



CSC325
Seminar: Responsible Computing
Fall 2019 *(Draft)*



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For accessibility reasons, we kindly ask that you refrain from wearing any scented products in class or office hours for this course.

Smith College Catalog Description: *When is disruption good? Who is responsible for ensuring that an innovation has a positive impact? Are these impacts shared by all or do they lead to inequality? How can we eliminate bias from algorithms, if they exists? What assurances can we make about the technology we develop? What are the limitations of professional ethics? This seminar examines the ethical implication (i.e., ethics, justice, political philosophy) of computing and automation. Participants will explore how to design technology responsibly while contributing to progress and growth. Issues to be discussed may include: intellectual property; privacy, security, and freedom of information; pervasive computing; automation at work and quality of life; electronic fund transfer systems and trans-border data flows; access to technology; robotics; artificial intelligence; mass society; and emerging issues.*

This course is an exploration of how computer related technologies are shaping society and the ways in which society comes to terms with such technological change. While this is not a philosophy course, various reasoning frameworks will be introduced as tools to consider alternate points of view that will help participants produce a more comprehensive analysis of any particular problem. The objective is to enrich our own decision making.

Our approach through the course is to discuss recent developments in the computer industry that present a particular ethical challenge while we explore a consistent method to evaluate their potential impact on society. Topics to be covered during the course may vary depending on participant interest. An initial list of topics includes: intellectual property; privacy, security, and freedom of information; pervasive computing; automation at work and quality of life; electronic fund transfer systems and trans-border data flows; access to technology; robotics; artificial intelligence; and mass society.

Learning Promises. By the end of this course, you will:

- Define and explain key concepts & terms in the course (ethics, privacy, intellectual property, equity, tort, etc.);
- Describe the recent evolution of computer and software technology and its impact on society;
- Apply the ACM Code of Ethics to technology based scenarios;
- Analyze a topic in detail using scholarly references; take a position; write a thesis statement for and argue the position in writing; defend your arguments through formal oral debate.

This course will also help you develop the Essential Capacities for Smith Students.

Course Format

Seminars. This is a seminar. For classes we will gather to discuss assigned texts and/or audio-visual materials together. You are expected to complete readings on time and actively participate in discussions. In order to receive full participation marks, students must participate verbally and through written responses throughout the term. **Twice per term**, you will also take notes of the seminar discussion, and then collaborate with another student who combine these notes to share with the rest of the class. **Each week** you should come to class with a written or typed summary of 3–5 personal insights from that week’s assigned reading (aim for no more than half a page). Note: We’re not expecting a summary of the reading; we want to read your personal reaction to it. You will also submit these to Moodle.

Term Project. The assignments and term debate in this course are intended to both improve your understanding of course material and your ability to communicate a given position to an audience of peers. Students will bid to study a single topic in extensive detail (two students (i.e., a team) will study each topic). They will initially explore the technical details of the topic so that they can explain to another computer scientist, what the techniques or algorithms are and how they are used. They will then explore the ethical implications of their assigned technology. Finally, participants will take a position and argue for that position in a written paper. They will also participate in a formal debate with the other student who selected the topic (arguing for a randomly chosen side). Thus, the term project consists of three components: a topic survey, a term paper, and a formal debate.

Pre-project Assessment & Topic Bidding: In the first week of class, you will complete a short initial writing assignment and bid for topic and team assignments.

Topic Survey: In the topic survey, participants will write a brief survey of their topic and explain the technology to other computer scientists. These surveys will be of similar length and level of abstraction to articles and blog posts in the Communications of The ACM magazine. The topic survey will be completed as a team, and will be due by the end of week 4.

Debate: Teams will determine the debate topic in conjunction with the instructor. Each team will participate in a formal debate and participants will randomly be assigned to argue for or against the resolution. The debates will take place in lecture. Debate preparation notes must be submitted by noon one day prior to the debates. More details will be released closer to the debate.

Term Paper: The term paper is a scaffolded assignment, consisting of the thesis statement with supporting claims, then building the claims into an argument, then multiple iterations of paper. Participants will complete the term paper independently and will meet periodically with the instructor to discuss the arguments in the paper. Thus, students will be required to attend office hours to discuss their progress. Students are encouraged use their college writing centres for specific writing issues that they encounter.

Grading and Late Work Policies. Your final grade in this course will be calculated as follows:

- Seminar participation, topic meetings, reading responses, seminar summaries, and pre-project assessment. 50%
- Project 50% (Topic Survey-10%, Debate-10%, Term Paper-30%)

You have the option to choose between “mastery grading” or letter based grading for the full course. Details about the mastery grading option will be available separately. Late work will not be accepted for class prep, pre-project assessment, and debate prep. Students may submit work late for the term paper and topic survey, but these extensions will not extend past the end of term (without approval from the student’s academic dean). Students should expect delays in feedback for late assignments.

Project Deliverables

All deadlines are at 1:00 pm on the date specified. All documents should be submitted via Moodle.

Deliverable	Deadline
Pre-project Assessment	Sep 13
Topic Survey	Oct 1
Thesis Statement	Oct 11
Intro & Support	Nov 5
Term Paper*	Nov 12/19/26
Debate Prep	Nov 25
Term Paper	Dec 3

**Deadlines for mastery grading option.*

Course Policies

Communication Expectations. All written communication regarding this course will take place via slack (a cloud-based team collaboration tool used by many tech companies for internal communication). Our slack team is “<https://smith-csc325-f2019.slack.com>”. This includes:

- announcements (in the #general channel)
- questions about the material (in the #questions channel)
- messages between individual students and the instructor (via Direct Message to @Alicia)

I cannot commit to checking Slack after hours (i.e., evenings and weekends), so please ask questions publicly so that your peers can help you. Participants are expected to be good citizens on Slack. Email is hard to search, response rate is slow, and messages are likely to get lost, please use Slack. In order that all forms of self-identity can be honored, all participants are expected to be respectful of everyone’s name and pronouns both in written and verbal communication.

Office Hours. I love office hours! Mainly I enjoy talking with students in small groups, so I encourage you to come early and often to office hours, which are important for you to discuss course materials, research opportunities, and future planning. I have three types of office hours:

Open Office Hours are a time when you can come to ask for assistance in understanding course material or assignments. They can also be an opportunity to chat with me about the course or how the course relates to current events, college more generally, or anything else you want to talk about. Do not feel like you need to have a “good” question or reason to come to office hours—you can just pop in to say hello if you want!

Closed Office Hours are 10 minute private appointments for students to discuss individual matters and for those students who cannot make my open office hours. My schedule is linked on the Moodle. These must be scheduled at least two business days in advance. If none of the available times fit your schedule, send me a private message (@Alicia) on Slack.

Technology Teas are for all Smith students to discuss computer science and technology more broadly, and you are encouraged to attend. Questions about this course will not be entertained during technology teas.

At a minimum, you are required to attend open/closed office hours at least once in the first three weeks and in week 6.

Initial Reading List

Below is a list of topics discussed each week in class. Course content and dates may change based on current events and the pace of student learning.

Some topics will be discussed in greater depth than others. You are not expected to become an expert in all course topics. Additional readings will be added throughout the term.

Week 1: Introduction

- Helen Nissenbaum. A contextual approach to privacy online. *Daedalus*, 140(4):32–48, 2011

Week 2: Myth of Progress

- Northrop Frye and Jean O’Grady. The Primary Necessities of Existence: Interviews with Northrop Frye. <http://books.scholarsportal.info/viewdoc.html?id=560416>, March 1985
- Leo Marx. “Technology”: The Emergence of a Hazardous Concept. *Social Research*, pages 965–988, 1997
- Nicholas Negroponte. A 30-year History of the Future. TED’14. Available at <https://www.youtube.com/watch?v=5b5BDoddOLA&feature=youtu.be>, 2014
Quote: “Computing is not about computers any more. It is about living.”

Week 3: Ethics

- M David Ermann and Michele S Shauf. *Computers, Ethics, and Society (Ch. 1–3)*. Oxford University Press, Inc., third edition, 2002

Week 4: Professional Ethics

- Ronald E Anderson, Deborah G Johnson, Donald Gotterbarn, and Judith Perrolle. Using the new acm code of ethics in decision making. *Communications of the ACM*, 36(2):98–107, 1993
- Government of Canada. Code of ethics section 77. code of ethics. In *Professional Engineers Act*. R.R.O. 1990, Regulation 941 General, 1990
- American Medical Association and New York Academy of Medicine. *Code of Medical Ethics*. H. Ludwig & Company, 1848

Week 5: Design and Ethics

- Victor Papanek. *Design For The Real World*, chapter Do-It-Yourself Murder: The Social and Moral Responsibilities of the Designer. Bantam Books, 1973

Week 6: No Class

Week 7: Privacy

- William L. Prosser. Privacy. *California Law Review*, 48(3):383–423, 1960

Week 8: Intellectual Property

- Michael J Quinn. *Ethics for the information age*, chapter 4. Intellectual Property. Addison-Wesley Publishing Company, fifth edition, 2010

Week 9: Failure Breakdown, and Accountability

- Helen Nissenbaum. Computing and accountability. *Communications of the ACM*, 37(1):72–81, 1994
- Steven J Jackson. *Media technologies: Essays on communication, materiality, and society*, chapter 11. Rethinking Repair, pages 221–39. MIT Press, 2014
- Eli Pariser. Beware Online “Filter Bubbles”. TED’01. Available at https://www.ted.com/talks/eli_pariser_beware_online_filter_bubbles?language=en, 2001

Week 10: Equity

- Ronald E. Anderson, Vicki Lundmark, Linda Harris, and Shon Mangan. *Social Issues in Computing: Putting Computing in its Place*, chapter Equity in Computing. McGraw-Hill, 1994
- Michael Sandel. Justice: What’s The Right Thing To Do? Episode 08: “What’s a Fair Start?”. Available at https://www.youtube.com/watch?v=VcL66zx_6No&list=PL30C13C91CFFFEA6&index=8, 2009

Week 11: Art and Conflict Field trip to the Art Museum (Readings T.B.A.)

Week 12

- No Reading - Student Debates

Week 13: Environment

- Jessica Oakley. Is the Internet Killing our Climate? <https://www.triplepundit.com/2012/09/internet-environment/>, September 2012
- Ingrid Burrington. The environmental toll of a netflix binge. <https://www.theatlantic.com/technology/archive/2015/12/there-are-no-clean-clouds/420744/>, December 2015
- Nicole Mortillaro. Electronic waste is piling up. here’s why you should care. <https://globalnews.ca/news/2194391/electronic-waste-is-piling-up-heres-why-you-should-care/>, September 2015

Week 4: International Development

- Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E Grinter. Postcolonial computing: a lens on design and development. In *Proceedings of the SIGCHI conference on human factors in computing systems*, pages 1311–1320. ACM, 2010
- Kentaro Toyama. Can Technology End Poverty? <http://bostonreview.net/BR35.6/contents.php>, November/December 2010

Textbook. There is no required textbook for the course. Readings are given every week.

Optional: *Ethics for the Information Age*, by Michael J. Quinn, (ISBN 9780133741629).

Optional: *Our Battle for the Human Spirit: Scientific Knowing, Technical Doing, and Daily Living*, by Willem H. Vanderburg, (ISBN 9781487520359).

Honor Code

In this course, you are expected to uphold the Smith College Honor Code Statement:

“Students and faculty at Smith are part of an academic community defined by its commitment to scholarship, which depends on scrupulous and attentive acknowledgement of all sources of information and honest and respectful use of college resources. Smith College expects all students to be honest and committed to the principles of academic and intellectual integrity in their preparation and submission of course work and examinations. All submitted work of any kind must be the original work of the student who must cite all the sources used in its preparation.” [<https://www.smith.edu/sao/handbook/socialconduct/honorcode.php>]

Resources and Support

College life is a time for discovering one’s self, and some students will require support on this journey. I encourage all students to seek the support they need.

Class Deans. Your class dean is here to help you and advice you. She is an excellent resource to help you make the most of your time at Smith.

Jane Stangl *Dean of the First-Year Class*; jstangl@smith.edu, 413-585-4910

<https://www.smith.edu/about-smith/class-deans/first-year-dean>

Tina Wildhagen *Dean of the Sophomore Class*; twildhag@smith.edu 413-585-4930

<https://www.smith.edu/about-smith/class-deans/sophomore-dean>

Andrea Rossi-Reder *Dean of the Junior Class, and Ada Comstock Scholars*; arossireder@smith.edu 413-585-4930

<https://www.smith.edu/about-smith/class-deans/junior-ada-dean>

Danielle Carr Ramdath *Dean of the Senior Class and Associate Dean of the College*; dramdath@smith.edu 413-585-4920

<https://www.smith.edu/about-smith/class-deans/senior-dean>

To meet with your dean in person, either attend their walk-in hours (listed on their respective websites) or call 413-585-4915 to book an appointment.

Student Affairs. There’s more to your time here at Smith than what appears on your academic transcript. Student Affairs is here to support you find that balance and any of the Associate or Assistant Deans can help.

Julie Ohotnicky *Associate Dean of the College/Dean of Students*; johotnic@smith.edu

Becky Shaw *Associate Dean of Students/Director of Residence Life*; rshaw@smith.edu

Marge Litchford *Assistant Dean of Students*; mlitchfo@smith.edu

To meet with one of the deans in Student Affairs call 413-585-4940 or by email directly.

Faculty Advisors. Every student at Smith college is assigned a faculty advisor to help them select courses as well as to help them reach their personal and professional goals. Your faculty advisor can also support you and connect you with resources.

Resources and Self-Care. See <https://www.smith.edu/sao/about.support.php> for a list of offices and centers that will complement your learning experience and help you make the most of your journey here at Smith.

If you will be absent from class for a faith/nonfaith-based/cultural reason, please share this information with me prior to your absence. If you do not have access to materials, books, a computer, etc., please let

me know as soon as possible. Smith College and the Department of Computer Science have additional resources for students who do not have access to laptops.

Accessibility. Smith College is dedicated to making sure the college, courses, and associated content are accessible to all students of all abilities. I work to ensure that all of my teaching materials and my class are accessible. To this end, all PDFs are accessible. This means that you can use a reader software to read out loud the text of the PDF. I provide all of my slides online in PDF format. If you encounter any material that is not easily accessible to you, please let me know right away so that I can find a solution. In addition, the Office of Disability Services at Smith College works with students, faculty, staff, and visitors to “proactively identify and remove barriers to participation wherever possible. We also strive to promote a disability positive and inclusive climate at Smith that recognizes each person’s multiple identities and values the diverse perspectives that contribute to a multicultural living and learning environment. Smith’s commitment to providing support and services is balanced with a humanistic and developmental approach that requires student engagement and responsibility in the accommodation process,” [<https://www.smith.edu/about-smith/disability-services>]. **If you require an accommodation in this or any course, please call (413) 585-2071 to arrange an appointment with Laura Rauscher, Director of Disability Services.** You are also encouraged to book an appointment with me (Prof. Grubb) to discuss your unique needs. 20% of students at Smith College have a disability and use the office. There is no stigma in seeking assistance to ensure you have access to events, facilities, course content, etc. Furthermore, Jeanette Landrie, Coordinator for Academic Access, is available to assist all students (independent of disability status) who require assistance with learning strategies. You can email Janette at jlandrie@smith.edu or attend drop-in hours: Thursdays 2–4pm (academic year).

Title IX. I am a responsible employee when it comes to reporting sexual violence. That means I am required to report certain incidents to the Title IX Coordinator. Smith College cares about the safety of students and has created this requirement because sexual violence in all its forms is unacceptable. Your privacy is of utmost importance and Smith will do everything possible to keep all reports private and only share with those who need to know. You will never be forced to share information and your level of involvement will be your choice.

Acknowledgement: Some of the materials used in this course and this syllabus are derived from previous offerings of this and other courses at Smith College, as well as similar courses taught at other institutions. Appropriate references will be included on all such material.