It presents learners with a detailed discussion of what constitutes plagiarism, the parameters of plagiarism, the basic principles of scholarship, the distinction between summarizing and paraphrasing, and proper citation usage.

### 9. Research Involving Human Subjects

Provides an introduction to ethical and regulatory issues relating to the participation of human beings in research. It includes a description of the informed consent process and the Common Rule—a set of regulations adopted by a number of U.S. federal agencies.

### 10. Research Misconduct

Describes the three practices (fabrication, falsification, and plagiarism) that constitute research misconduct and the steps that can be taken to handle allegations of research misconduct.

### **11. Environmental and Social Dimensions of Engineering Research**

Provides an overview of the responsibilities that engineering researchers have when it comes to environmental and social considerations. It includes a discussion of moral development, risk, and sustainability.

### **12. Research, Ethics, and Society**

Introduces social responsibilities of researchers. The discussion includes the meaning of social responsibility, why researchers have social responsibilities, and how researchers can act on their social responsibilities.

### **13. Reproducibility of Research Results**

Discusses factors that contribute to the lack of reproducibility and the resulting problems that can emerge. The module also describes the stakeholders affected by reproducibility problems, a collection of reproducibility initiatives, and strategies that can mitigate or prevent irreproducibility.

### **14. Communicating with the Public**

Provides an in-depth discussion on communicating research results to the public, including approaches for making results more understandable to different audiences.

### **15. Presentation of Research Findings**

Discusses how to present research findings accurately for publication, including strategies for preparing figures, graphs, and digital images.

### **16. Using Animal Subjects in Research**

Provides an introduction to ethical and regulatory issues relating to the use of animal subjects in research. It includes a description of federal regulations governing how research with animal subjects should be conducted.