

Software analysis and design

Module 0: About this course

Introduction

- Course name: Software Analysis and Design
- Lecturers:
 - ❖ Dr. Mai Xuan Trang
 - Phenikaa University
 - Email: trang.maixuan@phenikaa-uni.edu.vn

Objectives

- To introduce students to write and read software requirements
- To introduce students to use UML diagrams
- To instruct students to build analysis model of software systems
- To instruct students to transform from analysis to design model
- To instruct students to read and implement design models

Learning Outcomes

- Understand how to analyze a problem based upon software requirements.
- Construct one or more models of the problem space and express the results of analysis in proper UML diagrams.
- Transform the object-model from your analysis into an effective object-oriented design.
- Identify and apply patterns during analysis and design.
- Implement design documents.

Schedule

- Lecture 1-8 + Lab
- Lab 9-10 in projects
- Student groups present projects

References

Required text:

1. Slides: "*Software analysis and design*".
2. *Unified Modeling Language User Guide*, Grady Booch, James Rumbaugh and Ivar Jacobson, 2nd Edition, Addison Wesley Professional, 2005.

Supplied text:

3. *Software Engineering: A Practitioner's Approach*
4. *Object oriented software construction*, Bertrand Meyer, Prentice Hall, 2000.
5. *Design pattern: Elements of Reusable Object Oriented Software*, Erich Gamma et al. Addison Wesley Professional, 1994.

Evaluation

- Course component grading weight (it can be changed):
 - Attendance & Participate in activities: 10%
 - Project report and presentation: 40%
 - Final exam (Project): 50%