CS 105: Introduction, Ethical Theories

Chris Kauffman

Week 1
Computer Ethics and Society

Intensive introduction to legal, social, and ethical issues surrounding software development and computer use. Stresses professional conduct, social responsibility, and rigorous standards for software testing and reliability. Examines issues such as liability, ownership of information, and computer crime. Fulfills general education requirement in information technology (ethics only).

- What are your expectations?
- What are my expectations?
Sandel’s Scenario

A trolley, a lever, a choice
- and a large individual

Playground for 3 ethical theories
We sometimes think of moral reasoning as a way of persuading other people. But it is also a way of sorting out our own moral convictions, of figuring out what we believe and why.

Michael J. Sandel. Justice pg 23
### Frameworks

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>abstract systems</th>
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<tbody>
<tr>
<td>Physics/Engineering</td>
<td>physical systems</td>
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<tr>
<td>Biology</td>
<td>living systems</td>
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<tr>
<td>Economics/Psychology</td>
<td>human systems</td>
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<tr>
<td>Ethics</td>
<td>moral systems</td>
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- Study ethics to reason about new moral problems
- Moral problems aren’t exactly like math/physics problems
  - If I do X, then Y will be saved.
  - If I do X and Y will be saved, *should* I do X?
Course Objective 1

*Students will understand many of the key ethical, legal and social issues related to information technology and how to interpret and comply with ethical principles, laws, regulations and institutional policies.*

We’ll study several **ethical theories**: framework to reason about moral problems.

- Lots of examples of applications of theories
- An assignment on ethical theories
- Much discussion on how they apply to IT problems

*Ethics is a huge subject; this course is an amuse-bouche.*
Another Problem

- George sees a car with the locks off and a nice GPS on the dashboard.
- Hoodlums on the corner see the car too
- Should George open the door so he can lock the car for the owner?
Related IT Problem

- George finds a security hole in his operating system (it’s unlocked)
- The security hole makes any computer with his OS vulnerable to hackers/viruses
- George writes a program that fixes the security hole on his own computer
- Should he deploy the program to enter other people’s unlocked computers and fix them without permission?
IT Problems

Most problems in IT aren’t new ethical dilemmas

- They feel alien, less tangible
- They scale differently

Traditional one can rob a few Target stores (probably around $10K) while IT allows one to rob Target corporation (up to $18B gain)
Course Objective 2

Students will understand the essential issues related to information security, how to take precautions and use techniques and tools to defend against computer crimes.

- We’ll study crime scenarios, raise awareness
- Do an assignment to exercise some tools
Daily Mechanics

- Chris gets on his soap box (as little as possible)
- Discuss as a large group, small group
- Some in-class activities for fun and profit

**Important:** I expect you will read textbook ahead of time. Discussions are much more fun if you have an informed opinion.
Participation

▸ Every class, at some point
▸ Write your name and NetID on a piece of paper
  ▸ My NetID is ckauffm2 as in ckauffm2@gmu.edu
▸ Answer questions
▸ Hand it in when prompted
▸ That’s participation: show up, contribute

Go to class! College isn’t that hard if you actually, you know, show up!
– Andrew, Financial Analyst, University of Wisconsin Madison, Class of 1993, from The Advice I’d Give My College Freshman Self, PBS News Hour
Star Power

For outstanding contributions to discussion
- Star the top of your hand-in (I’ll tell you)
- TAs may award based on outstanding participation answers
- Stars are bonus credit on participation

Note: Stars are Helpful
- Only form of Extra Credit in our CS 105
- Only medical emergencies allow for makeup of missed discussions
- Each class attendance = 2% of overall grade
- Each Star = 1% of overall grade
Other Logistics

**Slides**

Available on our **Blackboard site**

- Memory tool, not a substitute for lectures
- Take your own notes
- Do the reading

**Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>per Unit</th>
<th>Total</th>
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<tbody>
<tr>
<td>2 Out-of-class assignments</td>
<td>15%</td>
<td>30%</td>
</tr>
<tr>
<td>3 In-class quizzes</td>
<td>6.67%</td>
<td>20%</td>
</tr>
<tr>
<td>1 Final Exam</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>10 Participation Chances</td>
<td>2%</td>
<td>20%</td>
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About Chris

Things you should know about me

▸ I’m a computer scientist, not an ethicist
▸ I study bioinformatics, solving biology problems via computation
▸ I am very interested in philosophy
  ▸ Not just moral philosophy
▸ I will work very hard to make this subject relevant and interesting
▸ I can’t read minds: talk to me if you have questions or problems
For Next Week

Read  Quinn Ch 1 and Ch 2
      ▶ See the schedule for specific sections

Study  Ethical Theories
       ▶ Kantianism
       ▶ Act Utilitarianism
       ▶ Rule Utilitarianism
       ▶ Social Contract Theory

Chris’s Office Hours:  Tue 3:00-5:00 ENGR 5341