

Software Engineering - Spring 2019

Course Details

Recommended 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 Assistants: Sai Aniruddh and Lalit Mohan

Meeting time: TBA.

Course Description:

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

It is assumed that you have sufficient knowledge about SDLC and hence the focus will be on Product Engineering.

Course Objectives:

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

- Understand software design descriptions and patterns
- Evaluate and analyze designs
- 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 and Online Discussions
- Quizzes in class
- Unit Question Answers
- Project deliverables for 3 Units
- Two mid-term exams and a comprehensive final exam

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 may not discuss prior grades with the instructor.
- There will be **no make up quiz/activity/exam** under any circumstances unless a 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:

Mid-term Exam (2 * 12) - Individual	24 %
Final Exam (1 * 16) - Individual	16 %
Quizzes (2 * 5) - Individual	10 %
Projects (2 * 14, 1 * 8) - Groups	36 %
Unit Questions (2 * 4) - Groups	8 %
Participation/Class Activities	6 %

I reserve the right to make adjustments to this plan (based on our progress through the semester).

The following grade cut-off * shall be applicable:

≥ 90	A
$\geq 85 \ \& \ < 90$	A-
$\geq 80 \ \& \ < 85$	B
$\geq 75 \ \& \ < 80$	B-
$\geq 70 \ \& \ < 75$	C
$\geq 65 \ \& \ < 70$	C-

≥ 60 & < 65	D
< 60	F

*The cut-off may be lowered/scaled (if necessary).

Policy on joint work and outside help:

On exams and quizzes all work should be your own. The projects will be done by teams of 3 or 4 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.

Policy on lost or corrupted files:

You are expected to backup your computer files regularly. If you are unable to turn in an assignment on time because of a lost or corrupted file, then you must turn in the latest (uncorrupted) version that you have.

Absentee policy:

Please read and adhere to the following rules. These rules are not meant to be demeaning or penal. They are stated to establish a clear understanding of my expectations for student participation and demeanor in the classroom. My highest priority is your success in this course and your continuing success at IIIT and beyond. These rules are meant to help/motivate you in achieving that success.

- 1.) University attendance policy will apply. Additionally, you will miss credit for activities that took place during classes that you were absent. There will be make up classes/activities.
- 2.) Absence from an exam/quiz/any class related activity is excused only in a documented medical emergency.

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