

Lecture 00

Lect. PhD.
Arthur Molnar

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grading
About the
Practical Exam

Introduction to Course

Lect. PhD. Arthur Molnar

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Overview

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Guiding professors

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- Lect. PhD. Arthur MOLNAR
- Lect. PhD. Maria-Iuliana BOCICOR
- Lect. PhD. Gaceanu Radu
- Lect. PhD. Mircea Ioan-Gabriel
- Assist. Imre ZSIGMOND
- Assist. Sergiu NISTOR
- Assist. Andrei MIHAI

Schedule

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- **Lecture:** 2 hours/week
- **Seminar:** 2 hours/week
- **Laboratory:** 2 hours/week

Course materials

Go to: <http://www.cs.ubbcluj.ro/~arthur/>, section **Teaching**

Email: arthur@cs.ubbcluj.ro.

Note!

We only reply to emails from the @scs domain

Objectives

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What should you gain from this course?

- Learn key programming concepts
- Learn the basic concepts of software engineering (design, implementation and maintenance of software systems)
- Learn to use basic software tools such as IDE's, documentation generators, testing tools
- Acquire and improve your programming style.
- Learn the basics of programming using the Python language

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How is this course organized?

- Programming in the large
- Programming in the small

Programming in the large

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- 1 Introduction to Python
- 2 Procedural programming
- 3 Test Driven Development
- 4 Modular Programming
- 5 Design Principles for Modular Programs
- 6 Exceptions
- 7 User Defined Types
- 8 Introduction to UML
- 9 Design Principles for Object Oriented Programs
- 10 Program Testing. Refactoring.
- 11 Layered architecture. Inheritance. TkInter

Programming in the small

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- 12 Recursion
- 13 Computational complexity
- 14 Searching. Sorting
- 15 Problem solving methods

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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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About the
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- **30%** - Laboratory work (programs, documentations, tests) **(L)**
- **30%** - Practical test (in the regular session) **(T)**
- **40%** - Written exam (in the regular session) **(W)**
- **0 - 0.5p** Seminar activity (bonus to final grade)
- **0 - 1p** Additional laboratory activity (bonus to final grade)

NB!

To enter the exam during the regular session, minimum grade is = **5 at L,T and W**

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Grading example

Suppose your grades are:

- Laboratory - 6.55
- Written - 7.50
- Practical - 6.80
- Seminar bonus - 0.40
- Laboratory bonus - 0.20

Your grade is calculated as: $0.3 * 6.55 + 0.4 * 7.5 + 0.3 * 6.8 + 0.4 + 0.2 = 7.00 + 0.4 + 0.2 = 7.60$, final grade is 8)

Course Rules

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1 General

- Seminar attendance mandatory **(10/14)**
- Laboratory attendance mandatory **(12/14)**
- Without making attendance you can't enter the exam this year!

2 Do not copy assignments or plagiarize

3 Detailed rules for laboratory in the same directory as lab assignments

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About the Practical Exam

- You are graded only for **working** functionalities
- 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