UNIVERSITY OF SASKATCHEWAN
Department of Computer Science
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COURSE SYLLABUS
CMPT 408: ETHICS AND COMPUTER SCIENCE

Course Description:

The course addresses social, ethical, legal and managerial issues in the application of computer science to the information technology industry. Through seminars and case studies, human issues confronting computer science graduates will be addressed. Topics include managerial and personal ethics, computer security, privacy, software reliability, personal responsibility for the quality of work, intellectual property, environment and health concerns, and fairness in the workplace.

Prerequisite(s):	Successful completion of 30 credit units in computer science, including at least 3 credit units at the 400-level of computer science.
Class Time & Location:	Tuesday & Thursday, 11:30 am - 12:50 pm, Jan 5 - April 7 , 2015; Thorv. S386

Instructor Information

Instructor:	Bunmi Adewoyin
Contact:	Email**:** bunmi.adewoyin@usask.ca
	Office Phone: 306-966-8654
Office Hours:	Location**:** Thorv. G60
	Hours**:** Tuesday (1PM - 3PM), Wednesday (1PM-3PM) appointment schedule by email preferred

Course Objectives

As a result of taking this course, the students will develop:

- knowledge of different existing ethics frameworks and professional ethics standards for computer professionals,
- skills for ethical decision making using established methodology and process,
- wide knowledge of ethical issues related to computer and information technologies,
- argumentation and written communication skills.

Student Evaluation

Grading Scheme

1) **Topic presentations (15%)**: The first lecture each week (60 min length) will be presented by one student, based on recommended readings – usually the corresponding Chapter from the textbook. Starting from January 12 (on topic "Privacy"), the student lectures will take place on Tuesdays. Thursdays will be dedicated to discussions related to the topic of the week.
2) **Individual essays (10%):** There will be 5 short individual essays (roughly 300 words) about an assigned question related to the topic of the week. The Essay is due by Tuesday evening each week. By Thursday you have to peer-review the essays of your colleagues (the peer-review is marked and worth 5% of the 10%). You will see the reviews of your essay on Friday and have to submit a final (revised and improved) version of your essay, considering the feedback from the reviews by Saturday. This schedule is repeated each week when there is a weekly individual essay assigned.
3) **Collaborative assignments (10%):** Three collaborative assignments that will be done using a Wiki. Students may be assigned into 2 groups to develop documents reflecting particular positions on questions or real cases, given in advance.

4) **Class participation (5%):** Students are expected to engage in the case study discussion in class and their participation will be graded at every class.
5) **Term Paper (20%):** Investigate a chosen topic (see list of sample topics). Use articles and/or books, etc., for background. Your project must include some background research and some activity, e.g., an interview or a physical site visit. (If you choose a topic for which you can't think of an appropriate activity, discuss it with the instructor.) Don't just report. Discuss pros and cons. Evaluate. Use your own words. Quote where appropriate. Give citations for facts and quotes. Discuss how your topic relates to material covered in the text and/or in class discussions. The paper should be approximately 4000 words. The term papers will be peer-reviewed (the peer review is worth 5% of the 20%). See Guidelines here.
6) **Final Exam – 40%:** A quiz (not marked) with sample questions will be provided around mid-term break to get an idea what kind of questions will be on the exam.

Participation	5%
Topic Presentation	15%
Individual Assignments	10%
Collaborative Assignments	10%
Term Paper	20%
Final Exam	40%
Total	**100%**

Criteria that must be met to Pass

It is required that the students attempt all the items in the grading scheme to pass this course. A student will be deemed to have incomplete failure (INF), if they default in any of the following criteria:

1. miss more than 2 assignments,
2. miss more than 60% of the class
3. miss the term paper
4. miss the final exam

Final Exam Scheduling:

The Registrar schedules all final examinations, including deferred and supplemental examinations. Students are advised not to make travel arrangements for the exam period until the official exam schedule has been posted.

Note: All students must be properly registered in order to attend lectures and receive credit for this course.

Textbook Information

Required Text

- Sara Baase (2012) A Gift of Fire, Pearson Prentice Hall, Fourth Edition.
- Other required readings and resources for class activities are specified online on the Blackboard (https:// bblearn.usask.ca/). Any changes to the class contents, schedule, and announcement about readings will appear on this website.

Lecture Schedule

Jan 5-10	Ethics, approaches, ethical decision making, *Initial essay*
Jan 12-17	Privacy, Weekly individual essay 1
Jan 19-24	Freedom of speech

Jan 26-30	Intellectual property, Weekly individual essay 2, *Topic for term paper due Sunday, Feb 1*
Feb 2-7	*Wiretapping and Encryption, Collaborative assignment 1*
Feb 9-14	Crime and security, *Weekly individual essay 3*
Feb 16-21	*SPRING BREAK*
Feb 23-27	Games and gamification, *Collaborative assignment 2*
Mar 2-7	The future of education, Weekly individual essay 4
Mar 9-14	Work
Mar 16-21	Evaluating and controlling technology, *Weekly Individual essay 5*
Mar 23-28	Errors, failures and risks, *Collaborative assignment 3; 1st draft of term papers due Sunday, Mar 29*
Mar30-Apr 4	Professional ethics and professionalism; *Reviews of term paper drafts due by Wed, Apr 1*
Apr 7	Term paper presentations, *Term papers due by Sunday, Apr 5*.

Course Overview

1) **Privacy:** What is privacy, how new technologies lead to risks, expectation of privacy, video surveillance and face recognition, marketing and personalization, social and personal activity, location tracking, government systems; protecting privacy – terminology, rights and law, privacy regulations in Canada, and Europe

2) **Freedom of Speech**: Regulating Communication media, free speech principles, offensive speech, censorship laws, pornography, spam, anonymity, censorship and political freedom, net neutrality, market view.

3) **Intellectual Property:** Definitions, types – copyright, patent, trademark, fair use doctrine, challenges of new technologies, legislation – Bill C-11, educational use, digital locks, free software, patenting software

4) **Wiretapping and Encryption:** Wiretapping history, design of communication systems for interception, the NSA and Secret Intelligence Gathering, Snowden.

5) **Crime and Security**: Hacking, different kinds – hacktivists, security researchers, foreign spies, security, the law; Identity theft and credit Card fraud, Extraterritoriality – whose laws rule the web.

6) **Games and Gamification**: Types of games, Addictions, Isolation, New skills and socialization methods. Definition of gamification , main gamification mechanics, ethical issues of social engineering.

7) **The Future of Education**: Alternative educational models: apprenticeship versus school system, homeschooling. Learning technologies, web-based courses, MOOCs, personalized adaptive intelligent tutors. Deskilling - what skills are important for the new generation? Certification. What is the Future of University education?

8) **Work:** Job Destruction and Creation, changing skills and skill levels required for jobs, telecommuting, outsourcing and global workforce; Employee monitoring, learning about applicants from social sites; Discrimination, stereotypes, Whistle blowing.

9) **Evaluating and Controlling Technology:** What is true on the web? Computer models – can we trust their predictions? Digital divide, trends in access to new technologies, growing inequality, neo-luddite views of computers, technology and quality of life; how to predict the future; the future of the human race.

10) **Errors, failures and Risks:** Types of Computer Failures and examples: problems for individuals, system failures, safety critical systems, the Therac-25 case analysis, increasing reliability and safety – testing, standards, professional techniques; laws regulations, markets. Are we too dependent on computers?

11) **Professional Ethics and Responsibilities**: Definition of Professional Ethics, Guidelines for Computer Professionals, Professional codes of ethics (IEEE and ACM, CIPS). Ethical decision making scenarios – methodology and cases.

Policies

Recording of Lectures

To facilitate safe space for discussion and collaboration, the instructor will not record our classes without prior notice. Students should also refrain from audio or video recordings of class unless advance permission is granted by the instructor

Late Assignments

For all the assignments, late submission is not accepted unless the student has received an advance permission for an extension from the instructor.

Missed Assignments

A missed assignment without a prior permission or an alternate arrangement by the instructor will be graded zero and will count against the student's passing criteria. Students should contact the instructor with the proper documentation to support their reason, at least 24hours before the assignment deadline, in case they are going to miss the deadline. It is left to the instructor to determine if the reason given by the student is compelling.

Missed Examinations

1. Students who miss an exam should contact the instructor as soon as possible. If it is known in advance that an exam will be missed, the instructor should be contacted before the exam.

2. "A student who is absent from a final examination due to medical, compassionate, or other valid reasons, may apply to the College of Arts and Science Undergraduate Student's Office for a **deferred** exam. **Application must be made within three business days of the missed examination** and be accompanied by supporting documents." (http://artsandscience.usask.ca/students/help/success.php)

Incomplete Course Work and Final Grades

"*When a student has not completed the required course work, which includes any assignment or examination including the final examination, by the time of submission of the final grades, they may be granted an extension to permit completion of an assignment, or granted a deferred examination in the case of absence from a final examination, if the reasons for their missed assignments / examination are compelling.*

Extensions past the final examination date for the completion of assignments must be approved by the Department Head, or Dean in non-departmentalized Colleges, and may exceed thirty days only in unusual circumstances. The student must apply to the instructor for such an extension and furnish satisfactory reasons for the deficiency. Deferred final examinations are granted as per College policy.

In the interim, the instructor will submit a computed percentile grade for the class which factors in the incomplete coursework as a zero, along with a grade comment of INF (Incomplete Failure) if a failing grade.

In the case where the student has a passing percentile grade but the instructor has indicated in the course outline that failure to complete the required coursework will result in failure in the course, a final grade of 49% will be submitted along with a grade comment of INF (Incomplete Failure).

If an extension is granted and the required assignment is submitted within the allotted time, or if a deferred examination is granted and written in the case of absence from the final examination, the instructor will submit a revised assigned final percentage grade. The grade change will replace the previous grade and any grade

comment of INF (Incomplete Failure) will be removed.

A student can pass a course on the basis of work completed in the course provided that any incomplete course work has not been deemed mandatory by the instructor in the course outline and/or by College regulations for achieving a passing grade." (http://policies.usask.ca/policies/academic-affairs/academic-courses.php)

For policies governing examinations and grading, students are referred to the Assessment of Students section of the University policy "Academic courses: class delivery, examinations, and assessment of student learning" (http://policies.usask.ca/policies/academic-affairs/academic-courses.php)

Academic Honesty

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct (http://www.usask.ca/secretariat/student-conduct-appeals/StudentAcademicMisconduct.pdf) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals (http://www.usask.ca/secretariat/student-conduct-appeals/StudentNon-AcademicMisconduct.pdf) Academic honesty is also defined and described in the Department of Computer Science Statement on Academic Honesty (http://www.cs.usask.ca/undergrad/honesty.php).

For more information on what academic integrity means for students see the Student Conduct & Appeals section of the University Secretary Website at:
http://www.usask.ca/secretariat/student-conduct-appeals/forms/IntegrityDefined.pdf

Examinations with Disability Services for Students (DSS)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check http://students.usask.ca/health/centres/disability-services-for-students.php, or contact DSS at 966-7273 or dss@usask.ca.

Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.

Acknowledgment

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