Engineering Education PhD

Scholarly Ethics and Integrity plan

All of the topics described below are addressed in currently required ENGE coursework. Since the topics are covered in required components of study, when the faculty sign off on the student's plan of study they are verifying that the student is knowledgeable about these topics.

Required Topics:

1. Plagiarism and other violations of the Graduate Honor Code

A common syllabus template will be used for required core courses ENGE 5014: Foundations of Engineering Education, ENGE 5404: Assessment Techniques in Engineering Education, ENGE 5504: Practicum in The Engineering Classroom, and ENGE 5604: Engineering Education Research Methods. The template will include the Graduate Honor Code, VT Principles of Community, and an explanation of plagiarism as it relates to course content and assignments. Each instructor will review this material on the first day of class.

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

Citation of existing research and scholarship is central in the required core course ENGE 5014: Foundations of Engineering Education (3cr), which includes several written assignments demonstrating students' mastery of citation conventions.

Reporting findings and acknowledging contributions is covered as a topic within responsible conduct of research, which is 10% of the course content of ENGE 5604: Engineering Education Research Methods (3cr), a required core course. The instructor spends at least one full 3-hour class period on responsible conduct of engineering education research.

3. Ethical standards in teaching, mentoring, and professional activities

This is discussed in the required core course ENGE 5504: Practicum in The Engineering Classroom (3 credits).

4. Available avenues for reporting alleged misconduct

This is covered in ENGE 5604: Engineering Education Research Methods (3cr), a required core course as part of VT IRB training and additional discussions of responsible conduct of engineering education research.

Optional Topics:

1. Fair use of publications, software, and equipment

This will be addressed through a seminar presentation by Gail McMillan or other librarian on copyright issues, fair use and electronic dissertations. The seminar will be repeated once every two years as part of ENGE 5704: Engineering Education Graduate Seminar. The seminar is a required course for every semester until successful defense of dissertation proposal. It takes most students at least 2 years to reach this milestone, which comes after one year of core coursework, qualifying exam and preliminary exam.

2. Appropriate research protocols involving human and animal subjects; Institutional Review Board and/or Institutional Animal Care and Use Committee certification

Virginia Tech's IRB training is a course requirement for ENGE 5604: Engineering Education Research Methods (3cr), a required core course.

3. Guidelines for maintenance of confidentiality (and, where relevant, anonymity) in research

This is covered as a topic within responsible conduct of research, which is 10% of the course content of ENGE 5604: Engineering Education Research Methods (3cr), a required core course. The instructor spends at least one full 3-hour class period on responsible conduct of engineering education research.

4. Guidelines for determination of authorship

This is covered as a topic within responsible conduct of research, which is 10% of the course content of ENGE 5604: Engineering Education Research Methods (3cr), a required core course. The instructor spends at least one full 3-hour class period on responsible conduct of engineering education research.