

LESI

Programação Orientada a Objetos

Object-Oriented Programming

2021/2022

Luís Ferreira – Marta Martinho

Overview:

UC:	<i>Object-oriented programming</i>
<i>Scientific Area :</i>	<i>Information Technologies</i>
<i>ECTS:</i>	6

Daytime	
<i>Name:</i>	<i>Marta Martinho</i>
<i>Office:</i>	10
<i>E-mail</i>	<u>mmartinho@ipca.pt</u>
<i>Teams team:</i>	akghm36

Post-labour	
<i>Name:</i>	<i>Luis Ferreira</i>
<i>Office:</i>	5
<i>E-mail</i>	<u>lufer@ipca.pt</u>
<i>Teams team:</i>	akghm36

Classes: (20-09 → 15-01)

Daytime	
Wednesday	14.00h – 16.00h
Friday	16.00h – 18.00h

Post-labour	
Monday	20.30h – 22.30h
Wednesday	20.30h – 22.30h

Attendance

Daytime	
Wednesday *	16.00h – 18.00h
Saturday **	10.00h – 12.00h

* Office nº 5/10

** teams - **akghm36**

Post-labour	
Monday *	18.00h – 19.30h
Wednesday **	18.00h – 19.30h

Classes: (20-09 → 15-01)

Daytime												Post-labour														
Wednesday						14.00h – 16.00h						Monday						20.30h – 22.30h								
Friday						16.00h – 18.00h						Wednesday						20.30h – 22.30h								
D	S	T	Q	Q	S	S	D	S	T	Q	Q	S	S	D	S	T	Q	Q	S	S	D	S	T			
Setembro				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Outubro					1	2	3	4	F	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Novembro		F	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Dezembro			F	2	3	4	5	6	7	F	9	10	11	12	13	14	15	16	17	18	19	I	21	22		
Janeiro					F	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Fevereiro				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Março		C	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Abril					1	2	3	4	5	6	7	8	9	10	11	12	13	14	F	16	P	18	19	20	21	
Maio	F	2	F	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	F	
Junho				1	2	3	4	5	6	7	8	9	F	11	12	13	14	15	LN	18	19	20	21	22	23	24
Julho					1	2	3	4	5	6	7	8	9	10	LN	12	13	14	15	16	17	18	19	20	21	22

Syllabus

1. Programmer Conduct

1. My Computer
2. Backups | Anti-Virus
3. Git
4. Effort
5. Ethics

2. C# Basics

- Programming Environment
- .Net Framework, CLR, MSIL
- Program, Library, Project, Solution
- Compiling | Interpreting | Debugging
- Code Quality: CLS Specification

3. C# Fundamentals

1. Variables, Constants
2. Data Types
3. Operators
4. Expressions and Statements
5. Memory Management

4. Object Oriented Programming

1. Thinking Objects
2. Classes and Objects
3. Inheritance
4. Abstraction & Encapsulation
5. Polymorphism

Syllabus

5. C# Advanced (I)

1. Existing Classes - Functions and Methods
2. Exceptions Handling
3. Collections
4. Generics

7. C# Programming

1. Design Patterns
2. Project

6. C# Advanced (II)

1. LINQ
2. Lambda Functions
3. Asynchronous programming
4. Software unit and integration testing with XUnit

Bibliography

BOOKS

1. Supporting Textbook: C# Essencial, lufer 2017.
 - in Moodle
2. C# Succinctly, Joe Mayo, 2015.
 - <https://www.syncfusion.com/ebooks/csharp>
 - Code: <https://github.com/SyncfusionSuccinctlyE-Books/CSharp-Succinctly>
3. C# com Visual Studio – Curso Completo, Henrique Loureiro, FCA, Edição 2015
 - in IPCA Library

WEB

- C# Tutorial
 - <https://www.tutorialspoint.com/csharp/index.htm>
- Microsoft Virtual Academy
 - <https://mva.microsoft.com/>
- Free Books:
 - <https://www.c-sharpcorner.com/ebooks/>

Teaching Material Repository

- Moodle
- Git - <https://git.io/JzUoP>
- Teams

Requirements

- LP1 and Algorithms!
- Visual Studio >= 10
- Git, GITLAB , GITHUB, GitKraken, SourceTree, etc...
- No phones in class!

Assessment

- *Continuous Assessment: from September 20 to January 15*

$$NF = 40\% * CT + 60\% * CP$$

- *CT: Theoretical Component = Max(Tests & Exam)*
- *CP: Practical Component = Practical work*

$$CP = 50\% * C + 50\% * O$$

- *C: Code = Practical work font code and report*
- *O: Oral = Practical work oral defense/presentation (individual)*
- *Minimum grade: 10 for CT and CP - 10 for C and O*

The evaluation by Exam will only correspond to the theoretical part of the discipline, i.e., the student still has to do the practical component.

Assessment

- Only students who have obtained a classification in the practical component equal to or higher than 10 values will be admitted to the appeal exam (exams season, special season or exceptional season).
- The practical component is not allowed to be carried out (or improved) outside the continuous assessment period.

Practical Work

- Mandatory!
- Individual or group of two people
- Delivery via Git or Moodle
- Report required
- Individual oral defense/presentation

Moments for Assessment

- Test
 - Daytime: **November 24** Post-labour: **November 24**
 - Project (practical work)
 - Statement: **October 3**
 - Delivery : Phase 1: **November 21**
: Phase 2: **December 31**

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