1. BASIC INFORMATION

Course	History, Practice and Professional Deontology
Degree program	Degree in Aerospace Engineering in Aircrafts
School	School of Architecture, Engineering and Design
Year	Second year
ECTS	6
Credit type	Mandatory
Language(s)	English
Delivery mode	Face-to-face
Semester	2
Academic year	2025-26
Coordinating professor	Davide Mocerino

2. PRESENTATION

The content of the course is classified within the so-called transversal knowledge. This knowledge is necessary to provide the engineer with the analytical capacity, business vision and adequate mentality to face the challenges that modern society demands. Knowledge of the history of aerospace engineering allows us to understand its development over time. An aerospace engineer must understand that technological advances in his field have emerged as a concrete response to specific problems and that the creativity and innovation of many engineers, together with systematic studies and tests, have been closely linked to successive and profound changes in the society. Creativity and innovation are increasingly necessary to drive the progress of aerospace technology and its applications. But progress cannot be at any price, hence the importance of ethics and deontology as tools that allow modulating and balancing the progress vs. impact, always considering that every engineering act produces effects on people and the environment.

3. KNOWLEDGES, SKILLS AND COMPETENCIES

Knowledges:

- CON15. Describe the history of engineering, in its field.

- CON 16. Identify the foundations of business ethics and the company's social and corporate responsibility.
- CON 17. Recognize the social, ethical and professional responsibility of the engineer's activity, in his field.

- CON 18. Identify the history of aeronautical engineering and analyze and evaluate the different elements and activities that belong to the aeronautical sector.

Specific knowledge of the subject:

- Identify the history of aeronautical engineering.
- Describe the ways of practicing the profession.
- Identify the organization and structure of companies from an ethical standpoint.
- Describe the ethics of engineering.

Skills:

- HAB03. Apply business management techniques and labor legislation, especially taking into account the principles of equality between men and women, solidarity, and the culture of peace.

Specific skills of the subject:

- Discriminate in the face of an ethical dilemma through reasoned and justified arguments.
- Make critical value judgments about one's own and others' behaviors.
- Understand the legal, economic, and social aspects related to the use of information, and access and use information ethically and legally.
- Use resources sustainably and prevent negative impacts on the natural and social environment.
- Recognize the importance of communication in professional practice.
- Apply interpersonal understanding skills in different contexts.
- Respect communication norms in multicultural environments.
- Analyze issues from others' perspectives and negotiate with them efficiently.

Competencies:

CP12. Generate new ideas and concepts from known ideas and concepts, reaching conclusions or solving problems, challenges, and situations in an original way in the academic and professional environment.

CP13. Convey messages (ideas, concepts, feelings, arguments), both orally and in writing, strategically aligning the interests of the various parties involved in communication in the academic and professional environment in the field of aerospace engineering.

CP14. Employ information and communication technologies for data search and analysis, research, communication, and learning in the field of aerospace engineering.

CP15. Influence others to guide and lead them towards specific objectives and goals, taking into consideration their viewpoints, especially in professional situations arising from the volatile, uncertain, complex, and ambiguous (VUCA) environments of the current world.

CP16. Collaborate with others in achieving a shared academic or professional objective, actively participating, demonstrating empathy, and practicing active listening and respect for all team members.

CP17. Integrate analysis with critical thinking in an evaluation process of different ideas or professional possibilities and their potential for error, relying on evidence and objective data that lead to effective and valid decision-making.

CP18. Adapt to adverse, unexpected situations that cause stress, whether personal or professional, overcoming them and even turning them into opportunities for positive change.

CP19. Demonstrate ethical behavior and social commitment in the performance of professional activities, as well as sensitivity to inequality and diversity.

4. CONTENT

The subject matter is divided into three learning units:

Unit 1. History of Aerospace Engineering

- 1.1 Early Aviation
- 1.2 World War I
- 1.3 Golden Age
- 1.4 World War II
- 1.5 Cold War and Space Race
- 1.6 Current advances and future projects.

Unit 2. Ways to practice the profession

- 2.1 Job outlook and Career path
- 2.2 Aerospace Engineering positions

Unit 3. Engineering Ethics and Deontology

- 3.1 Responsibility and engineers
- 3.2 Organization and structure of companies from an ethical point of view
- 3.3 Deontology of engineering

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Survey of objectives and interests
- Lecture-based classes
- Research by groups or problem solving by groups
- Case studies

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Learning activity	Number of hours	In-class time	Use of IA
Lecture-based class	20	100%	Not permitted
Integrative team work	60	50%	Promoted
Self-study	50	0%	Permitted
Mentoring, academic monitoring and assessment	20	50%	-
TOTAL	**150**	**60**	

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Assessment system	Weight	Use of IA
Exams, tests and other knowledge tests	35%	Not permitted
Elaboration of articles and reports	25%	Fomented
Alternative evaluation techniques	20%	Permitted
Field experience, conferences and visits	10%	Permitted
Transversal skills	10%	

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. First exam period

The evaluation of the subject in Ordinary Call is based on the marks obtained in the following evaluation items, which will be evaluated taking into account the weights (percentage) indicated below:

- Teamwork: 50% (20% game + 15% reports + 10% presentations + 5% peer evaluation)
- Final exam: 35%
- Active assistance: 5%
- Visit report: 10%

To pass the course in the first exam period, you must obtain a final course grade of at least 5 out of 10 (weighted average).

An attendance record greater than or equal to 50% is an essential requirement to be able to take the final exam in ordinary session.

To pass the course in the ordinary session, the student must meet at least all the following conditions:
• A grade equal to or greater than 5.0 out of 10.0 in the final grade (weighted average) of the subject.
• A score greater than or equal to 5.0 out 10.0 in the final exam.
• A score greater than or equal to 5.0 out of 10 in teamwork.

When the minimum required to perform the weighted average of the evaluable activities is not met (the minimum is not reached in any of the previous points), the final grade will be:
• The weighted average of its value is less than or equal to 4.
• 4 if the weighted average value is greater than 4.

The grade in ordinary session will be considered NP (not presented) when the student has not presented any evaluable activity of those that are part of the weighted average.

7.2. Second exam period

The evaluation of the subject in Extraordinary Call is based on the marks obtained in the following evaluation items that will be evaluated by taking into account the weights (percentages) indicated below:
• Individual project: 20%
• Presentation: 30%
• Final exam: 35%
• Attendance compensation activity: 5%
• Visit report: 10%

To pass the subject in an extraordinary call, you must obtain a grade equal to or greater than 5.0 out of 10.0 in the final grade (weighted average) of the subject.
Those items that have been approved in ordinary session will not have to be presented again, and will be taken into account for the final grade in the extraordinary session. In this session, the student must deliver only those matters that are pending or not approved in the ordinary session.

To pass the subject in an extraordinary session, the student must meet at least all the following conditions:
• A grade equal to or greater than 5.0 out of 10.0 in the final grade (weighted average) of the subject.
• A score greater than or equal to 5.0 out of 10.0 in the final exam.
• A score greater than or equal to 5.0 out of 10.0 in the project.
• A score greater than or equal to 5.0 out of 10.0 in the compensatory attendance activity.

When the minimum required to perform the weighted average of the evaluable activities is not met (the minimum is not reached in any of the previous points), the final grade will be:
• The weighted average if its value is less than or equal to 4.
• 4 if the weighted average value is greater than 4.

The grade in extraordinary session will be considered NP (not presented) in this session when the student has not presented any new activity with respect to what was presented in the ordinary session.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
1. Attendance	Throughout the Course
2. Teamwork (game + presentation)	Weeks 15 - 17
3. Visit	Week 7
4. Final exam	Week 18

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

The recommended Bibliography is:

• Ethics, Technology, and Engineering: An Introduction. Van de Poel, I. Wiley-Blackwell, 2011.
• Aviation History. Millbrooke, A.M. Jeppesen, 2006.
• Wings: a History of Aviation from kites to the Space Age. Crouche, T., 2004
• Código Deontológico. Colegio Oficial de Ingenieros Aeronáuticos de España, 2021.
• Beyond Earth: a chronicle of deep space exploration, 1958-2016. Siddiqi, A. A. NASA, 2017
• Historical Studies in the Societal Impact of Spaceflight. NASA, 2015

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.

4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.
Your assessment is necessary for us to improve.

Thank you very much for your participation.