Software Engineering

2025/2026

Curricular Unit

➢ Scientific area
  ○ Computer Science

➢ Weekly classes
  ○ 3 hours of theoretical-practical classes

➢ ECTS credits: 6

➢ Code: 41492

Goals

➢ Apply modern software engineering practices across the full development lifecycle

➢ Design and maintain reliable, secure, and scalable systems using CI/CD

➢ Manage and evolve legacy codebases effectively

➢ Operate and monitor systems in production with a focus on reliability and learning

➢ Integrate AI-driven tools, including MLOps and LLMs, into engineering workflows

Contents

➢ Foundations of software engineering

- o Review of basic software engineering and development methodologies
- o Requirements planning and management in the DevOps cycle
- o Software components

➢ Automation, quality, and continuous delivery

- o Build automation and continuous integration
- o Continuous delivery and release management
- o Ensure quality with automation testing strategies

Contents

➢ **Operations, reliability, and monitoring**

o Infrastructure as Code (IAC)

o Production systems operations and management

o Proactive monitoring and observability

o Postmortem engineering and continuous learning culture

➢ **From legacy systems to AI-driven engineering**

o Legacy code management and evolution

o MLOps: integrating and operating machine learning in software engineering

o Applying large language models (LLMs) in the software lifecycle

Grading

➤ The assessment of the subject will be discrete, with the following components:

   o (T) Final Theoretical-Practical Assessment [ATP: 30%]

   o (P) Practical Assessment [AP: 70%]
      • Includes: project sprints, peer-evaluation, …

➤ Attendance at classes is not mandatory

   o But it is encouraged!

ECTS

➢ Education (T/TP/P): 0/2/2 - ECTS: 6

➢ The number of ECTS credits indicates the expected number of hours you must study for this subject.
  - 1 ECTS = 25-30 hours of study.
  - 6 ECTS = 150-180 hours of study.

➢ In a 15-week semester, at least 10 hours must be dedicated per week.

➢ These hours include:
  - face-to-face classes, reading books, solving exercises, studying for tests and exams, etc.

ECTS

What is the hourly cost of a junior programmer in a consultancy in Portugal?

In Portugal, the hourly cost of a junior programmer in a consultancy typically ranges between 30 and 60 euros. This range can be influenced by factors such as the location of the consultancy, the specific skills of the programmer, and market demand. For the most accurate estimate, it's best to get in touch with consultancies directly or consult with local recruitment agencies.

➢ 150 hours x 50 € = 7 500€

ECTS

What market offers what with 7500 euros in Portugal?

Publicado 22 de agosto de 2025

Harley Davidson XG 750 Street

6.500 €

You might find

Enviar mensagem

Ver número

maha, or KTM.

Enjoy the semester!