# SYLLABUS DEL CORSO

# Architettura del Software

**2324-2-F1801Q150**

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### Aims

How to apply design principles, patterns, and architectures to create reusable and flexible software systems. How to document the system architecture. Software architectures of the new generation of systems.

### Contents

Software architecture models. Component-based systems. Architectures design at different abstraction levels.

### Detailed program

- Why architecture is important, Undestanding quality attributes
- Interfaces
- Virtualization, Cloud, Mobile Systems
- Architecturally Significant Requirements
- Designing an Architecture
- Evaluating an Architecture
- The Role of Architects in Projects
- Architecture Competence, Overview on Documenting an Architecture
- Managing Architecture Debt
- Design of an architectural solution for a simplified case study

## Prerequisites

General knowledge and expertise about programming, object-oriented design, software engineering, operating systems, and distributed systems.

## Teaching form

Lectures and e-learning activities through in-depth studies, practical project implementation, and online tutoring.

The course will be given in Italian.

## Textbook and teaching resource

Articles and resources will be indicated.

Software Architecture in Practice 4° Edition (14 october 2021), SEI Series in Software Engineering by Len Bass, Paul Clements, Rick Kazman. ISBN-10: 0136886094

[suggested] Engineering Software Products by Ian Sommerville. ISBN-10: 013521064-X

## Semester

First semester.

## Assessment method

The final evaluation will be based on a discussion on:
- the in-depth study assigned
- a document summarizing the architectural specification of the developed project

Evaluation criteria used: quality of the presentation and knowledge of the topic in the first part; quality of the solution proposed in the second part.

## Office hours

On appointment.

**Sustainable Development Goals**