

Interdisciplinary PhD Program in Genetics, Bioinformatics, and Computational Biology (GBCB)

Scholarly Ethics and Integrity Component in Graduate Education

A. Introduction

Commission on Graduate Studies and Policies Resolution 2012-13B mandates that “the Program of Study for all graduate students show a record of the student’s participation in the particular ethics and integrity activities delineated by the student’s program, department, or college, as part of the student’s graduation requirements.” This document describes the ethics and integrity training component for students in the GBCB graduate program.

B. Ethical and Integrity Training Requirements

The Appendix to CGSP Resolution 2012-13B details the required and optional topics. These are listed below.

Required Topics:

- 1) Plagiarism and other violations of the Graduate Honor Code
- 2) Proper use of professional conventions in citation of existing research and scholarship, accurate reporting and ownership of findings, and acknowledgement of contributions to the work
- 3) Ethical standards in teaching, mentoring, and professional activities
- 4) Available avenues for reporting alleged misconduct

Optional Topics:

- 1) Appropriate lab procedures and maintenance of lab notebooks and other research documentation
- 2) Fair use of publications, software and equipment
- 3) Appropriate research protocols involving human rights and animal subjects; Institutional Review Board and/or Institutional Animal Care and Use Committee certification
- 4) Guidelines for maintenance of confidentiality (and, where relevant, anonymity) in research
- 5) Guidelines for determination of authorship
- 6) Appropriate grant and contract management, including appropriately asserting personal or program capacities and competencies when applying for grants and contracts
- 7) Discipline- or field-specific professional ethics

C. Components of Ethical and Integrity Training for GBCB Graduate Students

Since its inception in 2003, the GBCB Program has had a 3-credit hour Bioethics course requirement as part of its required curriculum. In the past, this requirement has been met primarily by having students take STS 5444: Issues in Bioethics. With the broader recognition of the importance of ethics and integrity training, and the increased availability of courses that cover various aspects of these topics, we will provide multiple ways for students to meet our 3-credit hour requirement. These options are designed to meet all of the required topics and some of the optional topics.

One option is based on the past requirement:

STS 5444: Issues in Bioethics

Identification and analysis of ethical issues arising in basic and applied biological, medical, environmental, ecological, and energy studies. (3 credits)

Another option is to take a combination of the following 1-credit courses to meet the 3-credit hour requirement:

ALS 5324: Research Ethics in Agriculture and Life Sciences

Principles of and skills development in research ethics to enhance professional preparation in agriculture and life sciences. (1 credit)

BMVS 5174: Scientific Integrity

Issues relating to scientific integrity and the responsible conduct of study as related to research in the biological, veterinary, animal and natural sciences. The topics covered include methods, ethics and the scientist, mentoring, authorship and peer review, use of humans and animals in experimentation, managing conflicting interests, collaborative research, ownership of data and intellectual property, genetic technology, scientific record keeping. (1 credit)

GRAD 5004: GTA Training Workshop

A three-day orientation to the role of a GTA at Virginia Tech and review by experienced faculty and GTAs of essential guidelines for effective classroom and laboratory communication and management. Microteaching component completes the program. (1 credit)

GRAD 5014: Academic Integrity & Plagiarism

Advanced investigation of academic integrity, responsible scholarly conduct, and methods of citation, especially as they relate to the Virginia Tech Graduate Honor System. Theoretical and historical underpinnings of academic integrity. Discipline-based citation practices. (1 credit)

D. Implementation

All GBCB students will be informed of the requirement for ethics and integrity training and the options for fulfilling the requirement. Students will include the relevant course(s) on their plan of study, which will be validated by the Program Coordinator and approved by their Advisory Committee and the Chair of the GBCB Program.