Department of Computer Science
Plan to Satisfy Training Requirements
for Scholarly Ethics and Integrity,
and Inclusion and Diversity

This document presents the process by which all graduate students in the Department of Computer Science will satisfy the Graduate School training requirements for

1. Scholarly Ethics and Integrity
   (https://secure.graduateschool.vt.edu/graduate_catalog/policies.htm?policy=ff80808147e9ba300147f3ee1b6e0002) and
2. Inclusion and Diversity
   (https://graduateschool.vt.edu/faculty-and-staff-resources/inclusion-diversity-requirement.html)

All CS graduate students are required to include one of the following courses on the Plan of Study:

- CS5014 Research Methods in Computer Science
- CS5024 Ethics and Professionalism in Computer Science (previously taught as GRAD 5134 Ethics and Professionalism in Data Science)

These courses were selected since they have a history of including relevant topics in ethics and professionalism.

Based on the topics specified in the two training requirements specifications, combined with analysis of the history of the two courses, the following topics list has been selected as baseline requirements to be covered in both of these courses. This topic list incorporates all items listed in the two Graduate School training specifications, plus additional topics deemed significant for our graduate program.

- Graduate Honor Code
- Publication Topics including determining who deserves authorship and other forms of attribution, proper citation practice, and considerate reviewing practice
- Issues in Scholarly Ethics including similarities and differences between academic integrity issues that students encounter versus scholarly integrity issues that professionals encounter
- Ethical standards in teaching and mentoring, including discussion of the CS Graduate Advising Compact, disrupting academic bullying, and succeeding as a graduate student

- Avenues for reporting alleged misconduct, including conflict of interest and Title IX violations
- IRB issues, including the role of the IRB and policies related to data privacy protection
- VT Principles of Community
- Impact of personal actions and words, including understanding unconscious bias and the effects of micro-aggressions
- Avenues of redress and shared responsibility as active bystanders, including strategies for interrupting implicit bias
- Strategies for creating inclusive environments
- Effective strategies of inter- or intra-personal conflict resolution. This includes training related to conflict resolution, and training related to recognizing and managing stress, and recognizing and addressing mental health issues in yourself and others.

Our design goals for this program include explicitly these two objectives:
1. Meeting and exceeding the training expectations as defined by the two Graduate School specification documents.
2. Creating a sustainable program that can operate at scale.

The CS department has some relatively unique issues regarding anticipated scaling of our graduate program due to our role in the Innovation Campus. During the 2019/20 academic year and again during the 2020/21 academic year, we anticipate putting about 150 students through these courses each year. Going forward, we must plan, within five years, to accommodate somewhere between 500 and 1000 students per year. Our plan must accommodate students in the PhD, MS, and MEng degree programs. Our implementation plan respects these scaling realities.

Baseline instructional materials have been assembled and/or developed to cover these topics. In addition to custom materials, we have drawn on a number of existing resources for content. These include CITI and Coursewhere training programs, InclusiveVT materials, and DiversityEDU course materials. Some of these materials already include assessment, and often produce certifications of completion that instructors can use for giving credit. In other cases, we develop our own assessment materials. Instructors are free to modify this material and otherwise rearrange the presentation approach, so long as these topics are covered. We anticipate continuous improvement to the baseline materials as we develop or discover improved instructional content.

Many of these topics were already a part of one or both courses that were selected for satisfying the requirements. For example, CS5014 Research Methods already included extensive coverage of topics related to scholarly ethics, such as proper citation, authorship, and other attribution of credit, IRB issues, and succeeding as a graduate student. CS5024 naturally included topics related to discrimination and bias, such as the role of algorithms in perpetuating discrimination (popularized as "Weapons of Math Destruction"). Thus, many of the topics in the list above will be covered in greater detail than the minimum requirements.