

An Introduction to Cybersecurity Ethics

MODULE AUTHOR:

Shannon Vallor, Ph.D.

William J. Rewak, S.J. Professor of Philosophy, Santa Clara University

READ FIRST: NOTES FOR INSTRUCTORS

Module Purpose: This stand alone, ‘plug-and-play’ ethics module can be used in part or in whole, and is appropriate for coverage in two to five class sessions. It does not require purchase of a separate course text; all necessary materials, including reading, homework questions, and case studies, are provided herein. Use of the module does not require that the instructor or students have any special training in ethical theory, applied ethics or philosophy. This should be seen only as a short introduction to thinking about ethics in the context of cybersecurity practice, and not as a complete course in cybersecurity ethics.

Module Properties/Design: This module emphasizes learning about cybersecurity ethics as an applied professional practice. To that end, the module is structured as a series of readings, case studies and question prompts that provoke the *practice* of ethical reflection, questioning and decision-making. As a consequence of the module’s design, the theoretical foundations of ethics are presented only briefly in Part Four, and only insofar as they help to define the range of ethical perspectives that can be useful to employ in professional practice. As with other parts of the module, Part Four is optional and can be assigned or omitted depending on course needs. Students or instructors interested in a deeper course of study of the existing literature in cybersecurity ethics, or of philosophical ethics more generally, will find helpful suggestions for further reading in Appendix B’s bibliography.

Implementing the Module:

The core of the module is a five-part reading, preceded by a short introduction, totaling approximately fifty pages of material. Each of the five parts includes questions and case studies for the reader, with PDF fields that students can fill-in.

Because the student learning outcomes that motivate the design of this module cannot be met through merely passive reading, it is *highly* recommended that students be required to complete the embedded question fields in each section as homework, for credit. However, it does not make pedagogical sense to *grade* the answers. Many of the questions are open-ended, asking for personal reflection on values and professional goals, not factual assertions. Thus you may wish to simply credit them on a ‘check,’ ‘check plus’ or ‘check minus’ basis to reward complete and thoughtful responses, as opposed to rote or perfunctory ones.

Some students may feel awkward or uncomfortable with expressing their own moral intuitions and judgments as required by many of the question fields. You may wish to explain to students, in advance of assigning the homework, that *you will not be judging*

the specific content of their answers or their personal character – only the amount of effort and thought they put into their answers.

Depending on your preference, students can:

a) Read the sections you assign and complete section questions and case studies as homework (students can email or upload the document with completed question fields for your review)

OR

b) Read assigned sections at home and complete section questions, but reserve the case studies for in-class discussion and group work.

This module can be assigned in whole or in part, depending on your preference. However, due to the case studies and substantial amount of homework writing that is embedded in each reading section, we strongly recommend that if you intend to assign the full module, that it be spread over 4-5 class sessions. Instructors wishing to have fewer class sessions on the module should assign only selected parts of the reading, as suggested below.

SUGGESTED USES:

4-5 CLASS DAYS (1-1.5 hour classes)

DAY 1: Intro & Part 1 (reading/homework) + Case Study 1

DAY 2: Part Two (reading/homework) + Case Studies 2-3

DAY 3: Parts Three & Four (reading/homework) + Case Study 4

DAY 4: Part Five (reading/homework) + Case Study 5

Assign out of Class OR

In-Class on DAY 5: Case Study 6 (Ideally as a Group Assignment)

3 CLASS DAYS (1-1.5 hour classes)

DAY 1: Intro & Parts One and Two (reading/homework) + Case Studies 1-3

DAY 2: Parts Three and Five (reading/homework) + Case Studies 4-5

DAY 3: Discussion and Case Study 6 (As In-class Group Assignment)

2 CLASS DAYS (1-1.5 hour classes)

DAY 1: Intro & Parts One and Two (reading/homework) + Case Studies 1-3

DAY 2: Parts Three and Five (reading/homework) + Case Studies 4-5.

Further resources to pair with this module can be found in Appendices A & B and on the Markkula Center for Applied Ethics website:

<http://www.scu.edu/ethics/practicing/focusareas/technology/internet/>

Follow-Up and Feedback: Ideally, your students will acquire from this module some conceptual tools for ethical analysis, and a degree of practical comfort with ethical reflection that will allow them to more easily shift into patterns of ethical thinking and reflection in cybersecurity practice. Below is an instructor feedback survey inviting your input on whether, and to what extent, you and your students found the course module conducive to that goal.

We ask that you send the completed survey to the attention of Santa Clara University's Markkula Center for Applied Ethics at: ethics@scu.edu. This feedback will be used to improve future iterations of the course module, and is therefore of great value to our students.

Thank you for your support of this project. Should you have any questions or comments, please feel free to contact the Markkula Center for Applied Ethics at ethics@scu.edu.

INSTRUCTOR FEEDBACK SURVEY: (PLEASE EMAIL RESPONSES TO THE MARKKULA CENTER FOR APPLIED ETHICS AT ETHICS@SCU.EDU)

1. What is your overall perception of the quality and value of this module as a teaching tool for cybersecurity ethics? Please be as direct and forthcoming as possible.
2. In your view, what were the best-designed component(s) of the module? Briefly explain.
3. What component(s) of the module could be improved, and how?
4. What, if anything, did students report to you about their experiences with the module?
5. How would you assess the quality and relevance of the case studies? What if anything could make them more effective?

6. Do you think that a significant portion of your students are likely to have acquired valuable conceptual tools for ethical analysis, or skills in ethical reflection, from their work with the module? Why or why not?