Software Development Methods

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Our main objective

Learn about concepts and techniques for collaborative development of large and complex software systems

Course content

The Java programming language

Introduction to the language

Best practices

Common pitfalls

Agile Technical Practices

Test Driven Development

Refactoring

Continuous Integration

Why we are teaching this stuff

The Java programming language

Java is a pure object-oriented language, making it an excellent tool for teaching OOP concepts

Java remains one of the most widely used programming languages in industry, particularly for enterprise applications

Ability to scale from small applications to large distributed systems makes it valuable for teaching software development principles that apply across different contexts

Agile Technical Practices

Help you get to clean code that works

Foster collaborative product development

Make you capable of reacting to whatever valuable change comes along

Course format

Interactive lectures

- Concepts and techniques
- Slides and other material
- Q&A

Examples

- From theory to practice
- Collaborative coding sessions
- Tools in action

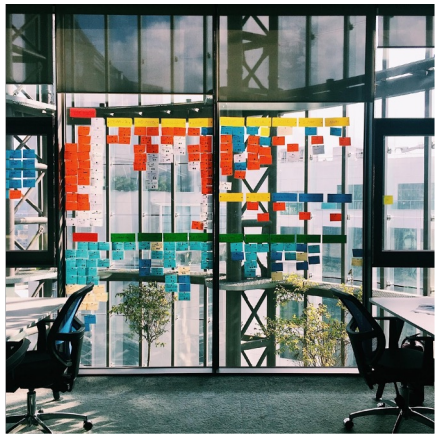
Exercises

- Try on your own
- Get feedback from us
- Get ready for the exam

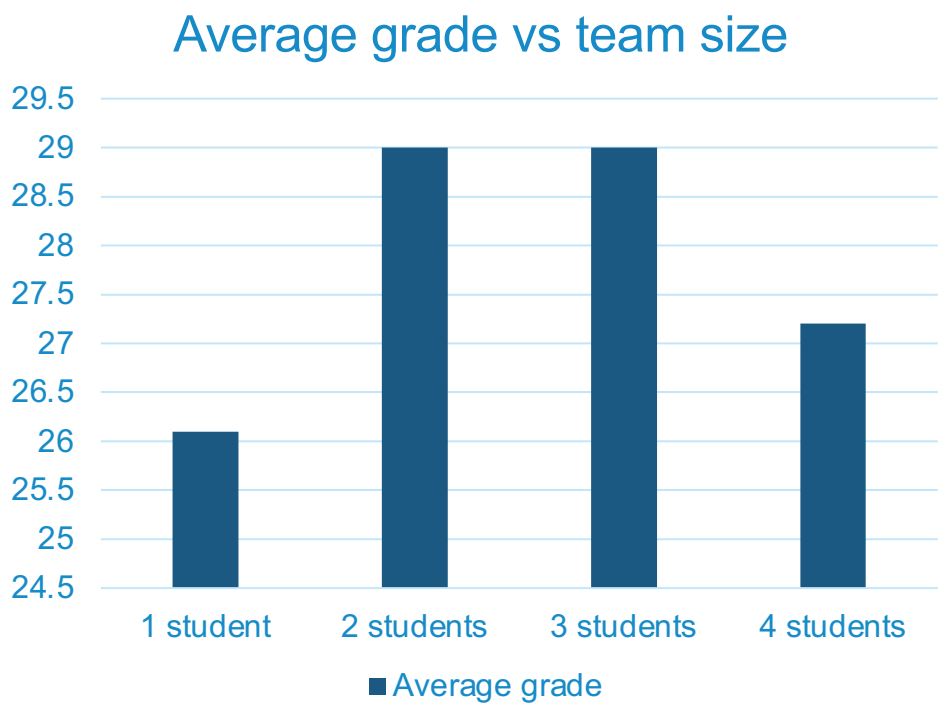
Final exam

Group project and presentation.

- Group of 2-5 people
- Project proposed by us or selected by you
- Apply concepts, ideas and practices presented during the course
- Present your results and answer to our questions
- See Moodle for detailed instructions



Exam statistics - last 2 years



Statistically, teams composed of just 1 student earn a lower grade

Timetable

Monday, from 13:00 to 15:00

Friday, from 15:00 to 17:00

Room 5C, building H2bis

Lecture schedule

Date	Lecture	Lecturer
Mon 23-Sep-24	Introduction	Paolo
Fri 27-Sep-24	Introduction to Java 1/2	Paolo
Mon 30-Sep-24	Introduction to Agile Software Development	Dario
Fri 4-Oct-24	OOP in Java	Paolo
Mon 7-Oct-24	Build automation	Dario
Fri 11-Oct-24	Introduction to Java 2/2	Paolo
Mon 14-Oct-24	Version control	Dario
Fri 18-Oct-24	TDD 1	Dario
Mon 21-Oct-24	Lambda expressions, functional programming	Paolo
Fri 25-Oct-24	TDD 2	Dario
Mon 28-Oct-24	Streams	Paolo
Mon 4-Nov-24	TDD 3 - Continuous integration	Dario

Date	Lecture	Lecturer
Fri 8-Nov-24	ATDD	Paolo
Mon 11-Nov-24	Refactoring and readability	Dario
Fri 15-Nov-24	Code smells and cohesion	Dario
Mon 18-Nov-24	Streams and concurrency	Paolo
Fri 22-Nov-24	Java I/O	Paolo
Mon 25-Nov-24	S.O.L.I.D., Simple Design, Static code analysis	Dario
Fri 29-Nov-24	Introduction to design patterns, Composite pattern	Dario
Mon 2-Dec-24	Builder pattern	Dario
Fri 6-Dec-24	Test doubles	Dario
Mon 9-Dec-24	Swing basics	Paolo
Fri 13-Dec-24	Swing components	Paolo
Mon 16-Dec-24	Swing custom components	Paolo

How to reach us

Teams

Look here for the SOFTWARE DEVELOPMENT METHODS code

Moodle

https://moodle2.units.it/course/view.php?id=14255

Email

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Survey

Some questions to gather information about the course' audience.