

## School of Computing & Information Sciences

**Course Title: Technology in the Global Arena**

**Date: March 2, 2020**

**Course Number: CGS 3095**

**Number of Credits: 3**

<b>Subject Area:</b> IT/CS core	<b>Subject Area Coordinator:</b> Richard Whittaker <b>Email:</b> rwhittak@cis.fiu.edu
<b>Catalog Description:</b> Exploration of the legal, ethical, and social impacts of computer technology as it relates to global society, governance, and quality of life. The impact of technology on intellectual property issues, privacy, security, anonymity, professional roles and responsibilities, social identity, and social inclusion in the U.S. and globally will be investigated.	
<b>Textbook:</b> Suggested: Computer Ethics – A Global Perspective, by Giannis Stamatellos	
<b>References:</b>	
<b>Prerequisite Courses:</b> For computing majors: COP 2250 or COP 2210, ENC 3213; for others: upper division standing.	
<b>Corequisite Courses:</b> None	

**Type:** Lecture with forum discussions

### **Prerequisites Topics:**

- Programming experience, English technical writing

### **Course Description**

Computing technologies, including the Internet, have led to an increase in opportunities for collaboration and interaction among societies around the world. As additional computing power, storage, and network bandwidth become available, the capabilities of interconnected systems become more and more powerful. This course aims to introduce students to the legal, social, and ethical issues that are brought about by the globally-connected Internet and continuing increases in computing power. These issues, including privacy, security, intellectual property, anonymity, civil liberties, and cultural integrity will be explored from the perspectives of different global societies and through the professional standards adopted by global computing organizations. The goal of this course is to enable computing professionals to make informed ethical decisions that account for societal differences regarding the technologies that they develop and administer.

## Course Outcomes

1. Discuss the legal, ethical, and social impacts of technology as related to intellectual property rights, and how the global reach of the Internet affects these issues.
2. Discuss the legal, ethical, and social impacts of technology as related to individual privacy, security, and anonymity across the globe and in the global Internet society.
3. Discuss a computing professional's roles and responsibilities as related to intellectual property, privacy, anonymity, legal, social, and ethical issues.
4. Recognize the special issues that virtual worlds and social media present to intellectual property, privacy, security, anonymity, social identity, and social inclusion.
5. Recognize the global impacts of the technological divide among diverse populations around the world.
6. Create and deliver a professional presentation on global technology impact issues.
7. Explain strategies for continued professional development.
8. Produce a research paper on global technology impact issues.

Topic	# of Lecture Hours	Selected Readings Chapters refer to the Stamatellos textbook. Other readings will be available via Moodle and the WWW	Outcome
<ul style="list-style-type: none"> <li>• Unique aspects of computing technology               <ul style="list-style-type: none"> <li>○ Unique problems created by technology</li> </ul> </li> </ul>	1	<p style="text-align: center;">"Reason, relativity, and responsibility in computer ethics," James Moor</p> <p style="text-align: center;">"Unique ethical problems in information technology," Walter Maner</p>	1-8
<ul style="list-style-type: none"> <li>• Intellectual property issues               <ul style="list-style-type: none"> <li>○ Patents, copyrights, and trademarks in the U.S. and abroad</li> <li>○ Software piracy, licensing, and patents</li> <li>○ Media piracy</li> <li>○ Reverse engineering of hardware or software</li> <li>○ Transnational issues concerning intellectual property</li> <li>○ Technology's roles in protecting IP and infringing on IP rights</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapter 4</p> <p style="text-align: center;">"Proprietary Rights in Computer Software: Individual and Policy Issues," Deborah Johnson</p>	1
<ul style="list-style-type: none"> <li>• Privacy and security issues               <ul style="list-style-type: none"> <li>○ U.S. Fourth Amendment rights and digital content</li> <li>○ Governments' rights and responsibilities to prevent cyber or physical attacks vs. individual privacy rights</li> <li>○ Privacy issues in the global arena: cultural, social, and legal aspects around the world</li> <li>○ Privacy in the workplace</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapters 2&amp;3</p> <p style="text-align: center;">"Towards a theory of privacy in the information age," James Moor</p>	2
<ul style="list-style-type: none"> <li>• Anonymity issues               <ul style="list-style-type: none"> <li>○ Anonymity's role in freedom of expression</li> <li>○ Anonymity's role in criminal or unethical activities</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapter 3</p> <p style="text-align: center;">"Anonymity, Pseudonymity, or Inescapable Identity on the Net", Deborah Johnson &amp; Keith Miller</p> <p style="text-align: center;">"Anonymity Tools for the Internet," Brian Kim, et al.</p>	2
<ul style="list-style-type: none"> <li>• Freedom of expression and civil liberties issues               <ul style="list-style-type: none"> <li>○ Ethical and legal basis for technological privacy protection</li> <li>○ Ethical and legal framework for freedom of information</li> <li>○ Freedom of expression in cyberspace vs. cultural, social,</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapter 3</p> <p style="text-align: center;">"CDT's Guide to Online Privacy"</p>	3,4

<ul style="list-style-type: none"> <li>and legal issues in other societies</li> <li>○ International and intercultural implications of technology use and technology commerce</li> </ul>			
<ul style="list-style-type: none"> <li>• Software and critical public infrastructure <ul style="list-style-type: none"> <li>○ Proprietary software protection vs. government's requirements for public safety and disaster prevention/recovery</li> <li>○ Risks of computing in the implementation of public policy and government (e.g., electronic voting, electronic health records, etc.)</li> </ul> </li> </ul>	1	<p style="text-align: center;">Chapter 5</p> <p style="text-align: center;">"Is the global information infrastructure a democratic technology?" Deborah Johnson</p> <p style="text-align: center;">"Therac-25 Case Materials"</p>	1
<ul style="list-style-type: none"> <li>• Professional roles and responsibilities <ul style="list-style-type: none"> <li>○ Purpose &amp; appropriateness of professional codes of conduct</li> <li>○ Acceptable use policies</li> <li>○ Whistle-blowing</li> <li>○ Role of professionals in global computing issues</li> <li>○ Evaluate ACM/IEEE Codes of Ethics</li> </ul> </li> </ul>	2	<p style="text-align: center;">Appendices A&amp;B</p> <p style="text-align: center;">"Informatics and professional responsibility," Donald Gotterbarn</p> <p style="text-align: center;">"Using the New ACM Code of Ethics in Decision Making," Ronald Anderson, et al</p>	1-5
<ul style="list-style-type: none"> <li>• Computer-based games <ul style="list-style-type: none"> <li>○ Game developers responsibilities: do/should games teach ethical/unethical behaviors?</li> </ul> </li> </ul>	1	<p style="text-align: center;">Chapter 10</p> <p style="text-align: center;">"The Ethics of E-Games" Special Issue of the International Review of Information Ethics</p>	3,4
<ul style="list-style-type: none"> <li>• Professional Development <ul style="list-style-type: none"> <li>○ The need for continued professional development</li> <li>○ Strategies for continued professional development</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapter 5</p> <p style="text-align: center;">"Teaching Professional and Ethical Aspects of Computing" Harjinder Rahanu</p>	7
<ul style="list-style-type: none"> <li>• Virtual worlds <ul style="list-style-type: none"> <li>○ Real-world laws &amp; social customs for virtual worlds?</li> <li>○ Economic, social, and legal issues in virtual worlds</li> </ul> </li> </ul>	2	<p style="text-align: center;">Chapter 10</p> <p style="text-align: center;">"Information Privacy in Virtual Worlds: Identifying Unique Concerns Beyond the Onine and Offline Worlds," Tal Zarsky</p>	1-5
<ul style="list-style-type: none"> <li>• Student presentations (ACTIVE LEARNING) <ul style="list-style-type: none"> <li>○ Individual research and presentations on related topics</li> </ul> </li> </ul>	19		1-8

## Oral and Written Communication:

Topic	Class Time	Student Performance Measures
All topics	Throughout the semester	Student prepares and delivers a presentation based on his/her research of a related topic (ACTIVE LEARNING)
All topics	Throughout the semester	Student prepares a research paper exploring a technology-related issue with global implications
All topics	Throughout the semester	Student participates in forum discussions about related topics (ACTIVE LEARNING)

## Social and Ethical Implications of Computing Topics

Topic	Class Time	Student Performance Measures
All topics	Throughout the semester	Forum discussions (ACTIVE LEARNING), student presentations (ACTIVE LEARNING), and research papers

## The Coverage of Knowledge Units within Information Technology Body of Knowledge

Knowledge Unit	Topic	Lecture Hours
SP. Professional Communications	Professional Communications	5
SP. Social Context of Computing	Social Context of Computing	3
SP. Intellectual Property	Intellectual Properties	2
SP. Legal Issues in Computing	Legal Issues in Computing	2
SP. Professional and Ethical Issues & Responsibilities	Professional and Ethical Issues & Responsibilities	3
SP. Privacy and Civil Liberties	Privacy and Civil Liberties	2

Source: *Information Technology 2008: Curriculum Guidelines for Undergraduate Degree Programs in Information Technology*, <http://www.acm.org/education/curricula/IT2008%20Curriculum.pdf>

Source: *Curriculum 2008: An Interim Revision of CS 2001*, <http://www.acm.org/education/curricula/ComputerScience2008.pdf>

## Grading Policies

### Assignments and Grading Weights

- Class Attendance: 20%
- Class Participation / Forum Participation / Pop Quizzes: 20%
- Term Paper: 30%
- Class Presentation: 30%

## Evaluation Method

Grades are based on the quality and quantity of each student's participation in class and via web-based forums, and on the quality of each student's paper and presentation. Components are graded as follows:

- A. Class Attendance: REQUIRED & GRADED.** Attendance grade is pro-rated based on your number of absences. **Missing 4 or more classes is an automatic F grade.** If you miss a class, you are responsible to obtain all assignments and information regarding reading materials and assignments.
  
- B. Forum participation:** There are 3 required forums. Minimum participation (equivalent to a grade of C) is one post (with proper reference) and one response (with proper reference) per forum, plus reading and ranking all other forum entries. Forum posts must discuss an issue related to the forum topic, including a link to reference article(s). Forums are not about your opinions, but rather are to highlight current ethical issues and trends involving technology. Responses should discuss points related to the post, and should cite related article(s). **Each forum is graded separately. Skipping one forum will reduce your maximum possible forum grade to 67%.** To maximize your forum grade, you should have at least 4 quality entries (at least one original post; the rest can be replies to other posts) per forum. Forum participation is based on quantity as well as quality. Quality scoring assesses how well you describe the issue and the quality of the reference article(s) used. Quantity scoring is as follows (assumes quality participation in all forums):  
  
**Approximate Overall Forum Scoring (total across all forums, based on quantity only; this will be scaled to reflect quality as well): 12+ = 100%, 9-11 = 90%, 7-8 = 85%, 6 = 75%, 4-5 = 70%, 3 = 60%, 1-2 = 50%, 0 = 0%**
  
- C. Reading assignments:** All assigned reading material must be completed prior to the next class meeting, to enable the student to participate fully in the discussions.
  
- D. Term paper:** A well-researched, well-written term paper is a required element for this course. **Failure to submit a paper is an automatic F grade. Submitting a highly plagiarized paper is an automatic F grade.** The Term Paper will be graded on content, ethical analysis of the issue presented, grammar, style, and adherence to the formatting requirements. Scoring protocols will be provided via Moodle.
  
- E. Class presentation:** You are required to make a 10-minute presentation to the class on the topic of your Term Paper. **Failure to make your presentation at the scheduled time is an automatic F grade.** Presentation will be graded on content, ethical analysis of the issue presented, interest level, and clarity. Scoring protocols will be provided via Moodle.

**Academic Honesty:** Anti-plagiarism software is used to validate the authorship of your written assignments. Any paper which scores 20% or higher on the plagiarism measurement will be subject to a failing grade. Any evidence of this or other cheating will result in a failing course grade. See the section below on Academic Honesty for full details.