

CS 330 Societal and Ethical Issues in Computing

James Madison University, Spring 2024

Should web site designers be legally required to accommodate blind users? Who should be held financially responsible for accidents caused by a self-driving car? How should hospitals respond when their systems are locked by ransomware? Can countries use military force to retaliate against cyberwar attacks? Why can't we use smartphone apps to vote in elections? Should government agencies be allowed to purchase user-tracking data? How do we protect civil rights online? Should revenge porn be a crime? Can algorithms be racist or sexist? Is it okay to label someone's sexual orientation using facial recognition on social media posts? Should there be carbon taxes targeted at cryptocurrency exchanges? Does digital redlining constitute a violation of civil rights? Should the ability to use a computer be a requirement for employment?

Computing has changed all facets of our lives, allowing us to maintain interpersonal connections with distant family and friends, adjust our workplace to our individual preferences, and share information that challenges the balance of power with authority figures. In many cases, these changes may create a great benefit to one group of individuals while extracting a great cost for others.

We will use the tools of critical inquiry and ethical frameworks to assess how computing has and will change your life and the lives of people around the world. We will also examine current and proposed laws and policies that shape these effects. After an introduction to the foundations of computing ethics, we will discuss a range of topics including intellectual property, security & privacy, freedom of expression, AI & algorithms, gender & race in computing culture, and the future of work.

Course & Instructor Information

Website:	https://w3.cs.jmu.edu/kirkpams/330/		
Time/Place:	M/W/F 3:00 – 3:50 PM		
Textbooks:	None (readings on Canvas and linked from schedule)		
Instructor:	Prof. Michael S. Kirkpatrick	Email:	kirkpams@jmu.edu
Office:	King 223	Phone:	(540) 568-3371
Office Hours:	M/W/F 2:45 – 4:00 PM, Tu 9:00 – 10:30 AM		

Course Structure and Grading Specifications

This course is primarily focused on discussing the material during class meetings. As such, there is a heavy emphasis on both pre-class reading and in-class participation. Each week begins with a reading assignment and Canvas reading quiz. Class meetings will begin with a warm-up question, then proceed to a mix of mini-lectures, small-group activities, full-class discussions, and multiple-choice clicker questions (ConceptTests). You will synthesize the readings and discussions into individual papers. There will also be 5 module quizzes and a final exam.

- Weekly readings and quizzes - Each week begins with a pre-class reading assignment and Canvas reading quiz. These reading quizzes are due by Sunday at 5:00 PM. Before that time, you may retake these quizzes as many times as needed. Your lowest two quiz scores will be automatically dropped.
- Attendance and participation - The topics in this class are complex and require considering the relative merits of distinct viewpoints. As such, participation is a key element of the class structure. Attendance is required. You are granted up to three unexcused absences; after that, each missed class will result in a reduction in your course grade. Absences beyond these three days will only be excused if *all* absences are documented and excused.

Beyond attendance, additional points will be given based on in-class participation. Class meetings will begin with a warm-up question and include both mini-lectures and a mix of small-group and full-class discussions. The warm-ups and other activities will count toward this grade component.

- Personal values assessment and reflection - During the first week of class, you will complete a Canvas quiz asking you to rate your agreement with a number of statements that address many of the topics in this class. After completing the quiz, you will write a short (1-2 page) paper reflecting on your responses and identifying your own key values. Completing the quiz will be worth one point. The short reflection will be worth four points and will be graded based on the quality of the writing and the reflection.
- Module quizzes - There will be 5 in-class quizzes intended to assess your understanding of key concepts from the course material. The questions for these quizzes will be based on both the readings and in-class discussions. These questions will be primarily focused on factual material, such as understanding of the relevant laws, policies, and authors' positions.
- Individual writings - Throughout the semester, you will write three short (1-2 page) position papers. In these papers, you must base your argument and position on clear technical grounds, relying on supporting evidence from the readings. The topics and prompts for these writings will be announced in class and posted on Canvas.

As an alternative, you may choose to write a single research paper on the societal and/or ethical implications of a computing-related topic. This paper will require you to conduct detailed research into the topic and construct your argument rigorously using the tools of ethical frameworks and critical analysis. Another alternative is to do an independent implementation of an advanced software project with a focus on the social good. These projects must be substantial in nature and must be approved in advance. If you are considering graduate school, particularly in an area such as computing ethics or human-computer interaction, you are strongly encouraged to consider one of these alternatives.

- Final exam - There will be a final exam during the regularly scheduled time during finals week. This exam will consist of factual questions (similar to the module quizzes) and short analysis questions that require explaining multiple perspectives.
- Point distributions - Your course grade will be based on the following point distribution:

Component	Weight	Component	Weight
Personal values assessment	5%	Writings/research	20%
Reading quizzes	15%	Module quizzes	15%
Participation	25%	Exams	20%

Adjustments or extensions will be granted based on extraordinary circumstances at the instructor’s discretion. If you are sick, please do not come to class; let me know (in advance if possible) so that I can document it for later consideration.

Course & University Policies

- **Classroom inclusion** - Learning environments should be built on mutual respect and support a diversity of thoughts, perspectives, experiences, and identities. Please advise me regarding any concerns or personal circumstances (including your name’s proper pronunciation, any name or gender pronouns not reflected on MyMadison, or significant extracurricular commitments) that may be relevant to your full participation in class.

As computing professionals, we adhere to the ACM Code of Ethics and Professional Conduct (<https://www.acm.org/code-of-ethics>), which forbids discrimination and harassment of all types. If you feel someone is violating these principles (including inappropriate or demeaning jokes), it is your responsibility to take action by informing me or (if you feel comfortable doing so) addressing the individual directly. I will do my best to preserve your confidentiality while addressing the issue.

- **Laptop policy** - This course is structured to use class time for discussions and other in-class activities. You may use a laptop for on-task use only. **Do not work on projects or other assignments, for this class or others, during class time.** If your laptop use becomes a distraction to your peers or to me, you will no longer be able to use it in class.
- **Attendance and grading** - Participation is a key component of the course and attendance is required as a component of your course grade.
- **Communication policy** - Outside of class, you should rely on office hours and Piazza (available through Canvas) for communication about course topics. You should not email me with questions about course material, due dates, etc. I will direct all course-related questions to Piazza. This approach allows me to answer the question once for all students while also giving your peers an opportunity to answer more quickly.
- **Academic integrity** - Students are expected to comply with the JMU Honor Code

as stated in the Student Handbook and available from the Honor Council Web site at <http://www.jmu.edu/honor/code.shtml>. All quizzes, writings, and the final exam are to be completed individually and must clearly and honestly represent your own work. Violations of the Honor Code, including plagiarism or cheating, will be referred to the Honor Council.

- **Adding/dropping classes** - You are responsible for registering for classes and for verifying your schedule on MyMadison. Deadlines for adding or dropping classes are available from the JMU Registrar.
- **Cancellations** - JMU's cancellation policy (<http://www.jmu.edu/JMUpolicy/1309.shtml>) provides details regarding inclement weather and other emergencies.
- **Religious observance accommodations** - All faculty are required to give reasonable and appropriate accommodations to students requesting them on grounds of religious observation. If you need to request accommodations, you must let me know at least 2 weeks in advance.
- **Disability accommodations** - JMU abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandate reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Office of Disability Services, the designated office on campus to provide services for students with disabilities. The office is located in Wilson Hall, Room 107 and you may call 540-568-6705 for more information.

Critical inquiry into the social, professional, legal, and ethical concerns of computing and technology. The course will emphasize the application of logical and ethical reasoning, as well as placing topics within the appropriate legal and social context. Topics include history of computing, codes of ethics, security & privacy, political issues, intellectual property, economic issues, professional responsibilities. *Prerequisites: CS 345, WRTC 210, and junior standing.*

Detailed Course Objectives

Following the successful completion of this course, students will be able to:

- Articulate the need for computer scientists to cultivate apply ethical reasoning skills.
- Analyze a computing-related ethical dilemma through the lens of common normative ethical frameworks.
- Identify and evaluate technical, ethical, and sociological resources used as evidence in support of debates about computing.
- Summarize key relevant legal concepts and historical developments relating to intellectual property, security, privacy, and speech.
- Express and critique multiple perspectives related to ethical dilemmas in

computing.

- Explain the variety of barriers to equal access in computing.
- Identify the benefits and harms of computing.
- Articulate and embody the moral obligations of computing professionals.
- Reflect on and critique the norms and values that are common in the computing profession.