Course Objectives: By the end of this course students are expected to:

1. Identify significant continuing trends in the history of the computing field. [2,3,5,7,8]
2. Interpret the social context of a particular implementation. [2,3,5,7,8]
3. Identify assumptions and values embedded in a particular design. [2,3,5,7,8]
4. Evaluate a particular implementation through the use of empirical data. [2,3,5,7,8]
5. Describe positive and negative ways in which computing alters the modes of interaction between people. [2,3,5,7,8]
6. Explain why computing/network access is restricted in some countries. [2,3,5,7,8]
7. Analyze an argument to identify premises and conclusion. [2,3,5,7,8]
8. Illustrate use of example, analogy, and counter-analogy in ethical argument. [2,3,5,7,8]
9. Detect use of basic logical fallacies in an argument. [2,3,5,7,8]
10. Identify stakeholders in an issue and our obligations to them. [2,3,5,7,8]
11. Articulate the ethical tradeoffs in a technical decision. [2,3,5,7,8]
12. Identify progressive stages in a whistle-blowing incident. [2,3,5,7,8]
13. Specify the strengths and weaknesses of relevant professional codes as expressions of professionalism and guides to decision-making. [3,5,7,8]
14. Identify ethical issues that arise in software development and determine how to address them technically and ethically. [3,5,7,8]
15. Develop a computer use policy with enforcement measures. [3,5,7,8]
16. Analyze a global computing issue, observing the role of professionals and government officials in managing the problem. [3,5,7,8]
17. Evaluate the professional codes of ethics from the ACM, the IEEE Computer Society, and other organizations. [3,5,7,8]
18. Explain the limitations of testing as a means to ensure correctness. [2,3,5,7,8]
19. Describe the differences between correctness, reliability, and safety. [2,3,5,7,8]
20. Discuss the potential for hidden problems in reuse of existing components. [3,5,7,8]
21. Describe current approaches to managing risk, and characterize the strengths and shortcomings of each. [2,3,5,7,8]
22. Distinguish among patent, copyright, and trade secret protection. [2,3,5,7,8]
23. Discuss the legal background of copyright in national and international law. [1,3,7,8]
24. Explain how patent and copyright laws may vary internationally. [2,3,5,7,8]
25. Outline the historical development of software patents. [2,3,5,7,8]
26. Discuss the consequences of software piracy on software developers and the role of relevant enforcement organizations. [3,6,7,8]
27. Summarize the legal bases for the right to privacy and freedom of expression in one’s own nation and how these concepts vary from country to country. [6,7,8]
28. Describe current computer-based threats to privacy. [6,7,8]
29. Explain the historical development of software patents. [3,5,7,8]
30. Describe current computer-based threats to privacy. [6,7,8]
31. Explain how the Internet may change the historical balance in protecting freedom of expression. [3,6,7,8]
32. Explain both the disadvantages and advantages of free expression in cyberspace. [6,7,8]
33. Describe trends in privacy protection as exemplified in technology. [3,5,7,8]
34. Outline the technical basis of viruses and denial of service attacks. [2,3,5,7,8]
35. Enumerate techniques to combat “cracker” attacks. [2,3,5,7,8]
36. Discuss several different “cracker” approaches and motivations. [2,3,5,7,8]
37. Identify the professional’s role in security and the tradeoffs involved. [3,5,7,8]
38. Summarize the rationale for antimonopoly efforts. [6,7,8]
39. Describe several ways in which the information technology industry is affected by shortages in the labor supply. [2,3,5,7,8]

40. Suggest and defend ways to address limitations on access to computing. [3,6,7,8]

41. Outline the evolution of pricing strategies for computing goods and services. [2,3,5,7,8]

42. Summarize the basic concepts of relativism, utilitarianism, and deontological theories. [1,3,7,8]

43. Recognize the distinction between ethical theory and professional ethics. [3,6,7,8]

44. Identify the weaknesses of the “hired agent” approach, strict legalism, naïve egoism, and naïve relativism as ethical frameworks. [1,5,7,8]

Numbers in brackets refer to method(s) used to evaluate the course objective. Lines crossed out don’t apply.

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**Relationship to Program Outcomes: (only items in dark print apply )**

This course supports the following Computer Science Program Outcomes, which state that our students at the time of graduation are expected to:

1. Posses knowledge of the fundamentals of mathematics, science, and technology. [1,3,5,6,9,10,11,16,17,20,21,22,27,34,35,36]

2. Be able to use modern computational tools and techniques in the practice of computer science. [5,6,20,21,34,36]

3. Be able to develop logically sound and efficient algorithms. [20,21]

4. Be prepared to implement algorithms in multiple programming languages, on multiple hardware platforms, and in multiple operating system environments.

5. Be able to perform analysis, design, implementation, testing, and maintenance of computer-based systems, stressing software engineering principles. [5,6,20,21]

6. Be prepared to seek continuing professional development, graduate studies, or professional certifications related to computer science. [1-44]

7. Demonstrate effective written, visual and oral communication skills. [1-44]

8. Posses an educational background to understand the global context in which computer science is practiced, including:
   a. Knowledge of contemporary issues related to computer science;
   b. The impact of computers on society;
   c. The role of ethics in the practice of computer science. [1-44]

9. Be able to contribute effectively as members of a project development team.

10. Recognize the need to pursue continued learning throughout their professional careers.

*Numbers in brackets refer to course objective(s) that address the Program Outcome, except ones crossed out.*

Prepared By: Stephen B. Rainwater  
Revised by Sumit Ghosh  
Date: 11/10/04  
Revised: 8/29/10
Course Catalog Description:

Introduction to the social and professional issues that arise in the context of computing.

Topics:

1. What is computing?
2. History and need for ethics?
3. Ethics, professional obligations, and social responsibilities
4. Privacy, from the computing perspective
5. Speech and anonymity, from the computing perspective
6. Intellectual property, from the computing perspective
7. Explosion of crime, from the computing perspective
8. Collaborative work/Team work
9. Resources and infrastructures: protection and fair use, from computing perspective
10. Errors, failures, dissentions, and punishments
11. Case studies: reasonings, arguments, and analysis

Textbook: There are no required textbooks in this course. The following two books are recommended as references.


Pre-requisite: COSC 1337/1137

Grading:

Midterm exam (individual) 20%;
Class project (team) 20%
Final exam (individual) 30%
Final project (team) 30%

A grading curve will be followed in this course to ensure fairness.

Miscellaneous:

Please come to class and interact with me and your peers. Not only is your interaction crucial to getting the most out of the class but it will make the class lively and enjoyable, especially since the topics are fast evolving and generally beyond the scope of any published textbook. Also, midterm exam schedule and other due dates will be set in the class, following discussions, so please make sure you regularly attend the classes.
ADDITIONAL POLICIES:

Plagiarism:
Unless otherwise specified, all work submitted for a grade must be completed by you - no group effort. Plagiarism will result in disciplinary actions. To spare yourself accusations of plagiarism-

1. Do not show another student a copy of your work before it has been graded. The penalties for permitting your work to be copied are the same as the penalties for copying someone else’s work.
2. Do not leave printouts of your work where other students may pick them up.

Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:
http://www.utyler.edu/wellness/StudentRightsandResponsibilities.html

Grade Replacement/Forgiveness
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

Disability Services
If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address:
http://www.utyler.edu/disabilityservices.

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.