

POLI ESCOLA SUPERIOR TECNOLOGIA GESTÃO TÉCNICO GUARDA	SUBJECT DESCRIPTION	MODELO PED.013.03
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<i>Course</i>	Computer Science					
<i>Subject</i>	Software Development in the Cloud					
<i>Academic year</i>	2023/2024	<i>Curricular year</i>	2nd/3rd	<i>Study period</i>	2nd semester	
<i>Type of subject</i>	Elective	<i>Student workload (H)</i>	Total: 112	Contact: 45	<i>ECTS</i>	4
<i>Professor(s)</i>	Luis Baptista					
☐ <i>Area/Group Coordinator</i> ☒ <i>Head of Department</i>	(select)	Prof. Dr. José Carlos Fonseca				

PLANNED SUBJECT DESCRIPTION

1. LEARNING OBJECTIVES

Upon completion of the UC, students should be able to:

1. Build applications using development components of the Salesforce Platform Cloud
2. Understand when and how-to perform declarative implementation over customized implementations
3. Identify when and how to apply software development best practices, such as design patterns, and their impact on constantly changing cloud-based architectures.

2. PROGRAMME

1. Salesforce as CRM information System and fast app development platform
2. Development Basics
 - a. Tools and methodologies
 - b. Declarative configuration overview
 - c. Code using Salesforce languages
3. Data Model
 - a. Understanding custom and standard objects and how they map to normal databases
 - b. Relationships between objects
 - c. Extraction, Transformation and Loading (ETL) applied to Salesforce
 - d. Data export
4. Using Declarative and Out of the Box Functionality
 - a. Flows, Automated Rules, Integrations
 - b. Mobile App Customization
5. Apex 101
 - a. Apex vs Java
 - b. Apex triggers
 - c. Test-driven Development
 - d. Continuous Integration
 - e. Best Practices

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6. Lightning User Interfaces

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

1. Contents 1, 2 and 4 are consistent with Objective 1 because they focus on the core aspect of configuring and extending the Salesforce platform to support Information Systems.
2. Contents 3, 4, 5 and 6 are consistent with Objective 2 because they detail two of the main areas of software development of the platform – code development for back-end server side and front-end customizations.
3. Contents 4 and 5 are consistent with Objective 4, since they will also focus on how information systems' quality attributes, such as performance, maintainability are dependent on how development is planned and enacted in the Salesforce platform.

4. MAIN BIBLIOGRAPHY

Mandatory:

1. Lecture notes provided by the teachers
2. Salesforce, official learning materials provided online in:
<https://trailhead.salesforce.com/home>
3. Apex, online Guide provided online in:
https://developer.salesforce.com/docs/atlas.en-us.apexcode.meta/apexcode/apex_dev_guide.htm
4. Flow Builder, online Guide (automation tool)
<https://help.salesforce.com/s/articleView?id=sf.flow.htm&type=5>
5. Lightning Web Components Framework (GUI for Salesforce)
<https://developer.salesforce.com/docs/component-library/documentation/en/lwc>

Optional:

6. Appleman, D., Advanced Apex Programming in Salesforce, Desaware Publishing, ISBN 978-1936754120, 2018

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

Teaching methodologies:

1. Lecture
2. Interactive lesson
3. Problem solving
4. Project

Evaluation methodology for all evaluation periods:

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1. Students must attend at least 1/2 of the class hours to qualify for developing the project and the ongoing assessment in this subject. Students with student worker status do not have to meet this requirement.
2. Project that has partial deliveries throughout the semester, which can be carried out inside or outside the classroom and evaluated by a written test (25%) and by a group project (75%).

Assessment Methodology for the Exam and Resource:

1. Group or individual project (100%), without recourse to a written test.

The evaluation methodology was submitted to the competent bodies of the ESTG-IPG, according to the regulations

6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

1. Lectures are consistent with the objectives due to the need to provide students with the theoretical contents, including the various aspects related to the configuration and extension of the salesforce platform, particularly leveraging on the technical knowledge that software engineers need to have.
2. Interactive Lessons are consistent with the objectives since student/teacher interaction helps with learning the concepts of the programme and the introduction of new ideas, perspectives and solutions that can be applied both in the analysis and how features are implemented in the platform (Code, declarative and combination of both).
3. Problem solving is consistent with the objectives since the application of theoretical concepts to solve true to life practical exercises related to the design, construction and manipulation of business-related information systems to help consolidate the concepts, highlighting the student's expertise.
4. Project development is consistent with the objectives since it covers the development of an information system, through all stages from its conception to its use, requiring the practical application of all concepts covered throughout the semester to a realistic and new situation.

7. ATTENDANCE

There are no minimum requirements

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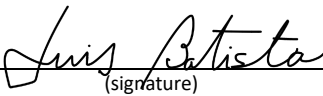
DATE

12 de February de 2024

SIGNATURES

Professor(s), Area/Group Coordinator or Head of Department signatures

Professor


 (signature)

Head of Department


 (signature)

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