

1. BASIC INFORMATION

Course	Aerospace Production and Projects
Degree program	Degree in Aerospace Engineering of aircrafts
School	Arquitectura, Ingeniería y Diseño
Year	Third
ECTS	6
Credit type	Compulsory
Language(s)	English
Delivery mode	Face to face
Semester	Second
Academic year	2019-20
Coordinating professor	Ignacio José Márquez López

2. PRESENTATION

This course belongs to the “Materials and production I” module:

- Materials science 6 ECTS (first year)
- Materials elasticity and resistance 6 ECTS (second year)
- Aerospace production and projects 6 ECTS (third year)

The course of Aerospace Production and Projects covers following topics: manufacturing processes for aeronautical and aerospace industry and focused on conventional and nonconventional processes of productions.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB3: That students have the ability to gather and interpret relevant data (usually within their field of study) to make judgments that include reflection on relevant social, scientific or ethical.
- CB4: To allow students to communicate information, ideas, problems and solutions both to a specialized and non-specialized audience.
- CB5: That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

Cross-curricular competencies:

- CT2: Planning, definition, direction and project management of design, stress analysis and production in the field of aeronautical engineering aimed, according to the

- knowledge acquired as provided in paragraph 5 of the Decree CIN/308/2009, vehicles aerospace.)
- CT14 (N3): Problem Solving with initiative, decision making, creativity, and critical thinking, professionally, and the preparation and defense of arguments (Troubleshooting).
 - CT16 (N3): To communicate and convey information, ideas and skills in the student's field of specialization, either in writing or orally, both to skilled and unskilled audiences (communication skills).

Specific competencies:

- CE12: To understand the manufacturing processes.
- CE19: Applied knowledge of: the science and technology of materials, mechanics and thermodynamics, fluid mechanics, aerodynamics and flight mechanics, navigation and air traffic, aerospace technology, theory of structures, air transport, economy and production projects; impact on environment.

Notes: UNIQUE LEVEL: Competence developed at one level. Level 1 (N1): awareness about the importance of competences and basic application of it to several situations. Level 2(N2): interiorization and skillful handling of competences. Level 3 (N3): Full interiorization and handling of competences at any needed situation.

Learning outcomes:

- LO20: To conduct studies by integrating the technologies and engineering procedures which are developed in the competencies of this modules.
- LO21: From a series of requirements, and prior information, to conceptualize an engineering problem, proposes an approach to solve it, and obtain the better solution. All this related to the competencies of this module.

The table below shows the relation between the competencies developed during the course and the envisaged learning outcomes:

Competencies	Learning outcomes
CB3,CT2, CT16(N3),CE12	LO20
CB4,CB5,CT2,CT14(N3), CT16(N3),CE12,CE19	LO21

4. CONTENT

- Manufacturing Process Introduction:
- Composites Manufacturing Processes
- Manufacturing Processes-Casting
- Manufacturing Processes-Plastic Working
- Manufacturing Processes-Machining
- Manufacturing Processes-Combining
- Manufacturing Systems
- Metrology Science
- Quality Management Systems Introduction.
- Project Management Introduction. Aerospace project types and controlling
- Complex projects development (Application to Carbon fiber Satellite manufacturing processes Design)

5. TEACHING-LEARNING METHODOLOGIES

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

- Lecture-based class
- Integration of team work
- Self-study
- Mentoring, academic monitoring and assessment

6. LEARNING ACTIVITIES

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

Campus-based mode:

Type of educational activity	Number of hours
Lecture-based class	20 h
Integration of team work	60 h
Self-study	50 h
Mentoring, academic monitoring and assessment	20 h
TOTAL	150 h

7. ASSESSMENT

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

Assessment criteria	Weight (%)
1. Exam, test and other type of assessment.	35%
2. Reports, articles and informs.	15%
3. Complex project developments.	40%
6. Transversal skills (rubric)	10%

Below are the weights that each of the assessment procedures used will have in the final grade for the course (both in ordinary and extraordinary calls):

Continuous evaluation activities:

- Oral presentations of reports developed in teams and associated with specific course subjects. In these presentations not only will be valued in its technical content but also the ability to communicate it in time, structure and form: 10%
- Active participation in the classroom: 10%
- Problem solving: 5%

Integrative activities of the subject: Final project integrating team (report and oral defense): 40%

Final Exam: 35%

Minimum necessary to pass:

- 5 points out of 10 in the integrating project.
- 5 points out of 10 on average in the evaluation of the different works, projects, reports, intermediate written tests.
- 5 points out of 10 in the final exam.
- Those activities not delivered on time will have a rating of 0 points. In order to be evaluated, you must have a minimum of 50% attendance

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

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).

- In order to be evaluated you must have a minimum of 50% attendance.

In the case, when the student do not reached the minimum required to pass any evaluable activity. The final grade will be:

- The mean average when the mean value is less than or equal to 4
- 4 if the value of the mean average is greater than 4

The grade will be considered as NP (Not Presented) when the student has not delivered any evaluable activity of which they are part of the weighted average.

7.2. Second exam period

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

- In order to be evaluated you must have a minimum of 50% attendance.

In the case, when the student do not reached the minimum required to pass any evaluable activity. The final grade will be:

- The mean average when the mean value is less than or equal to 4
- 4 if the value of the mean average is greater than 4

The grade will be considered as NP (Not Presented) when the student has not delivered any evaluable activity of which they are part of the weighted average.

8. BIBLIOGRAPHY

Recommended bibliography will be updated.

9. DIVERSITY MANAGEMENT UNIT

Students with specific learning support needs:

Curricular adaptations and adjustments for students with specific learning support needs, in order to guarantee equal opportunities, will be overseen by the Diversity Management Unit (UAD: Unidad de Atención a la Diversidad).

It is compulsory for this Unit to issue a curricular adaptation/adjustment report, and therefore students with specific learning support needs should contact the Unit at unidad.diversidad@universidadeuropea.es at the beginning of each semester.

INSTITUTIONAL ASSESSMENT OF LEARNING OUTCOMES PLAN Covid-19 TEMPLATE TO ADAPT TEACHING AND EVALUATION ACTIVITIES

Course/Module: Aerospace Production and Projects
Degree Program: Degree in Aerospace Engineering of aircrafts
Year: 3º
Group (s): M3Z
Professor: Ignacio José Márquez López
Coordinating professor

Teaching Activity described in the syllabus	Adapated activity in distance learning
Lecture-based class	Lecture-based class online
Integration of team work	Integration of team work online
Self-study	Self-study
Mentoring, academic monitoring and assessment	Mentoring, academic monitoring and assessment online

Evaluation Activity that was planned in the Syllabus for face to face instruction		NEW virtual evaluation activity (adapted)	
Description of original face to face evaluation activity	Exam, test and other type of assessment.	Description of new activity	Exam, test and other type of assessment online
Content to be assessed	<ul style="list-style-type: none"> • Manufacturing Process Introduction: • Composites Manufacturing Processes • Manufacturing Processes-Casting • Manufacturing Processes-Plastic Working • Manufacturing Processes-Machining • Manufacturing Processes-Combining • Manufacturing Systems • Metrology Science • Quality Management Systems Introduction. • Project Management Introduction. Aerospace project types and controlling 		
Learning Outcomes to be assessed <i>(Please check Syllabus of the course/module)</i>	LO20: To conduct studies by integrating the technologies and engineering procedures which are developed in the competencies of this modules. LO21: From a series of requirements, and prior information, to conceptualize an engineering problem, proposes an approach to solve it, and obtain the better solution. All this related to the competencies of this module.		
Duration	January-June	Approximate duration	January-June
Weight in evaluation	35%	Weight in evaluation	35%
Please note:	Through the virtual campus blackboard		

Evaluation Activity that was planned in the Syllabus for face to face instruction		NEW virtual evaluation activity (adapted)	
Description of original face to face evaluation activity	Reports, articles and informs.	Description of new activity	Reports, articles and informs online
Content to be assessed	<ul style="list-style-type: none"> • Manufacturing Process Introduction: • Composites Manufacturing Processes • Manufacturing Processes-Casting • Manufacturing Processes-Plastic Working • Manufacturing Processes-Machining • Manufacturing Processes-Combining • Manufacturing Systems • Metrology Science • Quality Management Systems Introduction. • Project Management Introduction. Aerospace project types and controlling 		
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Duration	January-June	Approximate duration	January-June
Weight in evaluation	15%	Weight in evaluation	15%
Please note:	Through the virtual campus blackboard		

Evaluation Activity that was planned in the Syllabus for face to face instruction		NEW virtual evaluation activity (adapted)	
Description of original face to face evaluation activity	Complex projects developments	Description of new activity	Conferences, company-tour visit and experiences online
Content to be assessed	<ul style="list-style-type: none"> • Manufacturing Process Introduction: • Composites Manufacturing Processes • Manufacturing Processes-Casting • Manufacturing Processes-Plastic Working • Manufacturing Processes-Machining • Manufacturing Processes-Combining • Manufacturing Systems • Metrology Science • Quality Management Systems Introduction. • Project Management Introduction. Aerospace project types and controlling 		
Learning Outcomes to be assessed <i>(Please check Syllabus of the course/module)</i>	<p>LO20: To conduct studies by integrating the technologies and engineering procedures which are developed in the competencies of this modules.</p> <p>LO21: From a series of requirements, and prior information, to conceptualize an engineering problem, proposes an approach to solve it, and obtain the better solution. All this related to the competencies of this module.</p>		
Duration	January-June	Approximate duration	January-June
Weight in evaluation	40%	Weight in evaluation	40%
Please note:	Through the virtual campus blackboard		

Evaluation Activity that was planned in the Syllabus for face to face instruction		NEW virtual evaluation activity (adapted)	
Description of original face to face evaluation activity	Transversal skills (rubric)	Description of new activity	Transversal skills (rubric) online
Content to be assessed	<ul style="list-style-type: none"> • Manufacturing Process Introduction: • Composites Manufacturing Processes • Manufacturing Processes-Casting • Manufacturing Processes-Plastic Working • Manufacturing Processes-Machining • Manufacturing Processes-Combining • Manufacturing Systems • Metrology Science • Quality Management Systems Introduction. • Project Management Introduction. Aerospace project types and controlling 		
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Duration	January-June	Approximate duration	January-June
Weight in evaluation	10%	Weight in evaluation	10%
Please note:	Through the virtual campus blackboard		