

Training Document

# Research Integrity Training Modules

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Ryerson  
University

Start

# About the modules

## About the modules

Standards of scholarly, research and creative (SRC) integrity are always evolving. Institutional environments continue to intensify and diversify, posing new opportunities and challenges to researchers.

In response to the dynamic nature of the SRC enterprise, the topic of research integrity is gaining momentum across institutions, nationally and internationally, spurring discussion about what constitutes integral research practices and how best to promote research integrity. One advancement is the implementation of institutional SRC integrity policies, bringing awareness to university communities about the scope and expectations of best practices in SRC integrity.



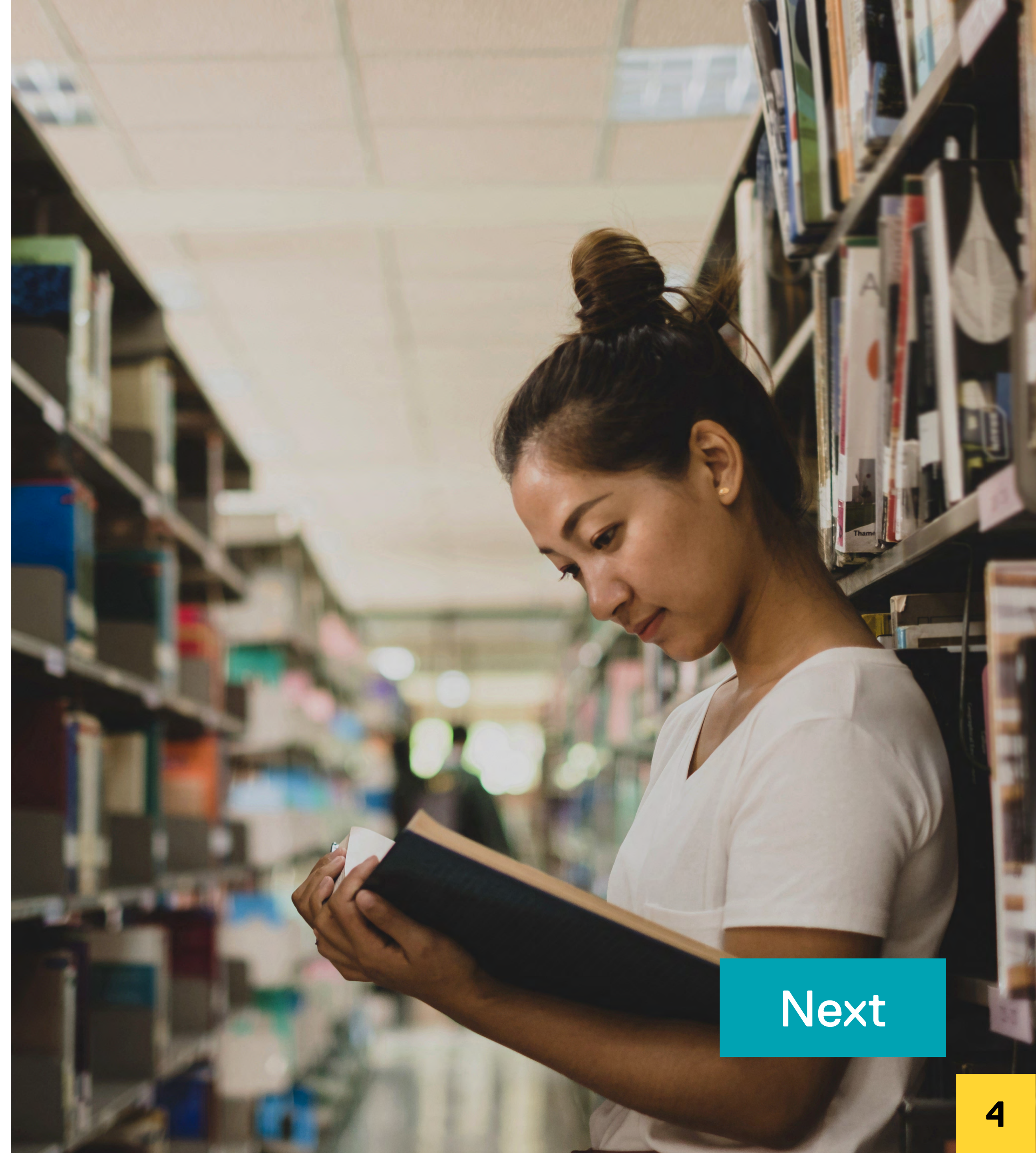
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## About the modules

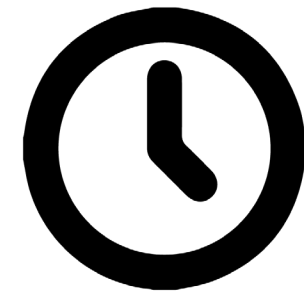
There is currently a need for new resources, such as educational tools and case studies, for the SRC community to proactively engage with the topic of research integrity and responsible conduct of research. This training guide sets out to inform the University's SRC community of best practices in research and prompt reflection on the topic of research integrity.

### Learning outcomes

- Recall the values and principles of research integrity
- Understand the key responsibilities of researchers
- Identify the challenges of research integrity
- Reflect on strategies for dealing with issues of research integrity



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The **four modules** in this training guide are self-paced and can be completed according to your own time and schedule.



Upon completion and submission of your information, a **Certificate of Completion** will be emailed to you.

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# Introduction

Responsible conduct of research or research integrity is the behaviour expected of anyone who conducts or supports research activities throughout the life cycle of a research project<sup>1</sup>.

Research integrity is commonly defined in opposition to research misconduct, where misconduct refers to unacceptable behaviours such as plagiarism, the falsification of data, and the fabrication of data<sup>2</sup>. Research integrity encompasses how a researcher leads with integrity.

1. Government of Canada (2021). Tri-Agency Framework: Responsible Conduct of Research (2021).  
2. Hickling Arthurs Low (2009). The State of Research Integrity and Misconduct Policies in Canada.



Next



Research integrity can also be defined in relation to research ethics. The two key concepts can be broadly defined as follows<sup>3</sup>:

**Research ethics:** doing research with responsibility, particularly towards participants, colleagues, employers, funders, and society.

**Research integrity:** doing research in ways that underpin confidence in the results, the researchers, and the research community.

The University's [Policy 51: Ethical Conduct for Research Involving Human Participants](#) ensures all members of the University comply with federal, provincial, and municipal legislation regarding SRC activities. If you have any questions or concerns relating to the ethics of your SRC endeavour, it is best to contact the [Research Ethics Board \(REB\)](#) at the University. The REB is responsible for approving all SRC projects involving humans to ensure the protection of all research participants.

<sup>3</sup>. Carling, J. (2019) Research ethics and research integrity, MIGNEX Handbook Chapter 4 (v1). Oslo: Peace Research Institute Oslo.

The changing nature of SRC activity and its fast-paced environment have renewed attention to the topic of research integrity over the last decade. Research is an increasingly collaborative endeavour, interdisciplinary, and global in scope. The expectations for rigorous, sound, scientific evidence are heightened in this age of information where technological advances permit new ways to conduct and disseminate research and results.

Emerging in this landscape are unique regulatory, ethical, and cultural challenges, such as different norms and values that may shift the purpose and use of research, or collaboration among diverse communities that may pose difficulties to the project design or implementation<sup>4</sup>. In response to the increasingly global research climate, there are efforts to understand the shared values of research integrity and to standardize research integrity from country to country<sup>5</sup>.

4. Nichols-Casebolt, A. (2012). Research Integrity and Responsible Conduct of Research.

5. Rossouw, T.M., van Zyl, C. and Pope, A. (2014). Responsible conduct of research: Global trends, local opportunities.

**Emerging in this landscape are unique regulatory, ethical, and cultural challenges**

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The urgency to better promote research integrity on a global scale is reflected in the creation of the bi-annual World Conference on Research Integrity (WCRI) and, more recently, the Hong Kong Principles, a guide for assessing researchers developed at the 6th WCRI<sup>6</sup>. The convening of stakeholders at national and international conferences reveals the complexity of the topic, as what constitutes integral research practices, policies, and formal procedures continues to be debated. Scholars, for example, cite the intense research environment, with unprecedented productivity pressures, as a contributing factor to misconduct in research<sup>7</sup>.

This training module seeks to inform individuals on their roles and responsibilities as it relates to ethical conduct in SRC practices at the University. Informed by the University's [Scholarly, Research, and Creative \(SRC\) Integrity Policy 118](#) and the [Tri-Agency Framework: Responsible Conduct of Research \(2021\)](#), which ensures compliance with national standards of research integrity, this training module will detail positive research practices with the aim to support a strengthened culture of SRC integrity at the University. This means supporting faculty, graduate students, and all research personnel in their SRC environments by advancing the values of research integrity.



Next

6. Moher, D., Bouter, L., Kleinert, S., Glasziou, P., Sham, M.H., Barbour, V., Coriat, A.-M., Foeger, N. and Dirnagl, U. (2020). The Hong Kong Principles for assessing researchers: Fostering research integrity.

7. Hickling Arthurs Low (2009). The State of Research Integrity and Misconduct Policies in Canada; Rossouw, T.M., van Zyl, C. and Pope, A. (2014). Responsible conduct of research: Global trends, local opportunities.

# Definitions<sup>8</sup>

### **Accountability**

Being responsible and answerable for one's actions

### **Conflict of interest**

Refers to an apparent or perceived conflict between the interests related to SRC activity and other interests

### **Fairness**

Being impartial and using sound judgment, free of prejudice and favouritism

### **Honesty**

Being straightforward, and free of fraud and deception

### **Openness**

Being transparent in process and practice, as characterized by visibility or accessibility of information

### **Research cycle**

A research cycle involves all of the processes of a research project from idea to dissemination, including the project's goal, methods for data collection, and plans for communicating results

### **Research integrity**

Refers to the conduct of individual researchers according to one's behaviours, attitudes, and practices throughout the research process

<sup>8</sup>. Definitions drawn from the following resources: Council of Canadian Academies (2010). "Honesty, Accountability and Trust: Fostering Research Integrity in Canada / The Expert Panel on Research Integrity"; Rossouw, T.M., van Zyl, C. and Pope, A. (2014). Responsible conduct of research: Global trends, local opportunities; Ryerson University Scholarly, Research, and Creative (SRC) Integrity Policy 118.

## **Research misconduct**

Refers to unacceptable behaviours such as plagiarism, the falsification of data, and the fabrication of data

## **Rigour**

Scholarly and scientific attention to detail in proposing and performing research; in recording, analyzing, and interpreting data; and in reporting and publishing accurate data and findings

## **Trust**

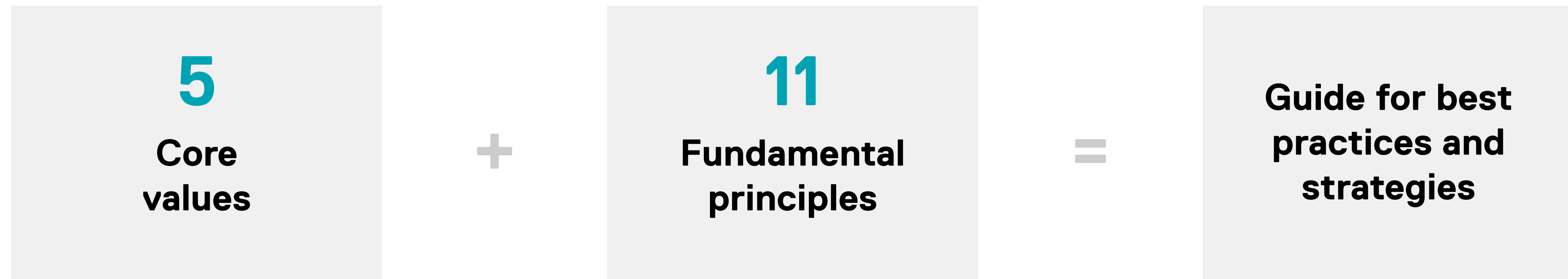
Being reliable, as a person or institution, through character and action

Next

# Principles of SRC integrity

In 2010, an expert panel on research integrity was formed to assess and provide guidance on research integrity in Canada.

Emerging from the research conducted by the Council of Canadian Academies is a set of **five core values**: honesty, fairness, trust, accountability, and openness. Additionally, **11 fundamental principles**<sup>9</sup> were detailed to describe how to enact and pursue research with integrity, such as knowing one's level of competence and limitations and acting accordingly. These principles are reflected throughout the modules and can serve as a guide of best practices and strategies for navigating issues of SRC integrity.



Next

<sup>9</sup>. All principles are drawn from: Council of Canadian Academies (2010). "Honesty, Accountability and Trust: Fostering Research Integrity in Canada / The Expert Panel on Research Integrity".

The following 11 principles will be featured in each training module to highlight their relevance to particular research integrity matters.



### Principle 1

**Conduct research in an honest search for knowledge.** A fair, open, and reliable approach to all activities supports, funds, or otherwise encourages research.

*Honesty*

*Fairness*

*Trust*

*Openness*

Next



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## Principle 2

**Foster an environment of research integrity, accountability, and public trust.**

Individuals and organizations at all levels should take responsibility for creating, implementing, maintaining, and complying with policies and practices designed to ensure accountability and the maintenance of public trust.

*Trust*

*Accountability*

Next



## Principle 3

**Know your level of competence and your limitations, and act accordingly.** Ensure you have the appropriate expertise and experience to participate in a given area of research or research administration.

*Honesty*

*Trust*

*Accountability*

Next

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## Principle 4

**Avoid conflicts of interest, or if they cannot be avoided, address them in an ethical manner.** Personal and institutional conflicts of interest, or the appearance of conflict of interest, should be avoided. When unavoidable, each instance should be identified, disclosed, carefully examined, and managed in such a way as to avoid any corruption of the research process.

*Trust*

*Accountability*

*Openness*

Next

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## Principle 5

**Use research funds responsibly.** Individuals and organizations at all levels should ensure the responsible allocation and management of research funds in accordance with sound academic and financial principles.

*Honesty*

*Accountability*

Next

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## Principle 6

**Review the work of others with integrity.** Individuals and organizations should engage in, organize, peer review, and evaluate the work of others in a manner that reflects the highest scholarly, professional, and scientific standards of fairness and confidentiality.

*Fairness*

*Trust*

Next



## Principle 7

**Report research in a responsible and timely fashion.** Publications, including clear statements of data and methodology, as well as research activities and research results, should not be unduly delayed or intentionally withheld. These considerations should be configured within each discipline's own time frame.

*Trust*

*Openness*

Next

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## Principle 8

**Treat data with scholarly rigour.** The highest levels of exactitude should be ensured in proposing, performing, recording, analyzing, interpreting, reporting, publishing, and archiving research data and findings. The appropriate authorities, as mandated by applicable standards or regulations, should retain a copy of research records.

*Honesty*

*Accountability*

Next

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## Principle 9

**Treat everyone involved with research fairly and with respect.** All individuals and institutions directly affected or involved in research, including human subjects and animals, should be treated fairly and with respect. Relevant regulations and applicable Tri-Agency and institutional policies should be followed and guided by common principles and values.

*Fairness*

*Trust*

Next



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## Principle 10

**Acknowledge all contributors and contributions in research.** All contributors and contributions to research and research results, including financial contributions, should be acknowledged fairly and accurately whenever research is communicated.

*Fairness*

*Accountability*

*Openness*

Next

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## Principle 11

**Engage in the responsible training of researchers.** Research investigators, particularly new scholars, should have access to education, mentoring, and support to develop and maintain the skills and capacities required for conducting and managing research in accordance with relevant scholarly and ethical standards. An individual's level of responsibility should be commensurate with their competence and experience.

*Fairness*

*Trust*

Next

# About the Modules

**The four e-learning modules will direct the SRC community on:**

- Module 1: Study formulation and research design
- Module 2: Research conduct and analysis
- Module 3: Research dissemination and publishing
- Module 4: Financial reporting and grant management

Each module is elaborated from and informed by the [University's Policy 118](#) and the [Tri-Agency Framework: Responsible Conduct of Research \(2021\)](#). The modules will address the topic of SRC integrity to detail how it operates within each stage of the research process. A case study and a quiz will accompany each module to prompt further learning on the topic. In completing each module, users will have considered how to lead with integrity while engaging in SRC activities.



Next

# Module 1: Study formulation and research design



SRC integrity is foundational at every stage of the research process. This begins with study formulation and design.

**The beginning stages of research may entail:**

- Conceptualizing a research project
- Conducting preliminary background research
- Identifying research methods
- Establishing research partners (if required)
- Securing funding (if required)

When making decisions about the many variables involved in this stage, including one's research questions, goals, and available resources, it is the responsibility of all individuals in the SRC community to ensure that all SRC activities are undertaken “with independence and impartiality, free of any undue influence or conflict of interest” (Policy 118, Article 6.3).

Next



# Considerations to lead with integrity

- It is critical to lead with honesty and treat all research collaborators with respect.
- At the onset of a research project, it is critical for all members of the research team to evaluate their strengths and weaknesses, and to identify a clear role in the project. Specific training and mentoring may be required to orient new and existing team members to a research project.
- At the inauguration of a project, supervisors and research leads have an important role to play in ensuring guidelines are followed and team members are adequately supported.
- Researchers are responsible for obtaining any required approvals for research involving human participants, human biological materials, and animals. Additional guidance may be required concerning research involving Indigenous Peoples. See the additional resources page.
- Ensure from the planning stage that there is a clear research data management plan, including the secure storage of all data. For more information, see [the services and supports for research data management available at the Library](#).
- All information included in a grant application must be true, complete, and accurate.

Next

# Case study

### **Allegation:**

Plagiarism in a grant application<sup>10</sup>

### **Findings:**

R, a faculty member, submitted an application for funding that contained a sufficient amount of uncited text from 10 publications by other authors. However, most of the publications were included in the reference list. A Research Fellow in R's lab had inserted the uncited texts. The Fellow admitted their errors and confirmed the errors were made without R's knowledge. However, as a Principal Investigator, R failed in their duty to supervise the Fellow. During the investigation, R directed the Fellow to attend a course on research practices and R acquired plagiarism detection software.

### **Breach:**

Plagiarism

(Tri-Agency Framework: Responsible Conduct of Research, Article 3.1.1.d)

<sup>10</sup>. Case study from: Government of Canada's Panel on Responsible Conduct of Research. File 12.  
[https://rcr.ethics.gc.ca/eng/education\\_summaries-dossiers.html](https://rcr.ethics.gc.ca/eng/education_summaries-dossiers.html)

Next

### **Institutional disposition:**

- Directed R to submit grant applications, with evidence of software screening, to an administrative official at the Institution, for approval, for three years;
- Placed a letter on R's file for three years stating that any further incident would result in the revocation of R's privileges to submit grants;
- Prohibited the Fellow from submitting grants on their own for five years;
- Placed a letter on the Fellow's file for three years stating that any further incident would result in dismissal; and developed case-based training learning modules for faculty on issues such as authorship, publication practices, and plagiarism.

### **Agency recourse:**

- Issued a letter of reprimand to R reminding them that, as the Fellow's supervisor, R had a responsibility to review the Fellow's work;
- Declared the Fellow ineligible to apply for Agency funding for five years; and
- Issued a letter to the Institution expressing concern with the lack of supervision associated with this file and stressing the importance of collective responsibility, not only of researchers and students, but also of institutions in the responsible conduct of research.

Next



## Reflection questions

1. Have you ever been unsure about your or a team member's use of citations in a publication or grant application?
2. Have you ever had difficulty upholding high research standards when working with a research collaborator?
3. What are your integrity review processes when working with students, fellows, or collaborators?

Next

# Test for understanding

Begin

You are submitting a proposal for a grant to the same funding body that funded your last research project. This proposal builds upon your latest research findings. It is reasonable to incorporate your published research without citation because you are the lead of both the research paper and project, and the funding body is already familiar with your work.

True

**or**

False



**‘False’ is correct.** Incorporating your published research without citation would be a breach of SRC integrity, directly relating to Breach 7.4 in Policy 118. Accurate referencing is a key responsibility of a researcher as outlined in the Tri-Agency Framework on the Responsible Conduct of Research (2021). Accurate referencing refers to “Referencing and, where applicable, obtaining permission for the use of all published and unpublished work, including theories, concepts, data, source material, methodologies, findings, graphs and images”.

*Self plagiarism: Publishing your own previously published research results, ideas, opinions or theories as new without proper citation or referencing of the prior work.*

Advance >

**✘ Incorrect**

**'True' is incorrect.**

Try again



You may list collaborators and partners in a new grant application without their knowledge if you have worked with them before.

True

**or**

False

 **Correct**

**‘False’ is correct.** Listing collaborators and partners in a new grant application without their knowledge would be a breach of SRC integrity, directly relating to Breach 7.17.3 in Policy 118 and section 3.1.2 Misrepresentation in an Agency Application or Related Document in the Tri-Agency Framework on the Responsible Conduct of Research (2021).

*Misrepresentation in a grant application or related document including: Listing of co- applicants, collaborators or partners without their agreement.*

Advance >

**✘ Incorrect**

**'True' is incorrect.**

Try again





# Module 2: Research conduct and analysis



SRC integrity is reflected in the individual's conduct throughout the research project, relating to one's orientation, attitude, and behaviours that they apply to the management of a research project.

Integrity during this stage of research will be imperative to the management of students and staff throughout the data collection process, as well as ensuring the confidentiality and privacy of all participants involved.

Data analysis entails the application of a logical technique to describe and evaluate data. This iterative process emphasizes transparency and accuracy to ensure the methods applied to data collection and analysis are replicable. The analytical stages of research may present challenges to researchers as they grapple with the presentation of data or perhaps data that is missing, includes outliers, or is altered.

Next



# Considerations to lead with integrity

- Research rigour is required to maintain transparency and accuracy throughout the data collection process.
- A strict ethics of care should be considered in interactions with research participants and collaborators. All research participants and collaborators should be treated with the utmost respect.
- Conducting research requires attention to detail and effective communication among research team members to ensure the progress of a project.
- The adoption of set practices to maintain quality assurance will allow researchers to share data and findings in a timely manner.
- Scholarly rigour and honesty must be applied to ensure data is represented honestly.
- For example, record keeping is a key responsibility of a researcher as outlined in the Tri-Agency Framework on the Responsible Conduct of Research (2021). Record keeping means “keeping complete and accurate records of data, methodologies and findings, including graphs and images, in accordance with the applicable funding agreement, institutional policies, laws, regulations, and professional or disciplinary standards in a manner that will allow verification or replication of the work by others”.

Next

# Case study

### **Allegation:**

Data fabrication in a Ph.D. dissertation<sup>11</sup>

### **Findings:**

R, a doctoral student, deliberately falsified the identity of the majority of the participants in their research and then fabricated the resulting participant data. R submitted an article for publication based on the falsified data. R misled the project's research assistants and asked them to make false statements to R's faculty supervisor. R withdrew the manuscript submitted for publication.

### **Breach:**

Fabrication (Tri-Agency Framework: Responsible Conduct of Research, Article 3.1.1.a)  
Falsification (Tri-Agency Framework: Responsible Conduct of Research, Article 3.1.1.b)

<sup>11</sup>. Case study from: Government of Canada's Panel on Responsible Conduct of Research. File 44.  
[https://rcr.ethics.gc.ca/eng/education\\_summaries-dossiers.html](https://rcr.ethics.gc.ca/eng/education_summaries-dossiers.html)

Next

### Institutional disposition:

- Expelled R, with no possibility of re-admission.

### Agency recourse:

- Terminated R's Agency scholarship award;
- Required R to reimburse Agency funding already disbursed;
- Declared R permanently ineligible to apply for Agency funding; and
- Required the Institution to reimburse any funds remaining in R's scholarship award account.

Next

# Reflection questions

1. What are some review processes you have in place when developing a research project?
2. Have you ever had a conflict with a research partner at a different institution, either nationally or globally, when designing a research study? How was this resolved?
3. Can you describe the communication best practices you use to liaise with research collaborators?

Next

# Test for understanding

Begin

You have been interviewing a participant over the course of six months and have come to know them very well. You realize that one recording was inadvertently corrupted. You decide to elaborate on some of the details the participant has shared with you in the interview transcript because you're quite confident you know what they would say. Is this an example of:

**A** Fabrication and falsification

**B** Self plagiarism

**C** Plagiarism

**D** None of the above





**‘Fabrication and falsification’ is correct.** Elaborating on some of the details the participant has shared with you in the interview transcript is an example of Breach 7.1 and 7.2 in Policy 118:

*Fabrication: Making up data, source material, methodologies or findings, including graphs and images.*

*Falsification: Manipulating, changing, or omitting data, source material, methodologies or findings, including graphs and images, without appropriate acknowledgement, such that the research record is not accurately represented.*

Advance >

**✘ Incorrect**

**‘Self Plagiarism’ is incorrect.** Self Plagiarism: Publishing your own previously published research results, ideas, opinions or theories as new without proper citation or referencing of the prior work.

Try again

**✘ Incorrect**

**‘Plagiarism’ is incorrect.** Plagiarism: Falsely claiming someone else’s words, work or ideas as one’s own.

*Plagiarism: Presenting and using another’s published or unpublished work, including theories, concepts, data, source material, methodologies or findings, including graphs and images, as one’s own, without appropriate referencing and, if required, without permission.*

Try again

**✘ Incorrect**

**‘None of the above’ is incorrect.**

Try again



You just had an unpleasant exchange with an interview participant. Because you thought the interview went poorly, you decide to omit the interview transcript from the dataset. Is this an example of:

**A** Fabrication

**B** Falsification

**C** Plagiarism

**D** None of the above

 **Correct**

**B ‘Falsification’ is correct.** Omitting the interview transcript from the dataset is an example of Breach 7.2 in Policy 118:

*Falsification: Manipulating, changing, or omitting data, source material, methodologies or findings, including graphs and images, without appropriate acknowledgement, such that the research record is not accurately represented.*

Advance >

**✘ Incorrect**

**D 'None of the above' is incorrect.**

Try again



**✘ Incorrect**

**A 'Fabrication' is incorrect.**

*Fabrication: Making up data, source material, methodologies or findings, including graphs and images.*

Try again



**✘ Incorrect**

**C 'Plagiarism' is incorrect.**

*Plagiarism: Presenting and using another's published or unpublished work, including theories, concepts, data, source material, methodologies or findings, including graphs and images, as one's own, without appropriate referencing and, if required, without permission.*

Try again

# Module 3: Research dissemination and publishing



The publication stage of research entails the preparation and presentation of research findings.

This stage of research is guided by the principles of openness and transparency as publishing valid research is a critical step to maintain and uphold the public's trust in the scientific community.

SRC integrity is of importance in this phase when considering how to protect your data, how to acknowledge all authors and collaborators, and how to portray your research honestly.

Next



# Considerations to lead with integrity

- Store data securely. Protect research data by ensuring that only research team members have access to the data.
- Disseminating research findings may be a collaborative endeavour. To avoid conflict, detail the roles, rights, and responsibilities amongst all contributors prior to the initiation of the project.
- Ensure that all authorship or inventorship is duly acknowledged.
- Apply rigour to the referencing and citing of other published work.
- In evaluating the platform and type of engagement that will have the most reach and impact, be cautious of predatory journals. [The University Library provides more information on predatory journals in its guide to selecting journals for publication.](#)
- Consider your role and responsibilities for sharing results with SRC participants and relevant communities.

Next

# Case study

### **Allegation:**

Invalid experimental results published in a journal article<sup>12</sup>

### **Findings:**

A publication by R, a faculty member, contained two errors: an inaccurate legend in a figure and a calculation error. An investigation concluded that the errors were a result of inattention, not dishonesty or intent to deceive, and the errors did not affect the results of the research.

### **Breach:**

Lack of rigour

(Tri-Agency Framework: Responsible Conduct of Research, Article 3.1.1)

<sup>12</sup>. Case study from: Government of Canada's Panel on Responsible Conduct of Research. File 17.  
[https://rcr.ethics.gc.ca/eng/education\\_summaries-dossiers.html](https://rcr.ethics.gc.ca/eng/education_summaries-dossiers.html)

Next

### **Institutional disposition required R to:**

- Remind all members of their team of the importance of rigorous and objective use of research results which, if preliminary or incomplete, should be presented as such;
- Meet with all individuals in their lab regarding research practices; and
- Supervise more closely the activities in their lab and ensure that research results are verified.
- Given that the errors in the article were minor and had no impact on the validity of the results, the Institution did not require a retraction of the article.

### **Agency recourse:**

- Issued a letter of reprimand to R regarding their supervisory responsibilities;
- Required R to correct the research record, either through a corrigendum or retraction; and
- Issued a letter of reprimand to a doctoral student in R's lab, who was involved in the occurrence of the errors, for a lack of rigour.

Next

# Reflection questions

1. How do you define research rigour in the data collection, monitoring, and reporting processes?
2. As the research lead, what practices do you adopt to ensure rigour in research amongst all team members?
3. As a member of a research team, what training have you received with regard to practices of research rigour?
4. How do you define an undergraduate/graduate student's role in an SRC project? How do you ascertain SRC rigour in the process?

Next

# Test for understanding

Begin



Before you submit your final manuscript for publication, you decide at the last minute to list a part-time research consultant as a co-author. The research consultant is unaware of your additions to the manuscript and has not read the final version. This is a breach of research integrity.

True

**or**

False

 **Correct**

**‘True’ is correct.** Deciding at the last minute to list a part-time research consultant as a co-author is a breach of research integrity. This may lead to a misleading publication (Breach 7.15 of Policy 118) as there was a failure to obtain consent from the co-author before naming them, and the co-author may not have reviewed the final draft of the manuscript.

Advance >

**✘ Incorrect**

**'False' is incorrect.**

Try again

Your research team is under a lot of pressure and the funder is expecting your research report in just a few days. Your supervisor is tasked with many other responsibilities and advises you, the graduate student, to finish the report by any means necessary. Could the supervisor's request lead to a breach of research integrity?

Yes

**or**

No



**‘Yes’ is correct.** Finishing the report by any means necessary may lead to a breach of research integrity. Your supervisor may be contributing to a breach (Policy 118, Breach 7.16) which entails:

*Encouraging, directing or advising another researcher to commit a breach (e.g. a supervisor telling a graduate student to falsify data); or otherwise creating an environment that promotes a breach by another.*

*This also relates to Section 2.7 ‘Appropriate supervision and training in the conduct of research’ from the Tri-Agency Framework: Responsible Conduct of Research (2021) which entails that “All researchers are responsible for familiarizing themselves with principles of responsible conduct of research and for the application of these principles to foster a positive and constructive research-working environment. Researchers with oversight roles should provide appropriate supervision of, and training to, their trainees and research personnel in responsible conduct of research.”*

Advance >

**✘ Incorrect**

**'No' is incorrect.**

Try again

# Module 4: Financial reporting and grant management



To ensure accountability, individuals and institutions have a responsibility to report on all research activity and to use research funds responsibly.

It is critical that principal investigators ensure compliance with the standards of granting agencies. Due diligence is required when distributing research funds for various resources and equipment, as the funds will need to be reported and individuals will have to demonstrate the use of funds in support of SRC activities only.

Next



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4



5



# Considerations to lead with integrity

- Make all members of the research team aware of the guidelines established in the grant application.
- Lead with transparency and honesty in reporting research funding.
- All conflicts of interest that may affect a decision about a specific application or request for a grant or award must be disclosed in writing to the relevant funding sponsor by the applicant.
- Disclose and/or address material conflicts of interest to the University, sponsors, colleagues or journal editors when submitting a grant, protocol, manuscript or when asked to undertake a review of research grant applications, manuscripts or to test or distribute products<sup>13</sup>.

Next

13. Ryerson University Policy 118, Breach 7.14

# Case study

### **Allegation:**

Mismanagement of grant funds<sup>14</sup>

### **Findings:**

R charged a significant amount of ineligible expenses to their grant account. R was negligent in the management of research expenses, failed to keep proper receipts, and had not made themselves familiar with the Institution's or the Agency's financial procedures. However, R had not intended to breach the financial policies. As well, they cooperated with the investigation, expressed remorse, and were willing to rectify the problem.

### **Breach:**

Mismanagement of Agency grant or award funds  
(Tri-Agency Framework: Responsible Conduct of Research, Article 3.1.3)

<sup>14</sup>. Case study from: Government of Canada's Panel on Responsible Conduct of Research. File 59.  
[https://rcr.ethics.gc.ca/eng/education\\_summaries-dossiers.html](https://rcr.ethics.gc.ca/eng/education_summaries-dossiers.html)

Next

### **Institutional disposition:**

- Reimbursed the Agency and instituted a repayment plan with R;
- Suspended R for one month without pay; and
- Implemented additional financial controls.

### **Agency recourse:**

- Terminated R's grant; and
- Declared R ineligible to hold or apply for funding, or to participate in Agency peer-review processes, both for one year.
- The Agency informed the Institution that its inability to identify and rectify the issue within R's department over a period of several years fell below the standard expected of an eligible institution, but recognized the actions that the Institution had taken to ensure such an occurrence does not recur.

Next

# Reflection questions

1. Have you ever been unsure about eligible expenses attached to a grant?
2. Have you ever received training on how to manage grant funds?
3. What are the biggest challenges in managing grant funds?

Next

# Test for understanding

Begin

A conflict of interest must be disclosed when submitting:

**A** A grant application

**B** A research protocol

**C** A manuscript

**D** All of the above



**D 'All of the above' is correct.** A mismanagement of conflict of interest is a breach of research integrity at every stage of the research process, including grant application and its financial management. This is Breach 1.14 of Policy 118:

*Failure to disclose and/or address material conflicts of interest to the University, sponsors, colleagues or journal editors when submitting a grant, protocol, manuscript or when asked to undertake a review of research grant applications, manuscripts or to test or distribute products.*

Advance >

**✘ Incorrect**

**A 'A grant application' is partially correct.** A mismanagement of conflict of interest is a breach of research integrity at every stage of the research process, including the submission of a grant application.

Try again



**✘ Incorrect**

**B 'A research protocol' is partially correct.** A mismanagement of conflict of interest is a breach of research integrity at every stage of the research process, including the submission of a grant application.

Try again

**✘ Incorrect**

**C 'A manuscript' is partially correct.** A mismanagement of conflict of interest is a breach of research integrity at every stage of the research process, including the submission of a grant application.

Try again

Costs related to research dissemination, including web development and the translation of material, are an eligible expense.

True

**or**

False



**‘True’ is correct.** A range of activities related to research dissemination may be considered an eligible expense. For a list of all eligible expenses, expense categories, and explanations, please refer to the [Tri-Agency Financial Administration Guide](#) and the University’s web page on [Eligible Research Expenses](#).

Advance >

**✘ Incorrect**

**'False' is incorrect.**

Try again

# Additional resources

This module supports the promotion and information associated with the Tri-Agency Framework: Responsible Conduct of Research (2021) and the Scholarly, Research and Creative (SRC) Integrity Policy 118.

For clarification of any terms, please see the glossary outlined by the Tri-Agency Framework on the Responsible Conduct of Research and section 4.0 in the University's Policy 118.

## Supplemental readings:

- [Honesty, Accountability and Trust: Fostering Research in Canada](#)
- [Toolkit for Responsible Conduct in Research Creation](#)
- [The Hong Kong Principles for Assessing Researchers: Fostering Research Integrity](#)
- [What is a predatory journal?](#)
- [Reference Guide for Research Integrity](#)

Next

## **Research involving Indigenous communities:**

- [Guidelines for Research Involving Indigenous Peoples in Canada](#)
- [Chapter 9: Research Involving the First Nations, Inuit and Métis Peoples of Canada TCPS2 \(2018\)](#)
- [Social Sciences and Humanities Research Council of Canada \(SSHRC\), Indigenous Research](#)
- [Canadian Institutes of Health Research \(CIHR\), Guidelines for Health Research Involving Aboriginal Peoples](#)
- [The First Nations Principles of OCAP](#)

## **Supervisor responsibilities:**

- [Ryerson University Graduate Supervision Guidelines \(2018\)](#)
- [Tri-Agency Framework: Responsible Conduct of Research \(2021\) Section 2](#)

## **Student responsibilities:**

- [REB Student Bill of Research Rights and Responsibilities: Undergraduate students as researchers](#)

Next

# References

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**Hickling Arthurs Low (2009).** The State of Research Integrity and Misconduct Policies in Canada. HAL Innovation Policy Economics. Available at: [https://www.nserc-crsng.gc.ca/\\_doc/NSERC-CRSNG/HAL\\_Report\\_e.pdf](https://www.nserc-crsng.gc.ca/_doc/NSERC-CRSNG/HAL_Report_e.pdf)

**Moher, D., Bouter, L., Kleinert, S., Glasziou, P., Sham, M.H., Barbour, V., Coriat, A.-M., Foeger, N. and Dirnagl, U. (2020).** The Hong Kong Principles for assessing researchers: Fostering research integrity. PLOS Biology, 18(7), p.e3000737.

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**Rossouw, T.M., van Zyl, C. and Pope, A. (2014).** Responsible conduct of research: Global trends, local opportunities. South African Journal of Science, 110(1/2), pp.1–6.

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