



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



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2020/2021

66858 - Software Engineering

Course Unit Page

Teacher : [Davide Rossi](#)

Credits : 6

SSD : INF/01

Teaching Mode : Traditional lectures

Language : Italian

Campus of Bologna :

Degree Programme : First cycle degree programme (L) in Information Science for
Management (cod. 8014)

 [Teaching resources on Virtuale](#)

SDGs

This teaching activity contributes to the achievement of the Sustainable Development Goals of the UN 2030 Agenda.



ACADEMIC YEAR 2020/2021

Learning outcomes

This is a software engineering course concerning software development processes, object oriented design, and UML tools for modeling software systems. Specific care is devoted to presenting the theory of design patterns. Other topics include: software project management, estimating the effort necessary for a software project, software testing, and software maintenance.

Course contents

Introduction to Software Engineering

The software process model

The analysis model

Introduction to UML

UML: Use case

UML: Classes

Analysis model – domain model

UML: Activities

UML: Interactions

Robustness analysis

OO principles

GRASP

Specification

Design Patterns

Agile software development

Modern patterns and frameworks

Readings/Bibliography

Craig Larman, Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development (3rd Edition), Prentice Hall

Other textbooks and resources will be suggested during the lectures

Teaching methods

Lectures and modeling exercises

Assessment methods

The knowledge gained by the students is assessed through the evaluation of a written test, an oral exam and a project.

The written test, lasting 3 hours, is composed by modeling exercises and open-ended questions. The oral test is optional, it may cover all the topics seen in class. The project is evaluated on the basis of what has been delivered and a discussion.

The final grade is obtained by the weighted average of the evaluation of the written test and the evaluation of the project. The evaluation of the oral examination changes this value.

If the written exam in presence is not possible (because of the COVID-19 emergency) this is replaced by a 45-minute remote written test with modeling exercises and by an oral remote test in which two questions are presented exactly as in the written exam in presence.

Teaching tools

Website: <http://sweng.web.cs.unibo.it>

Links to further information

<http://sweng.web.cs.unibo.it>

Office hours

See the website of [Davide Rossi](#)

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