



Module 5: GRSC6102 Stream-based Responsible Conduct of Research (3 hours)

Aims/Objectives

The aim of this module is to provide opportunities for research postgraduate (RPg) students to further examine and discuss responsible conduct of research in their own disciplines, thereby enabling them to apply the principles and practices as emphasised in Module 4 in their research fields.

Content

This module addresses responsible conduct of research in a number of topics germane to different disciplines, and RPg students are required to choose to take one three-hour class to complete this module. Possible topics of the class include, but are not limited to:

Working with human participants (Humanities) (subclass A&B)

The focus of the sub-module on “Working with Human Participants” is to understand the importance of research ethics when working with human participants. The content covers:

- Why it is crucial to comply with Principles on Human Research Ethics
- What are the underpinning Ethical Principles: the Belmont Principles
- Who should apply for ethical review by the Human Research Ethics Committee
- Basic Ethical Principles for Research Involving Human Participants
- What are the types of Review, Relevant Procedures and Possible Outcomes

This sub-module will be of interest to students in all Faculties working with Human Participants including Humanities, Social Science, Science and Medicine.

Working with human participants (Medicine) (subclass C&D)

Advancements in medicine and the biosciences are often, if not always, co-produced with ethical and legal values. For this reason, the ability to articulate and apply these values are just as critical to being an effective researcher as technical excellence. This sub-module introduces students to foundational ethical and legal values and requirements that must be considered and/or applied in any research activity that involves human participants, whether directly or indirectly (i.e. through the use of their bodily materials and/or personal information). It also aims to help students understand why ethics (and, in certain cases, regulatory) approval must be obtained to conduct health-related research involving human participants and for subsequent publication of findings in peer-reviewed scientific journals.

In summary, this sub-module aims to:

- Enable students to articulate and apply foundational ethical and legal/regulatory values to health-related research involving human participants;
- Provide students with basic knowledge of how certain research designs better meet ethical and legal requirements; and
- Inform students on the need to obtain ethics (and, in some cases, regulatory) approval before commencing health-related research involving human participants.

This sub-module will be of interest to students involved in health-related research, typically in the disciplines of Science, Medicine, Nursing, Public Health and Social Sciences.

Working with animals (subclass E) (offered in semester 1 only)

This sub-module's focus is on the responsible and ethical use of animals used in research.

The aim of the sub-module is to introduce research post graduate students to basic principles of the humane and ethical use of animals for research purposes.

The sub-module will cover the legal and regulatory requirements of animal research, highlight ways to analyse the harms and benefits of research animal use, discuss ethical concepts such as the 3Rs and will review available humane practices and endpoints. Case examples and ethical dilemmas will also be discussed.

This sub-module will be taught by Dr Jennifer Go, Dr Connie Leung, Dr Kevin Cheng and Dr. Dewi Rowlands of the Centre for Comparative Medicine Research

This sub-module will be of interest to students that intend to utilise research animals for their future research, or may be of general interest to those students studying research ethics or animal welfare law.

Lab safety (subclass F&G&H)

Each laboratory environment is unique and poses various sets of hazards, which may include biological, chemical, fire, physical, radiological hazards and others. This submodule sets out how researchers are expected to conduct themselves when working in the laboratory, covering general laboratory safe practices, safety facilities and related guidelines. It also explores how researchers can identify potential hazardous risk. The principles and purposes of biosafety, biosecurity, radiation safety, chemical safety, mechanical and electrical safety, as well as dual use concerns will be introduced.

This sub-module will be of interest to students in the disciplines of Science and Engineering.

Working on big data (subclass J&K&L&M)

Increasingly large and complex data are being generated and used in modern research. In the field of science, engineering and medicine, these 'big data' may include a combination of large structured databases, molecular sequences, images, sensor data, text corpora, audio tracks, videos and computer simulation data. Being able to manage these data in an effective and responsible manner is a major challenge. In this sub-module, we will introduce the FAIR principles (Findability, Accessibility, Interoperability, and Reuse) for managing research data. The entire research data life cycle will be considered, including data collection, analysis, storage, sharing, and destruction. We will introduce practical computational skills and software that support implementation of good data management practice using local and open data repositories.

This sub-module will be of interest to students in the disciplines of Science, Engineering and Medicine.

Working on texts (subclass N&P)

This sub-module examines responsible conduct of research and ethical issues that arise when undertaking work that relies on published and unpublished texts. In this sub-module, we will examine the ethical and the practical considerations that arise when

undertaking major literature reviews or surveys of existing research, citing and quoting other researchers, using databases or archival materials, working with co-authors, and some possible dangers that arise when publishing our work. As we work through the sub-module, we will also consider the intersections of research method and research/writing style with the responsible conduct of research. The aim will be to develop some clear strategies and methods for research, and to gain a clearer sense of the ethical norms for working with texts in our own sub-disciplines.

This sub-module will be of interest to students undertaking research that uses many textual sources (historical and literary studies, for example): broadly the fields of Humanities and Arts, Education, and Social Sciences.

Enrolment

Students are expected to have been familiar with ethical concepts or standards/guidelines of ethical research conduct prior to their enrolment.

Assessment

Students' completion of the module is assessed on a pass/fail basis by coursework assessment; there is no examination for this module. Students are expected to attend all classes, and attendance will be recorded by Attendance@HKU (or other means).

On completion of the module, students are required to complete a reflective report of about 500 words.

Learning Outcomes

By the end of the module, students will be able to:

- explain the values and conventions of research integrity during data collection appropriate to their discipline;
- design independent plans for ethical use, sharing, storage and security of research material and data; and
- synthesise current principles and practices of ethical research in their disciplines to fit related emerging areas and innovations.