

# STEAM - Science, Technology, Engineering, Arts, Maths

## Erasmus+ Course for School Groups

**STEAM stands for Science, Technology, Engineering, the Arts and Maths, and this programme integrates these five subjects into fun, engaging, task-based, lessons for young enquiring minds.**

**Our STEAM programme encourages our students to explore the world around them, nurture their curiosity, get creative, develop critical thinking, and learn practical new skills through English, with lots of hands-on learning opportunities.**



### Learning Objectives

On this programme, students will learn how to:

- explore topics using the discovery-based process: Focus, Detail, Discovery, Application, Presentation, and Link.
- approach problems from a number of angles and think outside the box to find solutions.
- work collaboratively as part of a team to solve real-world problems.
- engage in the reflective process to critically review their work and make use of this to make adjustments and improvements.
- develop 21st Century skills including communication, digital literacy, collaboration and leadership, creativity and innovation.

At ATC Language Schools we are pleased to provide programmes for students of tomorrow, offering opportunities for school groups to travel to Ireland and choose a programme focusing on the Erasmus+ Key Action 1. These options can be chosen as part of our mini-stay programmes.

**This STEAM programme can be chosen as part of a low season mini-stay booking.**

This programme is offered at two levels: primary students (aged 10 and 12 years), secondary students (aged 13 and 16 years).

#### Course Length:

15 hours per week, taken in the morning or afternoon as available at the time of booking.

One module is covered per day, during the 3 hours of lessons.

For a 1 week stay 5 modules should be chosen.

For a two week programme, modules can be combined with modules from our other programmes, such as Irish culture and heritage, General English, or our project-based Green Voices programme.

Options to be confirmed in negotiation with ATC prior to travel.

**Dates:** September to June

**Group Size:** Minimum 12

#### Students:

Students taking this programme should have a minimum A2 level of English, as outlined in the Common European Framework of Reference for Languages.

#### Final Certificate:

15 certified hours per week

### THE ERASMUS+ KEY PRIORITIES INCLUDED IN THIS COURSE FOR HIGH SCHOOL STUDENTS ARE:



Environment and  
Fight Against  
Climate Change



Digital  
Transformation

### Sample STEAM Modules for Primary Students

<b>Module 1</b>	<b>Stop-Motion Animation:</b> Students plan, write and create their own stop motion animated movie!
<b>Module 2</b>	<b>Architecture: Getting Skyscrapers to the Sky!</b> Students research, design and build their own skyscrapers.
<b>Module 3</b>	<b>Civil Engineering: Building Bridges</b> Students research, design and build their own bridges.
<b>Module 4</b>	<b>Boom! Chemical reactions:</b> Students research common chemical reactions and carry out their own experiments with everyday household ingredients.
<b>Module 5</b>	<b>Alternate Transport:</b> Students research the development of transport over the years, and the effect it has had on the environment. Students then design and build their own car!
<b>Module 6</b>	<b>Ecology and Biodiversity - We Love Bugs!</b> Students build a quadrant and explore a local ecosystem, identifying, classifying and recording its inhabitants.

### Sample STEAM Modules for Secondary Students

<b>Module 1</b>	<b>Stop-Motion Animation:</b> Students plan, write and create their own stop motion animated movie!
<b>Module 2</b>	<b>Gaming with Javascript*</b> Students cover some fundamentals of HTML, CSS and Javascript and code part of a game! Will their code run?
<b>Module 3</b>	<b>Comics and Superheroes:</b> Students research futuristic 'superhero' gadgets, then research key features of comic strips, before writing and designing their own digital comic.
<b>Module 4</b>	<b>Music and Sound</b> Students research sound frequency and pitch, and the workings of the human ear. Students then research sound amplification, before designing and building their own amplifier.
<b>Module 5</b>	<b>The Mars Rover (Video Games)</b> Students explore the Mars Rover and exploration of Planet Mars. Students use gamification to create a drivable rover and an exploration game.

\*Please note that laptops are required for the Gaming with Javascript module, at least 1 laptop for every 3 students to be provided by the group.

Please note that for a 1 week, 5 day course of 15 hours, 5 modules should be chosen.

[www.atclanguageschools.com](http://www.atclanguageschools.com)

