

Spring 2010

CS 19000: Contemporary Issues in Computing

Monday, Wednesday, 3:30-4:20 (first 8 weeks), 1 credit

What does Google know about you? Is this ethical? Can fingers stalk? Who has information freedom? Who knows where you are? Why do we need cookies? Who owns the bits?

Computing and the internet have transformed society with a speed and in a scale that is rare in the history of mankind. These transformations continue to change society at rapid pace. In this course we will review issues that have arisen because of this sustained transformation and discuss what challenges lie ahead. The course will focus on how computing affects everyone, how the Internet has changed how societies and individuals function, and what the implications are for the future.

The material will be taught in an 8-week session of two lectures a week. Reading technical and news articles will introduce the topics to be covered, and written assignments will challenge students to conceptualize issues and trends and propose solutions. Course requirements include weekly writing assignments, active participation in class and online interaction. Topics to be addressed may include, but are not limited to:

- **The Internet:** origins, how it works, search engines, value of information, economic impact, protection against hacking.
- **Privacy and Security:** access protection, worms, viruses, malware, encryption technology, electronic voting, data mining and collating, automated prediction and discovery, cyber bullying.
- **Intellectual Property and Ethics:** copyright and patents, millennium legislation, digital rights management, fair use and abuse, good vs. malicious information, ethics for the information age.
- **Social Networking:** blogs, Wikipedia, Facebook and social networking, reliability of information.
- **Digital Divide:** unequal access, one laptop per child project, globalization and outsourcing.
- **Gaming for Fun and Learning:** simulation and training, VR environments, massive online games, impact on technology markets.
- **History of Computing:** mechanical computing devices, Turing, IBM and the PC, evolutionary trends.
- **Limits and Future of Computing:** computational models, intractability, computability, embedded systems, DNA and quantum computing.

The course will be team-taught by faculty from Computer Science and the College of Education and will include guest lectures. For more information visit <http://cs4edu.cs.purdue.edu/courses>.