Computing Science Course Outlines

CMPT 275 - E100 Software Engineering I

Instructor(s): TBA

Calendar Objective/Description:
Introduction to software engineering techniques used in analysis/design and in software project management. The course centres on a team project involving requirements gathering, object analysis and simple data normalization, use-case-driven user documentation and design followed by implementation and testing. Additionally, there is an introduction to project planning, metrics, quality assurance, configuration management, and people issues.

Instructor’s Objectives:
An introduction to software engineering techniques used for both software development process and software project management. The course centers on a team-based software development project and utilizes the use case approach to drive requirements gathering, object-oriented analysis, user documentation and design phases. The project also includes implementation and testing phases as well as simple data normalization. Release and maintenance phases are discussed. Throughout the course, software project planning, configuration management and people management are examined.

Prerequisites:
One W course, CMPT 225, (MACM 101 or (ENSC 251 and ENSC 252)) and (MATH 151 or MATH 150). MATH 154 or MATH 157 with at least a B+ may be substituted for MATH 151 or MATH 150. Students with credit for CMPT 276 may not take this course for further credit.

Topics:
- Software Life Cycle and Software Development Process
- Requirements Gathering and Specification, as well as Object-Oriented Analysis
- Design: high-level design (architectural, module interface, user interface, etc.) and low-level design (detailed design of classes)
- Implementation: code standards, code review, etc.
- Testing: unit, integration, system, user acceptance and test plans
- Documentation: user manual, etc.
- Introduction to Software Configuration Management

Grading:
Assignments (i.e. Term Project) 50%; Midterm 15%; Final 35%.

Recommended Books:
The Mythical Man-Month, Frederick P. Brooks, Addison-Wesley, Anniversary Edition
Object-Oriented Software Engineering: Using UML, Patterns, and Java, Bernd Bruegge, Allen H. Dutoit, Prentice Hall

Reference Books:
Project-Based Software Engineering: An Object-Oriented Approach, Evelyn Stiller and Cathie LeBlanc, Addison Wesley
Software Engineering, Ian Sommerville, Addison Wesley, 9780133943030, 10th Edition
Professional Software Development, Steve McConnell, Addison Wesley, 9780321193674

Academic Honesty Statement:
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