Software Engineering - Spring 2022

Course Details

Required text: *Design Patterns: Elements of Reusable Object-Oriented Software* by Gamma, Helm, Johnson, and Vlissides.

Other useful books:

- Software Architecture in Practice (Second/Third edition) by Len Bass, Paul Clements and Rick Kazman, Addison-Wesley.
- M. Fowler. Refactoring: Improving the design of existing Code, 2000. Addison Wesley. ISBN 0-201-48567-2.
- Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development (Third Edition). Craig Larman, 2005. Prentice-Hall. ISBN: 0-13-148906-2.

Instructor: Dr. Y. Raghu Reddy raghu.reddy@iiit.ac.in

Teaching Associate: TBA

Teaching Assistants: TBA

Office Hours: TBA

Meeting time: Monday & Thursday 3:30 - 4:55 PM.

Course Description:

Course will provide and overview of the principles and foundations of modern software engineering techniques (primarily design based). Topics include software subsystem modeling, architecture and design patterns, and design tradeoffs, with a focus on application of these concepts to concrete software problems.

Course Objectives:

By the end of this course you should be able to:

- Understand software design descriptions and patterns
- Create software design documentation that satisfies the needs of clients and developers
- Maintain existing software systems
- Evolve existing software systems to satisfy functional and non-functional properties.

Deliverables/Participation:

- Class discussions and Online Discussions
- Quizzes
- Unit Question Answers
- Project deliverables for 3 projects
- Exams
- Class Activities

Grading policy:

- The students can request a re-evaluation of the grade until a week after the particular grade has been posted. After that the student CAN NOT discuss prior grades with the course Instructor or TAs.
- There will be **no make up quiz/activity/exam** under any circumstances unless prior permission is granted.
- Late submissions will not be entertained.
- Although project grades are assigned for the entire team, each individual may be given a **higher or lower grade (up to 50%)** based on his/her contribution.

Grade Distribution (tentative):

Final Exam	16 %
Mid-term Exam	10 %
Quizzes	12 %
Unit Questions	12 %
3 Unit Projects (2 * 15) + (1 * 10)	40 %
Other Activities/Participation	10 %

I reserve the right to make adjustments to this plan.

Policy on joint work and outside help:

On exams and quizzes all work should be your own. The projects/unit questions will be done by teams of 3, 4 or 5 students. Plagiarism or cheating will result in a grade of "0" for the projects, quizzes or exam. Egregious cases will result in a grade of "F" for the course.

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