

Course discipline/number/title: PHIL 1150: Computing and AI Ethics

A. CATALOG DESCRIPTION

1. Credits: 3
2. Hours/Week: 3
3. Prerequisites (Course discipline/number): None
4. Other requirements: College-level reading
5. MnTC Goals (if any): Goal 6/The Humanities-the Arts, Literature, and Philosophy, Goal 9/Ethical and Civic Responsibility

B. COURSE DESCRIPTION: In a world increasingly reliant on technology, the ethical implications of computing and artificial intelligence (AI) are more relevant than ever. This course seeks to bridge the gap between technology and ethical inquiry, providing students with the tools to critically evaluate and address ethical dilemmas in various domains of computing, AI, and data science. The course covers a wide range of topics, from fundamental ethical theories to futuristic considerations in AI ethics. Topics include the history of computing, AI and machine learning basics, data privacy, algorithmic bias and fairness, surveillance, security, employment in the age of AI, bioethics in computing, ethics in video games and virtual reality, AI ethics in science fiction, and future policy and design considerations.

C. DATE LAST REVISED (Month, year): November, 2023

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Basic ethical theories and principles
2. The Trolley Problem and other ethical dilemmas
3. History and Evolution of Computing
4. The Basics of AI and Machine Learning
 - a) How AI works
 - b) Ethical challenges specific to AI
5. Ethics and Data Privacy
6. Algorithmic Bias and Fairness
 - a) Racial, gender and other sorts of bias
 - b) How to make algorithms fairer
7. Surveillance and Security
 - a) Government surveillance vs. individual privacy
 - b) Ethical hacking
8. Automation and Job Loss
9. Bioethics and Computing
10. Ethics in Video Games and Virtual Reality
 - a) The impact of virtual worlds
 - b) Representation of race and gender gaming
11. AI Ethics in Science Fiction
 - a) Exploring ethical issues through fictional examples
 - b) Case studies (e.g., Asimov's Laws)
12. The Future of Computing and AI Ethics
 - a) Policy and regulations
 - b) Ethical AI design

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Identify and critically evaluate major ethical theories and principles, and apply them to a range of ethical dilemmas, such as the Trolley Problem.
2. Understand the history and evolution of computing from its earliest forms to present-day technologies, recognizing ethical considerations at each stage.
3. Explain the basics of how AI and machine learning work, and identify the ethical challenges specific to AI, including potential bias and fairness issues.

- E. **LEARNING OUTCOMES (GENERAL):** The student will be able to: Continued. . .
4. Discuss the concept of data privacy and be able to assess ethical considerations surrounding the collection and usage of personal data.
 5. Identify discuss instances of bias in algorithms and propose methods for making algorithms fairer and more equitable.
 6. Explain the implications of government surveillance versus individual privacy and be able to engage in debates about ethical hacking and cybersecurity.
 7. Analyze the impact of AI and automation on employment and the gig economy, identifying both opportunities and ethical considerations.
 8. Evaluate the ethical implications of using computing technologies in healthcare and bioinformatics, including issues around medical data and informed consent.
 9. Recognize the ethical implications of video games and virtual reality, including issues related to representation, violence, and impact on behavior.
- F. **LEARNING OUTCOMES (MNTC):**
- Goal 6/The Humanities-the Arts, Literature, and Philosophy: The student will be able to:
1. Understand those works as expressions of individual and human values within a historical and social context.
 2. Respond critically to works in the arts and humanities.
 3. Articulate an informed personal reaction to works in the arts and humanities.
- Goal 9/Ethical and Civic Responsibility: The student will be able to:
1. Examine, articulate, and apply their own ethical views.
 2. Understand and apply core concepts (e.g. politics, rights and obligations, justice, liberty) to specific issues.
 3. Analyze and reflect on the ethical dimensions of legal, social, and scientific issues.
- G. **METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include, but are not limited to:
1. Papers
 2. Tests and quizzes
 3. Journals
 4. Service-learning projects
- H. **RCTC CORE OUTCOME(S).** This course contributes to meeting the following RCTC Core Outcome(s):
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.
- I. **SPECIAL INFORMATION (if any):** None