



Credit Hours: 3

Contact Hours: This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 14-20 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information: Faculty contact information and office hours can be found on the faculty profile page.

COURSE DESCRIPTION AND OUTCOMES

Course Description:

This course emphasizes ethical practices behind software engineering as an applied professional practice. To that end, the course is structured as a series of readings, case studies, questions and discussion prompts that provoke the practice of ethical reflection, questioning, and decision making. Theoretical foundations of ethics are briefly presented in each of the modules, in particular, how to define the range of ethical perspectives that can be useful to employ in professional life. For further expansion of the existing literature in software engineering /computer ethics, or in the area of philosophical ethics more generally, students will find helpful suggestions for additional research in the recommended readings.

Course Overview:

In this course, students will learn about the ethical considerations and issues programmers and software developers encounter in the workplace related to data, electronic communication, and information security. Students will evaluate and interpret current policies and regulations and formulate their own policies based on these models. Students will also discuss the implications for ethical decisions by technical professionals and leadership utilizing cases studies and problem-based learning. Finally, students will learn best practices in ethical decision making for the workplace in this course.

Course Learning Outcomes:

1. Examine legal, ethical, and societal implications surrounding software development and data management.
2. Analyze ethical situations in programming and software development.
3. Evaluate solutions for sample ethical cases.
4. Determine solutions for ethical questions.
5. Create ethical organizational policies for specific issues.

PARTICIPATION & ATTENDANCE

Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.

Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

COURSE MATERIALS

Required:

- Collman, J., & Matei, S. A. (Eds). (2016). *Ethical reasoning in big data: An exploratory analysis*. New York, NY: Springer. ISBN: 978-3319284200
- Spinello, R. (2016). *Cyberethics: Morality and law in cyberspace* (6th ed.). Burlington, MA: Jones & Bartlett Learning. ISBN: 978-1284081398

NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

COURSE SCHEDULE

Due Dates

The Academic Week at CSU Global begins on Monday and ends the following Sunday.

- **Discussion Boards:** The original post must be completed by Thursday at 11:59 p.m. MT and Peer Responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Critical Thinking:** Assignments are due Sunday at 11:59 p.m. MT.

WEEKLY READING AND ASSIGNMENT DETAILS

Module 1

Readings

- Part I: Applying a Contextual Analysis of Privacy in Big Data Research from *Ethical Reasoning in Big Data: An Exploratory Analysis*
- Karasneh, R. A., Al-Azzam, S. I., Alzoubi, K. H., Hawamdeh, S. S., & Muflih, S. M. (2019). Patient data sharing and confidentiality practices of researchers in Jordan. *Risk Management & Healthcare Policy*, 12, 255–263. <https://doi.org/10.2147/RMHP.S227759>
- Velasquez, M., Andre, C., Shanks, T., S. J., & Meyer, M. (2015, August 1). Thinking ethically. Retrieved from <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/thinking-ethically/>

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: Cultural Relativism

Research the ethical theory of cultural relativism. Draft a two-page paper to include at least two examples of relationships between cultural relativism and software engineering ethics. In your paper, include your opinion of cultural relativism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Submit your Word document using the file name:
CSC502_Module1_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.
- Format your entire paper according to the CSU Global Guide to Writing & APA.

OPTION #2: Subjective Relativism

Research the ethical theory of subjective relativism. Draft a two-page paper to include at least two examples of relationships between subjective relativism and software engineering ethics. In your paper, include your opinion of subjective relativism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Submit your Word document using the file name:
CSC502_Module1_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.
- Format your entire paper according to the CSU Global Guide to Writing & APA.

Module 2

Readings

- Part II: Ethical Reasoning Beyond Privacy in Big Data from *Ethical Reasoning in Big Data: An Exploratory Analysis*
 - The Privacy Preferences of Americans
 - Engaging the Public in Ethical Reasoning About Big Data
 - Data Ethics—Attaining Personal Privacy on the Web
- Parmar, B. & Freeman, R. E. (2016, Fall). *Ethics and the algorithm*. *MIT Sloan Management Review*, 58(1), 16-17.

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: "Strict" Kantianism

Research the ethical theory of traditional (“strict”) Kantianism. Draft a two-page paper detailing at least two examples of relationships between basic Kantianism and software engineering ethics. In your paper, include your opinion of basic Kantianism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Submit your Word document using the file name:
CSC502_Module2_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.
- Format your entire paper according to the CSU Global Guide to Writing & APA.

OPTION #1: “Lax” Kantianism

Research contemporary, authoritative revisions to the ethical theory of “lax” Kantianism. Draft a two-page paper detailing at least two examples of relationships between “lax” Kantianism and software engineering ethics. In your paper, include your opinion of “lax” Kantianism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Your paper Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module2_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary which are cited using correct APA styling.

Module 3

Readings

- Part III: Institutionalizing Ethical Reasoning about Big Data from *Ethical Reasoning in Big Data: An Exploratory Analysis*
 - Technology for Privacy Assurance
 - Data Management Plans, Institutional Review Boards, and the Ethical Management of Big Data About Human Subjects
 - Integrating Ethical Reasoning into Preparation for Participation to Work in/with Big Data Through the Stewardship Model
- Harlow, H. (2018). Ethical concerns of artificial intelligence, big data and data analytics. *Proceedings of the European Conference on Knowledge Management*, 1, 316–323.

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: Act Utilitarianism

Research the ethical theory of act utilitarianism. Draft a two-page paper detailing at least two examples of relationships between act utilitarianism and software engineering ethics. In your paper, include your opinion of act utilitarianism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module3_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

OPTION #2: Rule Utilitarianism

Research the ethical theory of rule utilitarianism. Draft a two-page paper detailing at least two examples of relationships between rule utilitarianism and software engineering ethics. In your paper, include your opinion of rule utilitarianism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module3_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

Module 4

Readings

- Fuchs, C., Bichler, R. M., & Raffl, C. (2009). Cyberethics and co-operation in the information society. *Science & Engineering Ethics, 15*(4), 447–466.
- Levine, L. L. (2019). Digital trust and cooperation with an integrative digital social contract. *Journal of Business Ethics, 160*(2), 393–407.
- Martin, K. (2019). Ethical implications and accountability of algorithms. *Journal of Business Ethics, 160*(4), 835–850.
- Melo, C. de O., & de Sousa, T. C. (2017). Reflections on cyberethics education for millennial software engineers. [White Paper].
- Veresha, R. V. (2018). Preventive measures against computer related crimes: Approaching an individual. *Informatologia, 51*(3/4), 189–199.
- Wilson, R. (2019). Information warfare: Fabrication, distortion and disinformation: A case study and anticipatory ethical analysis. *Proceedings of the European Conference on Cyber Warfare & Security, 596–603.*

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: Social Contract Theory—Rawls' Theory

Research the ethics of social contract theory by John Rawls. Draft a two-page paper detailing at least two examples of relationships between Rawls' social contract theory and software engineering ethics. In your paper, include your opinion of Rawls' social contract theory and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module4_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

OPTION #2: Social Contract Theory—Gauthier's Theory

Research the ethics of social contract theory by David Gauthier. Draft a two-page paper detailing at least two examples of relationships between Gauthier's social contract theory and software engineering ethics. In your paper, include your opinion of Gauthier's social contract theory and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module4_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

Portfolio Milestone (125 points)

OPTION #1: Drones and GIS

There are ethical issues that can arise when using drone technologies. In this assignment, you are to utilize at least four sources to identify potential ethical issues that relate to the use of drone technologies.

Instructions:

- Provide an in-depth analysis of the four main areas and summarize your analysis using a slide presentation. You may use PowerPoint or another presentation tool such as Prezi.
- Your slide presentation should consist of a minimum of five to eight slides, not including the required cover and references slides.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.
- Format your entire presentation according to the CSU Global Guide to Writing & APA. Check out the Library's guide to Creating a Visual Presentation.
- Provide a minimum of four academic sources (journal or conference articles) in APA format.
- Submit your presentation using the file name:
CSC502_MidtermPortfolio_Option1_<LastName>_<FirstName>.pptx.

OPTION #2: Need for Ethics in GIS

The use of Geographic Information Systems (GIS) presents a number of ethical issues because of the technology. GIS technologies are available in various ways, such as smart phones, tablets, and automobiles. In this assignment, you will want to utilize at least four sources to identify potential ethical issues that relate to the use of GIS technologies. Consider the following guiding questions:

- How might such publicly available GIS data effect the common good? How might it impact individual rights?
- What kind of information (if any) should be kept out of such a system?
- How could such information be abused?
- Is it ethical to keep GIS data acquired at public expense inaccessible? Why, or why not?

Instructions:

- Provide an in-depth analysis of the four main areas and summarize your analysis using a slide presentation. You may use PowerPoint or another presentation tool such as Prezi.
- Your slide presentation should consist of a minimum of five to eight slides, not including the required cover and references slides.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.
- Format your entire presentation according to the CSU Global Guide to Writing & APA. Check out the Library's guide to Creating a Visual Presentation.
- Submit your PowerPoint presentation using the file name:
CSC502_MidtermPortfolio_Option2_<LastName>_<FirstName>.pptx.

Module 5

Readings

- Chapter 2 in *Cyberethics: Morality and law in cyberspace*
- Jamison, M. A. (2018). Net neutrality policies and regulation in the United States. *Review of Network Economics, 17*(3), 151-173.
- Taylor, J., & Pagliari, C. (2018). Mining social media data: How are research sponsors and researchers addressing the ethical challenges? *Research Ethics, 14*(2), 1-39.

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: Ethical Egoism

Research ethical egoism. Draft a two-page paper detailing at least two examples of relationships between ethical egoism and software engineering ethics. In your paper, include your opinion of ethical egoism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module5_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

OPTION #2: Ethical Altruism

Research ethical altruism. Draft a two-page paper detailing at least two examples of relationships between ethical altruism and software engineering ethics. In your paper, include your opinion of ethical altruism and its relationship with software engineering.

Submission Instructions:

- Your paper must be two pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module5_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

Module 6

Readings

- Okpala, P. (2018). Assessment of the influence of technology on the cost of healthcare service and patient's satisfaction. *International Journal of Healthcare Management*, 11(4), 351–355.
- Pashentsev, E. (2019). Destabilization of unstable dynamic social equilibriums through high-tech strategic psychological warfare. *Proceedings of the International Conference on Cyber Warfare & Security*, 322–328.
- Van Horn, C., Starace, J., & Rutgers, T. (2018). *What me worry? Most Americans not concerned about the impacts of technology on jobs.* work trends. John J. Heldrich Center for Workforce Development. [Report]

Discussion (25 points)

Critical Thinking: (75 points)

OPTION #1: Ethics of “Behavioral Analytics”

Research what ethical considerations must be made in the use of behavioral science by big data analytics entities in helping political candidates tailor their campaign messages to different voting precincts.

Draft a four-page paper detailing at least two examples of relationships between “behavioral analytics” and software engineering ethics. In your paper, include your opinion of using “behavioral analytics” to run political campaigns.

Submission Instructions:

- Your paper must be four pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module6_Option1_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

OPTION #2: Cyber Security Ethics

Research cyber security ethics. Draft a four-page paper detailing at least two examples of relationships between cyber security ethics and software engineering ethics. In your paper, include your opinion of cyber security ethics and its relationship with software engineering.

Submission Instructions:

- Your paper must be four pages long, not including the required cover and references pages.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Submit your Word document using the file name:
CSC502_Module6_Option2_<LastName>_<FirstName>.docx.
- Support your analysis using at least three authoritative literary sources, which are cited using correct APA styling.

Module 7**Readings**

- Pitti, A. (2018). Ideas from developmental robotics and embodied AI on the questions of ethics in robots. [Report]
- Russell, S., Hauert, S., & Altman, R. (2015). Robotics: Ethics of artificial intelligence. *Nature*, 521(7553), 415-418.
- Sandler, R., & Basl, J. (2010). Transhumanism, human dignity, and moral status. *The American Journal of Bioethics*, 10(7), 63-66.
- Siciliano, B., & Tamburrini, G. (2019). Ethics and robotics in the fourth industrial revolution. *S&F_scienzaefilosofia.It*, (22), 31.

Discussion (25 points)**Module 8****Readings**

- Daniel, S. L., Maruping, L. M., Cataldo, M., & Herbsleb, J. (2018). The impact of ideology misfit on open source software communities and companies. *MIS Quarterly*, 42(4), 1069-1096.
- Manavis, S. (2019). The stalker software infiltrating porn. *New Statesman*, 148(5477), 17.
- Teubner, T., & Flath, C. M. (2019). Privacy in the sharing economy. *Journal of the Association for Information Systems*, 20(3), 213-242.

Discussion (25 points)

Portfolio Project (225 points)

OPTION #1: Why Software Developers Should Take Ethics into Consideration

There are numerous examples of software systems that have had unforeseen lapses in ethics controls. These software systems include online genetic testing services, dating sites, online job boards, and municipal taxing entities. In this discussion, you will research one of those software systems, or another of your choice, and analyze potential ethical lapses in the software solution. Identify the issues and devise remedies for ethical lapses. Are such remedies doable or feasible? Address the following questions in your analysis. Utilize the following questions to help you formulate your portfolio project submission:

Instructions and Questions for Portfolio Paper:

- What makes ethics important for software developers?
- Give examples of ethical considerations that a developer might face.
- What can developers do to incorporate ethical considerations into their work?
- What type of questions should developers be asking?
- What can the software community do to support coping with ethical issues?
- Should there be consequences of unethical software? Why, or why not?

Submission Requirements:

- Provide in-depth analysis for each of the questions in essay form.
- Your essay should consist of a minimum of six properly constructed pages in the form of a Word document.
- Format your entire paper according to the CSU Global Guide to Writing & APA.
- Support your analysis using at least five authoritative literary sources, which are cited using correct APA styling.
- Submit your Word document using the file name:
CSC502_FinalPortfolio_Option1_<LastName>_<FirstName>.docx.

OPTION #2: Ethics and Human Resource Information Systems

An important aspect of an organization is the Human Resource Department. In order to maintain an agile Human Resource Department, data must be maintained accurately. Most organizations employ the use of a Human Resource Information System (HRIS) in order to provide quick access to employee data. The data contained in the HRIS can include everything from an employee's personal identifying information, such as full-name, date of birth, and social security number. The use of this technology can introduce possible legal and ethical problems. In this paper, you will focus on factors that can affect this technology. More specifically, utilize the following questions to help you formulate your portfolio project submission:

Instructions and Questions for Portfolio Paper:

- Research a few contemporary HRIS systems and assess ethical vulnerabilities within those systems.
- Provide assessments for the types of sensitive data held with an HRIS and for issues with access to that data. Some considerations:
 - How long should sensitive data be kept?
 - What are the ramifications of releasing sensitive data to external parties?
 - Can sensitive data be impugned or updated or used as retaliation? Why, or why not?
 - Is a company/organization liable if an HRIS is hacked and the resulting data is posted on social media? Why, or why not?
- Provide an assessment of liability issues with HRIS. What legal statutes, if any, provide oversight of liability issues?
- What security policies must an HRIS be subjected to? Are such security policies enough to safeguard ethics and liability concerns? Why, or why not?

Submission Requirements:

- Provide in-depth analysis for each of the questions in essay form.
- Your essay should consist of a minimum of six properly constructed pages in the form of a Word document.
- Format your entire paper according to the CSU Global Guide to Writing & APA
- Support your analysis using at least five authoritative literary sources, which are cited using correct APA styling.
- Submit your Word document using the file name:
CSC502_FinalPortfolio_Option2_<LastName>_<FirstName>.docx.

COURSE POLICIES

Grading Scale	
A	95.0 – 100
A-	90.0 – 94.9
B+	86.7 – 89.9
B	83.3 – 86.6
B-	80.0 – 83.2
C+	75.0 – 79.9
C	70.0 – 74.9
D	60.0 – 69.9
F	59.9 or below

Course Grading

20% Discussion Participation
45% Critical Thinking Assignments
35% Final Portfolio Project

IN-CLASSROOM POLICIES

For information on late work and incomplete grade policies, please refer to our [In-Classroom Student Policies and Guidelines](#) or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

Academic Integrity

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work (see *CSU-Global Guide to Writing and APA Requirements* for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

Citing Sources with APA Style

All students are expected to follow the *CSU-Global Guide to Writing and APA Requirements* when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the “APA Guide & Resources” link. A link to this document should also be provided within most assignment descriptions in your course.

Disability Services Statement

CSU–Global is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Disability Resource Coordinator at 720-279-0650 and/or email ada@CSUGlobal.edu for additional information to coordinate reasonable accommodations for students with documented disabilities.

Netiquette

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom. If you have concerns about something that has been said, please let your instructor know.