Course guide
220131 - 220131 - Written Academic Skills for Engineering

Last modified: 26/09/2023

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 756 - THATC - Department of History and Theory of Architecture and Communication Techniques.

Degree: BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2023 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: BALBINA MONCADA COMAS

Others: Primer quadrimestre:
BALBINA MONCADA COMAS - Grup: 1

PRIOR SKILLS

In order to carry out academic and professional activities in English, students are recommended to have acquired B1 level of the Common European Framework of Reference for Languages (CEFR) or higher.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Transversal:
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

TEACHING METHODOLOGY

The course is divided into parts: 1) Classes and 2) Self-study for doing exercises and activities.
In the classes, lecturers will introduce the theoretical basis of the concepts, methods and results and illustrate them with examples appropriate to facilitate their understanding. Later, lecturers will guide students in applying theoretical concepts to solve problems, always using critical reasoning. We propose that students solve exercises in and outside the classroom, to promote contact and use the basic tools needed to solve problems. Students, independently, need to work on the materials provided by teachers and the outcomes of the sessions of exercises/problems, in order to fix and assimilate the concepts. The lecturers provide the syllabus and monitoring of activities (ATENEA).

LEARNING OBJECTIVES OF THE SUBJECT

1- Students must be able to identify and evaluate different communicative situations and adapt to them appropriately: transmit technical information to the general public and to more expert audiences, both in writing and in English
2 - Students must be able to describe technical information with maximum detail and precision in the technical style in English.
3- Students must be able to communicate technical information in English using a wide range of resources (vocabulary, grammatical, lexical and idiomatic structures, etc.) in such a way as to enable him to communicate effectively in the professional field.
4 - Students must be able to write professional documents in English.

STUDY LOAD

Type	Hours	Percentage
Self study	45,0	60.00
Hours large group	30,0	40.00

Total learning time: 75 h

CONTENTS

Module 1: Analyzing the writing situation

Description:
Module 1: The writing process
Analyzing audience & purpose
Considering style and tone: Formality and objectivity in English
Grammatical & Lexical aspects: impersonalization in English & Compound nouns in the technical field

Specific objectives:
To familiarize students with the technical register in English.
To analyze the characteristics and practice them with directed tasks.

Related activities:
Read technical texts and answer reading comprehension questions. Listen to several short passages and answer listening comprehension questions. Classroom and digital resources through Atenea.

Related competencies :
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Full-or-part-time: 15h
Theory classes: 6h
Self study : 9h

Module 2: Technical Specifications (1)

Description:
Physical description: size, shape, measurements, dimensions, materials, composition, location, classification.

Specific objectives:
Adapt to different situations when communicating the description of a product, machine or tool.
Listen to excerpts and read texts with technical descriptions.
Analyze and recognize their characteristics and practice them with tasks of varying complexity.

Related activities:
Based on a graph, schematic photo or schematic table, write a written description in English technical register (Specs, or Technical Specifications).

Related competencies :
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03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Full-or-part-time: 20h
Theory classes: 8h
Self study : 12h

Module 3: Technical Specifications (2)

Description:
Description of processes: simple processes and instructions, more complex processes, comparing alternatives, applications, etc. and notion of cause-effect).

Specific objectives:
Adapt to different situations when communicating the description of different types of usual processes in engineering.
Listen to excerpts and read texts with technical descriptions.
Analyze and recognize their characteristics and practice them with tasks.

Related activities:
Based on a graph, diagram photograph or the object itself, give a technical description of its operating process (manual)

Related competencies :
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Full-or-part-time: 20h
Theory classes: 8h
Self study : 12h

Module 4: Professional correspondence

Description:
Written correspondence to communicate effectively in a professional setting (cover letters & memoranda)

Specific objectives:
To write a cover letter that highlights their skills and qualifications, and convinces potential employers to consider them for job positions.
To write clear and concise memoranda that effectively communicate important information to colleagues, supervisors, and clients in the engineering industry.

Related activities:
Based on a given scenario, write a cover letter or a memoranda

Related competencies :
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
03 TLG. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Full-or-part-time: 20h
Theory classes: 8h
Self study : 12h

GRADING SYSTEM

Course assessment is based on course assignments, class participation and a final test.
Class attendance & participation (students are expected to complete activities/tasks and bring their answers to class for discussion; they are also expected to work in collaboration with others): 15%
Three written tasks: 15% each one (45% total)
Portfolio: 15%
Final test: 25%
In order to pass the subject, it is a necessary condition to attend classes and present the assessed tasks. The student will not get an attendance and class participation grade if s/he does not attend at least 50% of the sessions. If one of the tasks is not carried out, the subject will be considered graded with a zero.

EXAMINATION RULES.

In case of partial or total copying in any of the evaluations of the subject, what is provided for in the academic regulations for undergraduate and master's studies of the UPC will apply: ''Irregular actions that can lead to a significant variation of the qualification of one or more students constitute a fraudulent performance of an evaluation act. This action entails the descriptive qualification of suspension and a numerical grade of 0 for the evaluation act and for the subject, without prejudice to the disciplinary process that may arise as a result of the acts carried out. If the student considers the decision to be incorrect, they can file a complaint with the director or the dean of the teaching center and, if the answer does not satisfy them, they can file an appeal with the rector. The total or partial reproduction of academic or research works, or their use for any other purpose, must have the explicit authorization of the authors. It is up to the director or the dean of the teaching center to resolve allegations about aspects not included in the regulations.''

BIBLIOGRAPHY

Basic:
- Kmiec, Davic; Longo, Bernadette. The IEEE Guide to Writing in the Engineering and Technical Fields. Wiley, 2017. ISBN 978-1-119-07013-9.
- Tebeaux, Elizabeth; Dragga, Sam. The Essentials of technical communication. 3rd. Oxord University Press, 2015. ISBN 978-0-19-937999-6.
- Bombardó, C.; Aguilar, M.; Barahona, C. Technical writing: a guide for effective communication [on line]. Barcelona: Edicions UPC, 2007 [Consultation: 07/07/2017]. Available on: http://hdl.handle.net/2099.3/36667. ISBN 9788483019276.

Complementary:
- Lannon, John M. Technical communication. 11th ed. New York: Longman, 2008. ISBN 9780205559572.
- Bailey, Stephen. Academic writing: a handbook for international students. 2nd ed. London: Routledge, 2006. ISBN 9780415384193.
- Huckin, Thomas N.; Olsen, Leslie A. Technical writing and professional communication for nonnative speakers of english. 2nd ed. New York: McGraw-Hill, 1991. ISBN 0071126422.