CS 5560 : PROFESSIONAL ISSUES IN SOFTWARE DEVELOPMENT

Semester Hours: 3.0
Coordinator: N/A
Text: N/A
Author(s): N/A
Year: N/A

Contact Hours: 3

SPECIFIC COURSE INFORMATION

Catalog Description:
A study of representative professional issues that may arise during the process of software development. Prerequisites: Admission to MS in CS program, or consent of department; CS 4640 or CS 5640 or equivalent or consent of the instructor. Approved for Distance Ed.

Course type: Elective

SPECIFIC COURSE GOALS

- I can identify important professional issues that should have been considered during development
- I can identify important factors that could have affected the resolution of the issues
- I can detail these issues and factors in a comprehensive “impact assessment” for that product

STUDENT OUTCOMES ADDRESSED BY THIS COURSE

- B.1 Analyze a given problem, and identify and define the computing requirements appropriate to its solution
- B.2 Use current techniques, skills, and tools in computing practice
- B.5 Apply design and development principles in the construction of software systems of varying complexity

LIST OF TOPICS COVERED

Each case will involve a notable software engineering failure. In addition to the core “Killer Robot” case, the course will cover at least two of the following well-documented cases: Therac-25, Ariane-5 Denver International Airport, London Ambulance Airport, Mars Climate Orbiter. For each of the cases, students will:
• chronicle the development of the case on a timeline
• identify primary and secondary stakeholders
• identify pivotal decision points for specific stakeholders, and
• plot these points on the timeline
• construct a multiway what-if decision tree that shows multiple possible alternative outcomes for the case, starting from a specific pivotal decision point and continuing forward by stages
• write short position papers

For one case, students will do all of the above, and:

• Assemble a comprehensive reusable stand-alone “resource kit” (an e-book) containing copies of every resource necessary for someone to understand and analyze the case, both from a professional and a technical standpoint
• will follow the SoDISTM procedure outlined by the nonprofit Software Development Research Foundation (or a similar procedure) to perform a software impact assessment based on materials contained in the assembled “resource kit,” with specific reference to the provisions of the IEEE-CS/ACM Software Engineering Code of Ethics and Professional Practice