

**COURSE TITLE:** Object Oriented Programming and UML

**Institute/Division:** Faculty of Electrical and Computer Engineering, - E13

**Course code** e1oopUML

**Erasmus subject code** 11.3

**Number of contact hours:** 45 (20h lectures, 20h laboratory, 5h project)

**Course duration:** 1 semester (fall)

**ETCS credits:** 6

**Course description:**

The course covers the latest, key developments in Object Oriented Programming

- OO Principles, CASE Tools and environments
- RUP and Unified Modeling Language, UML 1.4 vs actual version
- Development Approaches, Requirements Elicitation
- Actors and Use Cases, Use Case Modeling
- Objects and Classes, Links, Associations and Multiplicity
- Generalization and Inheritance,
- Advanced Relationships and Aggregation
- Introduction to Interaction Modeling
- Sequence and Communication Diagrams,
- State Machine and Activity Diagrams
- Behavior and Protocol State Machines
- Advanced State Diagrams
- Packages and other UML diagrams
- Designing the Details

**Computer laboratory and Project** extend topics from lecture

**Course type:** Lectures, computer laboratory and project

**Literature**

1. Bruegge, Dutoit Object-Oriented Software Engineering Using UML, Patterns, and Java (3rd Edition), Pearson, 2010
2. Bennett, McRobb and Farmer, Object Oriented Systems Analysis and Design using UML, 4/e, McGraw-Hill 2010
3. Martin Fowler, UML Distilled: A Brief Guide to the Standard Object Modeling Language (3rd Edition), Addison Wesley 2004
4. IEEE Recommended Practice for Software Requirements Specifications, IEEE Computer Society, IEEE Std 830-1998

**Assessment method** Project and laboratory exercises

**Contact person:**

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