

Ethics and Integrity Requirement Proposal

Department of Chemical Engineering (ChE)

All entering ChE graduate students commencing in Fall 2014 or subsequent semesters will be required to complete the following to satisfy the Ethics and Integrity Requirement:

1. *Attend a half-day orientation prior to the beginning of the fall or spring semester.* Attendance is taken at this orientation and will be recorded in each student's departmental record. At this orientation the ChE Ethics and Integrity Requirements will be presented, and students will be informed of the timeline for satisfying these requirements.
2. *Complete CHE-5944, Graduate Seminar.* During the fall semester, a lecture will be presented on the nature of plagiarism, how to avoid plagiarism, the Virginia Tech Honor System, Intellectual Property, and discussion of the ACS "Chemical Professional's Code of Conduct" and the AIChE "Code of Ethics". Attendance at this seminar will be recorded in the student's departmental record.
3. *Complete the NSF Responsible Conduct of Research (RCR) requirement as implemented at Virginia Tech.* Completing the on-line course created and maintained by the Collaborative Institutional Training Initiative (CITI) satisfies this requirement. On completion of this course, students are awarded a certificate of completion. This certification must be submitted to the ChE Graduate Coordinator (currently Diane Cannaday) within the first month of graduate enrollment, and will be recorded in the student's departmental record.

When students submit their plans of study for Departmental and Graduate School approval, the completion of the Ethics and Integrity Requirement will be noted in the remarks section.

The proposed procedure satisfies the four required topics enumerated in the Appendix to CGS&P Resolution 2012-13B in the following specific ways.

Required Topic 1: Plagiarism and other violations of the Graduate Honor Code

The definition of plagiarism and responsibilities of graduate students as research participants is covered in the first module of the CITI online course entitled "Introduction to Responsible Conduct of Research." Specific examples and information on best practices are given within the following modules: "Research Misconduct," "Publication Practices and Responsible Authorship," and "Data Acquisition, Management, Sharing and Ownership." In addition, as part of the BSE 5944 Graduate Seminar students will be introduced to Virginia Tech resources on plagiarism and other violations of the Graduate Honor Code; specifically those resources at the Graduate Honor System ([Graduate Honor System | Graduate School | Virginia Tech \(vt.edu\)](#)) and the Virginia Tech Library System's "Outline of Plagiarism and how to avoid it" (<http://www.lib.vt.edu/instruct/plagiarism/index.html>).

Required Topic 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

This required topic is covered in the fourth module of the CITI on-line course entitled “Publication Practices and Responsible Authorship.” In addition, as part of the BSE 5944 Graduate Seminar students will be introduced to Virginia Tech resources on proper citations of existing research, the reporting and ownership of findings and the acknowledgement of contributions of work. These resources include those resources available at the Graduate Honor System ([Graduate Honor System | Graduate School | Virginia Tech \(vt.edu\)](#)), the “Information Appropriately” module from VT Libraries (http://info-skills.lib.vt.edu/using_info/index.html), and the “Intellectual Integrity Guidelines” available from the Virginia Tech Research Office (<http://www.research.vt.edu/intellectual-property-virginia-tech>). Appropriate procedures for recoding experimental findings will be described in the Graduate Seminar.

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

This required topic is covered in the CITI on-line course modules entitled “Conflicts of Interest and Commitment,” “Mentor/Trainee Responsibilities,” “Peer Review,” and “Collaborative Research.” In addition, as part of the BSE 5944 Graduate Seminar students will be introduced to Virginia Tech resources on ethical standards in teaching, mentoring, and professional activities. In particular, Virginia Tech courses on training on research misconduct are provided through the Networked Learning Initiatives ([Training and Professional Development | Research and Innovation | Virginia Tech \(vt.edu\)](#)). The Research Office provides a general informational PowerPoint presentation about misconduct

([PowerPoint Presentation \(vt.edu\)](#)). The “IRB Human Subjects Research Tutorial” provides information on the procedures and approval requirements for the use of human subjects in research ([Training for Human Subjects Research | Research and Innovation | Virginia Tech \(vt.edu\)](#)). Finally, the Virginia Tech Research Office provides conflict of interest training and resources ([Conflicts of Interest and Commitment | Research and Innovation | Virginia Tech \(vt.edu\)](#)).

Required Topic 4. Available avenues for reporting alleged misconduct

The available avenues for BSE graduate students to report alleged misconduct will be presented at the required BSE 5944 Graduate Seminar. The particular avenues available to students include the Graduate Honor System ([Graduate Honor System | Graduate School | Virginia Tech \(vt.edu\)](#)) and the Committee on Faculty Ethics ([Committee on Faculty Ethics | Faculty Senate | Virginia Tech \(vt.edu\)](#)). Both will be presented and described. Examples of how these resources can be used will be provided in the seminar and based on situations that have previously arisen at Virginia Tech.

Optional Topics

In addition to the required topics detailed above, the CGS&P resolution also includes a number of optional topics that may be covered by the proposed Ethics and Integrity Requirement. We plan on addressing intellectual property issues (and the use of the VTIP, ([Virginia Tech Intellectual Properties \(VTIP\) | Innovation and Partnerships | Virginia Tech](#))) and appropriate grant and contract management, including common compliance issues specific to ChE through our ChE 5944 Graduate Seminar. Individual lab. practices vary across research groups and will be handled by Faculty supervisors.