CMPT 106 - D100 Applied Science, Technology and Society

Instructor(s): Harinder Khangura

SFU Surrey

Calendar Objective/Description:
Reviews the different modes of thought characteristic of science, engineering and computing. Examines the histories and chief current research issues in these fields. Considers the ethical and social responsibilities of engineering and computing work.

Instructor's Objectives:
Surveys the historical development of computing, engineering, and the sciences. Evaluates the impact of computing and engineering on the environment and on global development. Discusses ethical issues in computing and engineering in the light of selected case studies, including the Therac 25 incident. Examines several current research issues in computing and engineering, such as nanotechnology and artificial intelligence. During the semester, students work on a practical design project in small teams. Paired with a writing course in which students write a substantial research paper.

Prerequisites:
Corequisite: CMPT 105W or MSE 101W. Students with credit for ENSC 100, ENSC 106 or MSE 102 cannot take this course for further credit.

Topics:
- History of computing and engineering
- Modes of thinking in the sciences, computing, and engineering
- Ethical responsibilities of computing and engineering professionals
- Technology and the developing world
- Outstanding problems in computing and engineering
- Introduction to Artificial Intelligence
- Software and engineering project management
- Speculation on prospects for the future

Grading:
Group design project, Attendance/Seminar Participation, In-Class Quizzes, Final Paper. A more detailed marking scheme will be made available during the first lecture.

Required Books:
The Betterment of the Human Condition 2/E, John Jones, Pearson, 2011, 9781256098775

Academic Honesty Statement:
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies ( http://www.sfu.ca/policies/gazette/student.html ).