

Course guides

220245 - 220245 - Science and Technology Communication Through Media

Last modified: 22/04/2021

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 748 - FIS - Department of Physics.

Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN SPACE AND AERONAUTICAL ENGINEERING (Syllabus 2016). (Optional subject).

Academic year: 2021 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: Vanessa del Campo Gatell

Others:

PRIOR SKILLS

This course is open to all graduate engineers that are willing to learn communication techniques through audiovisual media. Scientific background and interest in communication and documentary is therefore necessary.

No previous audiovisual knowledge is required, although photography, video and writing skills will be welcomed capacities.

REQUIREMENTS

The course will be taught in english.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.

TEACHING METHODOLOGY

During lessons there will be:

Theory expositions based on practical examples.

Practical implementation of the theories explained.

LEARNING OBJECTIVES OF THE SUBJECT

This course is for those who want to improve their skills in science and technology communication through audiovisual media.

During the course, the student will be challenged to explore his/her creativity and reflect on the way to present and explain to the public audience the goals of a scientific project. Furthermore, the course will focus on science and technology communication through audiovisual media, analyzing the key factors of narrative, film form and documentary production. Social impact and effects of science communication will be discussed during the sessions.

The contents and skills acquired during the course will be of great use in terms of leadership, social communication, and funding opportunities. It is aimed to all engineers interested in communication, research and social commitment.

STUDY LOAD

Type	Hours	Percentage
Hours large group	27,0	36.00
Self study	48,0	64.00

Total learning time: 75 h

CONTENTS

Module 1: Documentary analysis.

Description:

In this module we study some of the contemporary debates surrounding science and its place in the world. Besides, we will analyze some of the seminal works in the history of the documentary film.

Specific objectives:

Science Communication Debate.
Science Documentary Analysis.

Related activities:

Class debate.
Science documentary projection and analysis.

Related competencies :

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

Full-or-part-time: 8h

Theory classes: 4h
Self study : 4h

Module 2: Scientific Project Selection and Pitchings

Description:

Students will choose a technological or science issue they would like to investigate for a future short documentary. Pitchings will be done.

Specific objectives:

Scientific project selection.

Related activities:

Scientific projects at ETSEIAT research
Pitching session

Related competencies :

CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 10h

Theory classes: 2h
Self study : 8h

Module 3: Film language Analysis

Description:

This module introduces students to the audiovisual language.

Specific objectives:

The student will analyse the effect of framing, color, light, camera movements, space, sound, dialogues and editing in the film form.

Related activities:

Analysis of different examples in fiction and documentary films.

Related competencies :

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 14h

Theory classes: 10h

Self study : 4h

Module 4: Script and step outline writing

Description:

This module introduces key concepts from narrative theory and the step outline composition.

Specific objectives:

Understanding the basic concepts of:

Conflict, development and resolution.

Plot twists and climax point.

Narrator and point of view.

Time and rythm.

The plot and its subtext.

The characters.

Related activities:

Script and step outline creation for a scientific short film.

Related competencies :

CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.

Full-or-part-time: 12h

Theory classes: 4h

Self study : 8h

Module 5: Photography Project

Description:

This module will focus on the basic techniques of photography and video edition.

Specific objectives:

Understanding the basic concepts of:

Photography: format, aspect ratio, diaphragm apertura, composition, depth of field.

Edition: time line, record, rhythm.

Related activities:

Photography research work on the scientific project chosen.

Related competencies :

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Full-or-part-time: 8h

Theory classes: 4h

Self study : 4h

Module 6: Final Project. Scientific Short Film

Description:

This module introduces the different roles in the production, shooting and edition of a scientific short film.

Specific objectives:

Identify the different roles necessary in the filming of a shortmovie: director, director assistant, producer, script, photographer, photographer assistant, sound engineer, editor, ...

Related activities:

Production, shooting and edition of a documentary scientific shortfilm.

Full-or-part-time: 23h

Theory classes: 3h

Self study : 20h

GRADING SYSTEM

The course will be graded based on:

- Attendance to lessons
- Exercises.
- Final audiovisual project.

EXAMINATION RULES.

Final Project and Exercises will be executed mostly out of the assigned lesson hours. It is therefore compulsory that each student is able to defend the authorship of the projects handed to the teacher.



BIBLIOGRAPHY

Complementary:

- Bucchi, Massimiano. Science and the media: alternative routes in scientific communication. London: Routledge, 1998. ISBN 9780415510516.
- McKee, Robert. Story: substance, structure, style and the principles of screenwriting. New York: McKee, Robert, 1941, 1999. ISBN 9780413715609.
- McLane, Betsy A. A new history of documentary film. 2nd ed. New York, N.Y: Continuum, cop. 2012. ISBN 9781441124579.

RESOURCES

Audiovisual material:

- Cosmos: a spacetime Odyssey. Neil deGrasse Tyson
- Particle fever. Mark Levinson
- Cosmos. Carl Sagan