

4565: Computing Foundations for a Digital Age

Unit 5

Ethical Technology Case Study – Teacher Overview

Project Summary:

In this culminating project, students will investigate a real-world technology of their choice (e.g., facial recognition, social media algorithms, fitness trackers) and evaluate its ethical and social implications. They'll explore how the tech works, who it affects, and the trade-offs involved. The final product can take the form of a presentation, case study write-up, or digital artifact.

How the Unit Builds Toward the Project

Day 1: What Is Ethics in Tech?

- Students build foundational understanding of ethics and begin identifying technologies with ethical dimensions.

Day 2: Traditional vs. AI/ML Algorithms

- Students compare types of algorithms and begin narrowing down a tech tool or system they'd like to investigate.

Day 3: How Does AI Learn?

- Students explore training data and bias in AI systems—key for evaluating fairness and responsibility in their chosen tech.

Day 4: Usability, Ergonomics, and Accessibility

- Students assess how inclusive and user-friendly technologies are—important criteria for evaluating societal impact.

Day 5: The Internet's Impact on Society

- Students reflect on how internet-connected tech shapes behavior, access, and equity—another lens for case study analysis.

Day 6: Data Privacy and Consent

- Students examine how their chosen tech handles user data—central to ethical evaluation.

Day 7: Copyright, Patents, and IP

- Students consider whether the tech involves protected content and explore ownership/legal concerns.

Day 8: Ethical Trade-Offs in Computing

- Students articulate their stance on the benefits and drawbacks of their chosen technology, preparing for a final argument.

Day 9: Ethical Tech Symposium

- Students present their case study findings to peers and receive feedback.

Day 10 (Optional): Reflection & Real-World Application

- Students reflect on their own tech use and how what they've learned might influence their future decisions.
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Final Product Options (Teacher-Directed)

- Case study report with sections on ethics, privacy, bias, accessibility, and trade-offs
- Slide deck or digital presentation
- Podcast or short video
- Infographic or visual summary
- Classroom debate or panel presentation