

# Dongseo University

## Division of Computer Engineering

### Introduction to Software Design

**Instructor(s):** Elena Tsomko

**Classroom:**

**Office:**

**Class Time:**

**Phone:**

**Office Hours:**

**Email:** [hanguknara@gmail.com](mailto:hanguknara@gmail.com)

#### **Course Description:**

This course aims to introduce the main principles of software design: from developing an idea to structuring and formulating the final product. Topics about modeling, design concepts, quality management, and maintenance of developed software are covered through the course.

#### **Course Goals & Objectives:**

The goal of the course is to understand the major concepts of software developing and the proper logical workflow of it. At the conclusion of this course students are expected to illustrate their ability to implement planning and management concepts into documentation and software projects.

#### **Course Outline:**

- **Week 1: Introduction. Software and Software Engineering.**
- **Week 2: The Software Process.**
- **Week 3: Modeling. Principles and Understanding Requirements.**
- **Week 4: Requirements Modeling: Scenarios, Information, Analysis Classes; Flow, Behavior, Patterns, and WebApps.**
- **Week 5: Design Concepts. Architectural Design.**
- **Week 6: Component-Level Design. User Interface Design.**
- **Week 7: Pattern-Based Design. WebApp Design.**

- **Week 8:** Mid-Term Week
- **Week 9: Quality Management: Quality Concepts, Software Quality Assurance.**
- **Week 10: Software Testing Strategies.**
- **Week 11: Formal Modeling and Verification. Software Configuration Management.**
- **Week 12: Software Project Management Concepts.**
- **Week 13: Estimation for Software Projects. Project Scheduling.**
- **Week 14: Maintenance and Reengineering.**
- **Week 15:** Final Week

#### **Textbook(s)**

- Required: Software Engineering: A Practitioner's Approach, 7<sup>th</sup> edition, by Roger S. Pressman, McGraw-Hill, 2010

#### **Class Website:** e-Class

#### **Course Assignments & Grading:**

- *Mid-term exam : 35%*
- *Final exam : 35%*
- *Quizzes: 5%*
- *Assignments : 10%*
- *Presentation: 10%*
- *Participation 5%*

#### **Grading Policies:**

- Missed Exams: Make-up exams will be given only for valid and verifiable excuses. It is important to notify me before an exam that you must miss.
- Late work: All assignments must be submitted on the due date. Late assignments will not be accepted without the prior permission of the instructor.

**Course Policies:**

- Attendance: If a student has an unexcused absence, he/she loses 1 point per 50 min class from the participation score of 20. If a student misses more than one-fourth of class contact hours for any reason, he/she cannot receive credit for the course.
- Academic Misconduct Policy: Academic misconduct or violation of engineering ethics is unacceptable in the practice of engineering. When you graduate and practice as an engineer, you will be subject to the [Code of Ethics of Engineers](#). While preparing to be an engineer, you are subject to specific rules regarding academic misconduct. Any form of academic misconduct will be penalized and may result in failing the course or expulsion from the university.