

Lecture 00

Assoc Prof.
PhD. Bocicor
Iuliana

Introduction
to course
Schedule
Objectives
Course content
Bibliography
Activity and
grading

Introduction to Course

Assoc Prof. PhD. Bocicor Iuliana

Babes-Bolyai University

Overview

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Guiding professors

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- Lect. PhD. Arthur Molnar
- Assoc. Prof. Bocicor Iuliana
- Lect. PhD. Radu Gaceanu
- Lect. PhD. Mircea Ioan-Gabriel
- Lect. PhD. Andrei Mihai
- Assist. Briciu Anamaria
- Assist. Imre Zsigmond
- Assist. Todericiu Ioana

Schedule

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- **Lecture:** 2 hours/week
- **Seminar:** 2 hours/week
- **Laboratory:** 2 hours/week
- **Consultation:** optional, each teacher has a weekly time slot (will be announced on Teams)

Course materials

- **Teams, General** channel, **Files** section
- Public **FP** repository
<https://github.com/cs-ubbcluj-ro/FP>

Contact us

Best way is using **Teams** chat

Objectives

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What should you learn during this course?

- Key programming concepts
- A few introductory problem solving methods
- Basic concepts of software engineering (design, implementation and maintenance of software systems)
- Use basic software tools such as IDE's, source version control, documentation generators, testing tools
- Acquire and improve your programming style.
- The basics of programming using the Python language

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How is this course organized?

- Programming in the small
- Programming in the large

Programming in the small

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- 1 Recursion
- 2 Computational complexity
- 3 Searching. Sorting
- 4 Problem solving methods

Programming in the large

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- 5 Procedural programming
- 6 Modular Programming
- 7 Test Driven Development
- 8 Design Principles for Modular Programs
- 9 User Defined Types and Exceptions
- 10 Introduction to UML
- 11 Design Principles for Object Oriented Programs
- 12 Program Testing. Refactoring.
- 13 Layered architecture. Inheritance.
- 14 Intro to building GUIs

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- 1 Kent Beck - **Test Driven Development: By Example**; Addison-Wesley Longman, 2002.
- 2 Kleinberg and Tardos **Algorithm Design**; Pearson Educational; 2014
(<http://www.cs.princeton.edu/wayne/kleinberg-tardos/>)
- 3 Martin Fowler - **Refactoring. Improving the Design of Existing Code**; Addison-Wesley, 1999.
(<http://refactoring.com/catalog/index.html>)
- 4 Frentiu, M., H.F. Pop, Serban G. - **Programming Fundamentals**; Cluj University Press, 2006
- 5 Online Python resources -
<https://docs.python.org/3/reference/index.html>,
<https://docs.python.org/3/library/index.html>,
<https://docs.python.org/3/tutorial/index.html>

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- **30%** - Laboratory work (assignments and tests) (**L**)
- **40%** - Written exam (during exam session) (**W**)
- **30%** - Practical test (during exam session) (**T**)
- **0 - 0.5p** Seminar activity (bonus to laboratory grade)
- **0 - 1p** Additional laboratory activity (bonus to laboratory grade)

Passing the course

- Mandatory attendance to enter examination during 2023
- **L** grade ≥ 5 to enter examination during regular session
- **L**, **T** and **W** grades all ≥ 5 to pass the course

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Grading example

Suppose your grades are:

- Laboratory - 7
- Written - 7.50
- Practical - 6.80
- Seminar bonus - 0.30
- Laboratory bonus - 1

Your grade is calculated as: $0.3 * (7 + 0.3 + 1) + 0.4 * 7.5 + 0.3 * 6.8 = 7.53$, final grade is 8

About the Practical Exam

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About the Practical Exam

- Only **working** functionalities are graded
- Everything required for implementation will be studied
- Each problem will be interesting, in its own way
- Getting the extra points during the semester will help improve your grade

Course Rules

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- Seminar attendance mandatory **(10/14)**
- Laboratory attendance mandatory **(12/14)**
- Without making attendance you can't enter the exam this year!
- Detailed rules for laboratory activities are on the **General** channel, **Files** section
- **Be honest, solve the graded assignments by yourself, do not plagiarize!**