

# BOARD GAMES AND STEAM EDUCATION: INNOVATIVE STRATEGIES FOR TEACHING AND LEARNING

**Teacher:** ALBERTO PEREIRA

**Course Duration:** one week, from Monday to Saturday, 30 hours

**Number of Participants:** Min. 6 – Max. 20

**Course location:** BRAGA and PORTO



## DESCRIPTION

This course focuses on exploring the use of board games as an effective teaching tool for STEAM education (Science, Technology, Engineering, Arts, and Mathematics). Participants will learn about the benefits of using board games in STEAM education, how to integrate them into their curriculum, and how to create their own STEAM-based board games. Through hands-on activities and group discussions, participants will learn how to engage and motivate students in STEAM subjects using board games.

## LEARNING OUTCOMES

- Understand the benefits of using board games in STEAM education
- Identify how to integrate board games into STEAM curriculum
- Connect board games to practice STEAM skills, including problem-solving, critical thinking, and creativity
- Create a STEAM-based board game
- Evaluate the effectiveness of using board games in STEAM education

## PROGRAM

### Monday

- Introduction to the course and participants
- Overview of STEAM education and the benefits of using board games in teaching STEAM subjects
- Discussion of examples of board games that integrate STEAM topics

### Tuesday

- Group work: playing a variety of board games that integrate STEAM topics to assimilate and discuss their potential in teaching STEAM subjects
- Discussion of ways to incorporate board games into STEAM lesson plans and curriculum

### Wednesday

- Group work: creating a STEAM-based board game
- Introduction to game design principles and mechanics
- Hands-on activity: prototyping and playtesting the board game

### Thursday

- Hands-on activity: continuing the work on creating a STEAM-based board game
- Peer feedback and evaluation of board games

### Friday

- Guided cultural tour of the historic centre of Porto

### Saturday

- Six bridge cruises – Rabelo boat
- Portuguese culture: Port wine tasting
- Certificate ceremony and closing remarks