European Software Skills Alliance.

Case Study
Learning game development at a distance with open-source tools

Presented by: Hellenic Open University
Industry: Higher Education
Location: Patras, Greece
Size: +250 employees

Challenges:

- "Ghost" teachers in distance learning courses
- Limited flexibility of the higher education provision
- Game software design high-level requirements

Solution:

The "**Game Development Short Course**" is a Greek high-level training course for programmers in the field of game design. The programme uses **open-source tools of the Python language family** (Python, PyGame, Blender, Panda3D, Unity, etc.) and is delivered fully online by the Hellenic Open University.

Over 32 weeks (550 hours), students are expected to deliver four mandatory **individual assignments** and one **group project-based assignment**. Learning is supported by **open-source educational material** and regular team-tutors online sessions.

All students are autonomous in their learning but are expected to follow a schedule detailed in a study guide. There are **weekly workload thresholds** to ensure learners are not overloaded and the drop-out rate is minimised. **The programme offers flexibility to learners but also mentoring and support when needed.** Online group consultation meetings take place regularly to solve issues faced by the learners, answer questions, and offer them a chance to present their progress and results.

The programme is designed so that students may learn to work both individually and in teams (in an asynchronous manner), **to develop both their hard (programming) skills and soft skills.** In total, there are 358 hours of individual distance learning, 176 hours of collaborative work, and 16 hours of group meetings.

Results:

In most cases, this short programme attracts **adult learners** who would like to upskill or reskill themselves into high-demand game software development role profiles.

The open, distance learning model proves to be effective to support large groups of learners. In this course, the Hellenic Open University supports up to **400 learners each year, divided into twenty groups** with a **1:16 teacher-student ratio** to ensure a qualitative experience for all.

Upon successful completion of the programme, learners receive **20 ECTS credits (EQF level 5)** and an **undergraduate certificate** issued by the University.

Key benefits:

- Teaches both hard (programming) skills and soft (management) skills
- Covers the entire game software development lifecycle, from inception to coding, to marketing the final product
- Can be taught fully online to large groups of learners with limited resources
- A working, open, distance learning model is easily transferable to other types of course
- Python can also be used for teaching key competences for Data Analysts, FinTech experts, and a plethora of other high-demand software role profiles

Key resources:

- Intensive project-based, distance learning courses require careful design and structured support from (experienced) trainers
- Educational content must effectively integrate a didactical approach and anticipate learners' expectations
- A 1:30 teacher-student ratio to allow for a qualitative experience for all
- Curation of specialised educational content, ideally in local languages