1. OVERVIEW

Subject area	English
Degree	Bachelor's Degree in Physics
School/Faculty	School of Architecture, Engineering and Design
Year	Second
ECTS	6 ECTS
Type	Core
Language(s)	English
Delivery mode	Blended and online

2. INTRODUCTION

This course focuses on science communication in English. Students will develop the ability to communicate scientific ideas in English to expert and non-expert audiences. This not only requires linguistic skills, such as a good grasp of vocabulary and grammar, but also the ability to use communication techniques that pique the audience's interest and communicate the fascination felt by the scientist when researching and contemplating the physical properties of the world. To this end, students will learn the necessary vocabulary to achieve a degree of fluency in the language of mathematics and basic concepts in various branches of physics. They will also study key strategies for sharing scientific information with the general public. They will use language and communication tools to produce informative texts and presentations in English, addressing key concepts and questions in the areas of physics that are of most interest to them.

3. SKILLS AND LEARNING OUTCOMES

The following table shows how the skills developed in the subject area match up with the intended learning outcomes:

Skills	Learning outcomes
CG3	RA1: To understand the main ideas in technical and complex texts in their specialist field. RA2: To communicate with native speakers in a sufficiently fluent and natural way.
CB4	RA3: To produce clear and detailed texts, and to defend a point of view stating the pros and cons of different opinions. (Common European Framework of Reference B2)

CB5	RA6: Assume a leadership style appropriate to each situation
CT1	RA7: Show critical and reflective thinking skills. RA8: Recognise the skills and abilities of others in order to manage their development.
CT4	RA1: To understand the main ideas in technical and complex texts in their specialist field.

4. CONTENTS

Block 1 - Introduction to science communication. Methods to explain scientific concepts to non-expert audiences. Use of analogies, metaphors, demonstrations and images. – Introductory science texts. Continuation of methods to explain scientific concepts to the general public: communicating concepts such as the scale of time and distance and basic particles. 20th-century revolutions: Niels Bohr, Max Planck and Albert Einstein. 21st-century challenges. Working towards a grand unified theory. Dark matter.
String theory.
Block 2 - Description of physical laws. English vocabulary related to mathematics for discussing equations and formulas: fractions, exponents, logarithms, scientific notation and concepts in calculus such as limits, differentials and integrals. Proportional and inverse relationships. Description of Newton's laws of motion, Kepler's laws of planetary motion and Bernoulli's principle.
Block 3 - English as a language of science.
Block 4 - Career opportunities. Introduction

5. TEACHING/LEARNING METHODS

The types of teaching/learning methods are as follows:

- **Project-based learning**: Students will work on different types of science communication projects using different forms of communication (oral, written, academic, informal) and the professor will provide support and feedback.
- **Student-centred**: The course is based on the personal interests of each student, giving them some control over the topics that will be presented and discussed.
- **Independent learning**: The course will minimise the students' dependence on the professor to acquire the necessary knowledge. It will encourage students to develop the skills to continue learning far beyond the end of the course.
- **Communication method**: Development of the ability to exchange ideas with other people, where grammar rules are seen as a means of supporting this exchange and not as an end in themselves. Students will study and use a range of communication strategies that go beyond the grammar rules for both written and oral communication.

6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

On campus:

Learning activity	Number of hours
Lectures	10
Oral presentations	20
Written work	20
Assessment	10
Practical activities	50
Tutorials	10
Independent working	50

7. ASSESSMENT

The assessment systems, plus their weighting in the final grade for the subject area, are as follows:

Assessment system	Weighting
Initial presentation	15
Final presentation	15
Written work	20
Final exam	50

On the Virtual Campus, when you open the subject area, you'll find details of your assessable tasks, including the submission dates and assessment procedures for each task.