

Design Patterns

1. SYLLABUS INFORMATION

1.1. Course title

Design Patterns

1.2. University

Pázmány Péter Catholic University

1.3. Semester

1st year, 1st semester

2. COURSE DETAILS

2.1. Course nature

Compulsory

2.2. ECTS Credit allotment

5

2.3. Faculty data

Dr. István Zoltán Reguly

3. COMPETENCES AND LEARNING OUTCOMES

3.1. Course objectives

The goal of the course is for the students to learn to recognize the principal software design patterns, the understand their pros and cons: to know what kinds of problems they are appropriate for, and how to implement them. Furthermore, the students will learn to read the UML diagrams that describe these patterns. There will be discussions about the importance of code clarity and structure and its practical implications.

3.2. Course contents

Clear code, UML, Basics of OO design, Creational patterns, Structural patterns, Behavioral patterns, software architecture patterns, antipatterns, other patterns

3.3. Course bibliography

Gamma, Erich; Helm, Richard; Johnson, Ralph; Vlissides, John (1995). Design Patterns: Elements of Reusable Object-Oriented Software. Addison-Wesley. ISBN 0-201-63361-2

Robert Cecil Martin (2008). Clean Code: A Handbook of Agile Software Craftsmanship. Prentice Hall. ISBN-13: 978-0132350884

4. EVALUATION PROCEDURES AND WEIGHT OF COMPONENTS IN THE FINAL GRADE

- Attending lectures is mandatory; you can miss at most 3 times.
- There will be 10 short written tests.
- There will be 8 assignments to submit, each for a deadline of a large project. Submission deadline is always noon on the day before the lecture.
- Conditions for final exam: attending at least 8 lectures, Submitting at least 7 assignments, >50% average on both the assignments and the written tests
- Final exam will be oral, and at least one exam has to be attended before the last week of exams
- Final grade is calculated as follows: 30% short tests, 40% assignments, 30% final exam