Ethics and Scientific Integrity: University Policy, its Application and Recommendations

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Faculty of Graduate Studies and Research

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Topics to be covered:

- The Ethics and Academic Integrity Training Obligation
- Your obligation to know the rules
- Where to find the rules
- The Research and Scholarship Integrity Policy (R&SIP)
- General Recommendations
- Sources for Further Assistance
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We take ethics and intellectual property very seriously.

Since September 2004, every graduate student at the University of Alberta must undertake formal ethics and academic integrity training as a requirement for graduation. 

https://uofa.ualberta.ca/graduate-studies/current-students/academic-requirements/ethics

This obligation requires **at least** 8 hours of structured activity related to ethics and academic integrity.

• Faculty-specific and discipline-specific courses.

• Web-based course developed by the Faculty of Graduate Studies and Research.
FGSR Graduate Ethics Training (GET) Course

This is a web-based course covering such topics as:

• Conflict of Interest
• Conflict Resolution
• Intellectual Property
• Integrity and Scholarship
• Graduate Student-Supervisor Relationships
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Where do the rules come from?

Policies regarding research and scholarship integrity, as well as rules on student conduct, are established specifically by the university’s General Faculties Council (GFC).

GFC is a body comprised of representatives from all Faculties.

It also includes student representatives.

The University of Alberta’s “Research and Scholarship Integrity Policy” was developed by GFC and is included in your course package.
Another important document for graduate students is the **Graduate Program Manual** maintained by the Faculty of Graduate Studies and Research (FGSR).

The Graduate Program Manual is a compilation of the rules and procedures used for the administration of graduate programs at the University of Alberta. It also contains policies that have been approved by the appropriate governing bodies.

It can be reviewed and searched online at: [http://uofa.ualberta.ca/graduate-studies/about/graduate-program-manual](http://uofa.ualberta.ca/graduate-studies/about/graduate-program-manual)

Your department may also supplement the Calendar with a **Department-specific Graduate Manual**, or handbook, as well as information posted on a departmental website.
Your obligation to know the rules

The graduate program manual, section 1.1, states that:

“Graduate students are ultimately responsible for their own programs. They are expected to read the Calendar and any other relevant documents to become familiar with all regulations and deadlines relating to their programs.”

Section 1.1 goes on to state that the responsibilities of graduate students include ensuring that their registration is accurate and does not lapse, submitting appropriate forms to the department for signature and processing, and paying all fees required by the deadline dates set out in the Calendar.
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The Research and Scholarship Integrity Policy

“Excellence in research and scholarship depends on the creativity, hard work and dedication of its practitioners. It also depends on integrity. …”

“Even when untainted by fraud, scholarly work must meet other standards of ethics and integrity. Discoveries obtained through deceit, that disregard proper attribution of source material or the contributions of others, or that involve the violation or disregard of others’ rights, are antithetical to basic professional and scholarly values.”

https://policiesonline.ualberta.ca/PoliciesProcedures/Policies/Research-and-Scholarship-Integrity-Policy.pdf
“The University of Alberta is committed to ensuring the highest standards of practice and behaviour in research and scholarship integrity.”

Failure to adhere to these policies is misconduct and can have serious consequences. Violations of the Research and Scholarship Integrity Policy by graduate students can be subject to discipline under the Code of Student Behaviour.

http://www.governance.ualberta.ca/CodesofConductandResidenceCommunityStandards/CodeofStudentBehaviour.aspx
In addition:

Professional and scientific societies also have codes of ethics that need to be respected; and

Scientific journals have ethics requirements and rules on conflict of interest and data management that need to be respected. Increasingly, journals also have rules on authorship.
You have completed a significant piece of work and are ready to submit the paper for publication.

On one of the gel images, there is a bright spot and some smearing, not related to the data.

You have some experience from photoshop and are used to editing your photographs, so you clean up these defects in your figure before publication.

Is this data falsification? Why or why not?
Fundamental principle: Data management

“... apply standards of honesty and of scholarly and scientific practice in the collection, recording and analysis of data, whether quantitative or qualitative, and other information and in the dissemination of information, findings, and discoveries.”

Good practice:
Precise data collection, accurate records, well-organized

Misconduct:
Fabrication or falsification of data, “data cleaning”
**Fundamental principle:** Human and Animal Research Participants, use of stem cells

“… to observe ethical standards for the treatment of human and animal research participants and to obtain approval from the appropriate ethics review committee **BEFORE** research commences.”

**Good practice:**
Obtain approval from Research Ethics Board (REB)

**Misconduct:**
Unauthorized experiments, deviating from protocol without prior approval, conducting surveys without approval
**Fundamental principle:** Authorship and Acknowledgement

“… include as authors all persons and only those persons who made substantive scholarly or scientific contributions and who share responsibility for the final work intended for publication.”

“… recognize and acknowledge the contribution of all other collaborators.”

**Good practice:**
Agree on authorship early in the project.
Adjust when necessary

**Misconduct:**
Omit people who have made substantial contributions
Further Assistance:

FGSR Guidelines for Authorship
Section 10.2 of Graduate Program Manual
https://uofa.ualberta.ca/graduate-studies/about/graduate-program-manual/section-10-intellectual-property/10-2-guidelines-for-authorship

Intellectual Property Guidelines for Graduate Students and Supervisors at the University of Alberta (2004)
Section 10.1 of Graduate Program Manual
https://uofa.ualberta.ca/graduate-studies/about/graduate-program-manual/section-10-intellectual-property/10-1-intellectual-property-guidelines-and-agreement
Further Assistance:

Intellectual Property Guidelines for Graduate Students and Supervisors at the University of Alberta (2004)
Section 10.1 of Graduate Program Manual

This document suggests that co-authorship should be recognized when an individual has participated in a **significant** way in **at least 2** of the following 4 aspects of the research:

- conception of idea and design of experiment
- actual execution of experiment or hands-on lab work
- analysis and interpretation of data
- the actual writing of the manuscript
**Fundamental principle:** Responsibility of Authors

“… ensure that all co-authors of a work are aware of their responsibilities as co-authors, and to obtain the approval of all co-authors of the final content of the work intended for publication.”

**Good practice:**

All authors sign an appropriate form (some scientific journals require this)

**Misconduct:**

Manuscript is submitted without approval from all authors
**Fundamental principle: Cite the Work of Others**

“… **acknowledge** the prior art, intellectual property of others (including copyrights and patents); … **cite** appropriately the work of others; … use their writings, discoveries, findings, conceptual developments, unique methods and data with **proper attribution**.”

“… **obtain the permission** of others to use their **unpublished** findings and works, and to acknowledge such sources in an appropriate manner.”

“… **obtain the permission** of others before using information, concepts or data originally obtained through **confidential** exchanges or through access to confidential manuscripts or funding applications.”
When submitting a literature review or research paper for a course, you are expected to refer to many published papers and other credible sources and then present what you have learned. In order to avoid plagiarism, you should ensure that

a) The source of every significant fact or number is cited as (author, year), or as a superscript number, where the number refers to a numbered list of references

b) All figures are referenced, and any figures which are modified, but substantially follow the original, are identified as (modified from (author, year))

c) Any phrase or set of words that is longer than half a sentence is enclosed in quotation marks and attributed to the original author, OR the ideas are paraphrased and put in your own words so that it is clear that you fully understood what you read

d) Material retrieved from websites is both from a credible source, and is referenced by providing the website URL and the date accessed.

e) All of the above.
**Fundamental principle:** Cite the work of Others (continued)

“… comply with the regulations governing source when gaining access to use private or confidential materials and information.”

**Good practice:**

Citing the works of others gives appropriate credit, builds good professional relationships, and encourages others to cite your works

**Misconduct:**

Failure to appropriately cite the works of others is plagiarism
**Fundamental principle: Avoid conflicts of Interest**

“… avoid conflicts of interest and commitment and the real or perceived bias that may arise from such conflicts …”

**Good practice:**

Being aware of situations with the potential for conflict of interest

**Misconduct:**

Not disclosing a real or perceived conflict of interest
Funding agencies and integrity

A similar policy on integrity in research and scholarship has been adopted by the three major federal funding agencies in Canada, including the Canadian Institutes for Health Research (CIHR).

The full text of the Tri-Agency Framework: Responsible Conduct of Research is available at:


Under this policy, researchers and scholars receiving CIHR, NSERC or SSHRC funds must uphold various principles. Those are similar to that of the R&SIP
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General recommendations

- **Know the rules**
  
  *understand what is expected of you as a graduate student*

- **Know your rights and your responsibilities**

- **Have an appreciation for common ethical mistakes**

- **Avoid conflicts of interest**
  
  *Take action when you detect a situation that could be perceived as a conflict of interest*
  
  *Deal with conflicts within your own research group*

- **Consult when you have questions or concerns**
Who to consult when problems arise?

- Your **supervisor** or member of your **supervisory committee**
- **Graduate Coordinator** / Associate Chair (Graduate Studies)/ Associate Dean of your Faculty; Chair for your Department
- **OmbudService** (provides information & advice; helps with mediation of disputes)
- **Graduate Students’ Association** (your official representative)
- **Associate Dean** and staff in FGSR (located in Triffo Hall)
  
  - E-mail: grad.mail@ualberta.ca
FGSR Graduate Program Manual
http://www.gradstudies.ualberta.ca/gpm.aspx

OmbudService
http://www.ombudservice.ualberta.ca

Graduate Students’ Association
http://www.gsa.ualberta.ca/

Research Ethics Office
http://www.reo.ualberta.ca/