



Aalto University
School of Science

CS-C2120

Ohjelmointistudio 2: projekti

Lauri Malmi

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General

- The course is a direct continuation of the course Programming 1.
 - Targeted to CS-majors and Data Science students of the Aalto Bachelor's Programme in Science and Technology.
 - 5 ECTS
 - Continues the Programming MOOC with 2 credit extension
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Goals 1

- Learn some approaches in program design and implementation methods
 - Focuses on OO design
 - Basics of UML
 - Some design patterns
 - Testing
 - Version controlling
 - These will be applied in a personal project work
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Goals 2

- Learn some new important features of Scala
 - File management
 - Exceptions
 - Types and type management
 - Basics of building graphical user interfaces
 - Threads

Prerequisites

- Programming 1
 - Strong recommendation that you completed at least most of B level assignments
 - If not, this course could be difficult
 - If you completed Programming 1 earlier than last autumn, use some time to recap your Scala programming skills

Requirements 1

1. Weekly exercises during period 3
 - UML design
 - Scala exercises
 - Version control exercises
2. Chapter feedback
 - The same practice as in Programming 1
 - Weekly summaries will be shorter

Requirements 2

3. Personal programming project
 - Includes project plan, technical plan, implementation and demo
 - *This is the most important part of the course*
4. Course feedback survey at the end

Grading

- Weekly exercises (30%)
- Project work (70%)
 - Good practice in project management can give some bonus
- Note: MOOC students do only the exercises, not the project

Exercises 1

- Includes
 - Some multiply choice question to check understanding of new concepts
 - Programming exercises
 - UML design exercise
 - Version control exercises
- Can be solved using pair programming

Exercises 2

- Automatic assessment used in most assignments
 - Allows several resubmissions after getting feedback
 - The best result is recorded
- The deadlines are strict
 - After DL you can submit your work, but gain no points
 - In case of system problems we announce delays in MyCourses / A+, if possible
- **Start early. Do NOT start working the previous day before the DL**

Exercise deadlines

- Chapter 14 (UML)
 - 23.1 at noon
 - Chapter 15 (Files, exceptions)
 - 30.1 at noon
 - Chapter 16 (Version control, testing)
 - 6.2 at noon
 - Chapter 17 (Types)
 - 13.2 at noon
 - Chapter 18 (Design patterns, graphical user interfaces)
 - 27.2 at noon
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Chapter feedback

- We collect feedback from each chapter to improve the course material, and follow how much time you used
 - Your exercise points are recorded when your feedback has been accepted.
- Some weekly summary is created after chapter DL

Course feedback

- Collected using standard practice at the end of the course
 - It is also important for us to improve the course

Personal project 1

- Designing and implementing a somewhat larger program independently
 - Applying methods and practices learned during the weekly exercises
- Parts
 - General plan (DL 8.2)
 - Technical plan (DL 15.2)
 - Brief checkpoints in March / April
 - Implementation and documents (DL 23.4)
 - Demo (late April, May)

Personal project 2

- This is a personal task.
 - You can discuss the project with peers but you code the program yourself
- You can choose from many different topics
 - Own topics can be suggested, and accepted if they meet the project goals
 - Suggestions to Lauri Malmi in January

Resources

- Online course material in A+
 - All assignments are in A+
- MyCourses is used
 - To give general announcements, for example, changes in schedules or practical arrangements
 - Publish lecture material

Lectures

- Lectures in Finnish Wednesdays 14-16, T1
 - 9.1 Introduction, program design
 - 16.1 Program design cont., UML
 - 23.1 NO LECTURE
 - 30.1 Version control testing, project introduction
 - 6.2 Project planning
 - 13.2 Graphical user interfaces, threads
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Lectures

- Lectures in English Fridays 12-14, T7
 - Targeted only to Data Science students
 - 11.1 Introduction, program design
 - 18.1 Program design cont., UML
 - 25.1 NO LECTURE
 - 1.2 Version control testing, project introduction
 - 8.2 Project planning
 - 15.2 Graphical user interfaces, threads
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Class exercises

- Course teaching assistants help you.
 - Period 3 (starting 21.1)
 - Mondays 14-18, T7
 - Tuesdays 12-16, T7
 - English group targeted only to Data science students (Fridays, 14-16, T7)
 - Period 4
 - Mondays 14-16, T7
 - Thursdays 12-14, C106
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Piazza

- Piazza discussion form can be accessed from A+
 - Present questions there
 - Assistants follow the forum and try to respond within 24 hours
 - You can get answers from peers, too

 - Telegram is a not formal support forum, while getting support from peers is possible there, too
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No Email

- Do not email to teaching assistants
- You can email to Lauri.Malmi@aalto.fi, but quick responses cannot be guaranteed.
- Office hours on Wednesdays, 16.15-17 at A139.

Course staff

- Lauri Malmi (lecturer, teacher in charge)
- Otto Seppälä (lecturer, MOOC students)
- (Juha Sorva - no responsibilities)
- Teaching assistants
 - Reetu Kontio, Valteri Nurminen, Juho Rinta-Paavola, Atte Viitanen, Eemil Visakorpi

Questions?