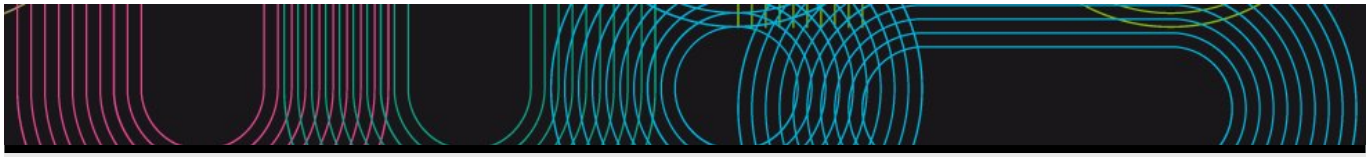

IDENTIFYING DATA				
Air transport and airborne systems				
Subject	Air transport and airborne systems			
Code	O07G410V01404			
Study programme	Grado en Ingeniería Aeroespacial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	2nd
Teaching language	#EnglishFriendly Spanish			
Department				
Coordinator	Ulloa Sande, Carlos			
Lecturers				
E-mail				
Web	http://aero.uvigo.es			
General description	The subject is divided in two main areas. First, civil aerial transport fundamentals are introduced, as well as the regulatory laws, the elements that constitute it, and its interactions. Second, airborne systems are described. English Friendly subject: International students may request from the teachers: a) materials and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Skills	
Code	
B1	Capabiliity for design, development and management in the field of aeronautical engineering (in according with what is established in section 5 of order CIN / 308/2009), aerospace vehicles, aerospace propulsion systems, aerospace materials , airport infrastructures, air navigation infrastructures and space management, air traffic and transport management systems.
B7	Capability to analyze and assess the social and environmental impact of technical solutions.
C14	Understand the air transport system and the coordination with other transport modes.
C19	Applied knowledge of: science and technology of materials; mechanics and thermodynamics; fluid mechanics; aerodynamics and flight mechanics; navigation and air traffic systems; aerospace technology; theory of structures; airborne transportation; economy and production; projects; environmental impact.
C21	Appropriate knowledge applied to engineering: foundations of sustainability, maintenance and operation of aerospace vehicles.
D1	Capability of analysis, organization and planification.
D2	Leadership, initiative and entrepreneurship
D3	Capability of oral and written communication in native lenguage
D4	Capability of autonomous learning and information management
D5	Capability to solve problems and draw decisions
D6	Capabiliity for interpersonal communication
D8	Capabiliity for critical and self-critical reasoning
D13	Sustainability and environmental commitment. Equitable, responsible and efficient use of resources

Learning outcomes			
Expected results from this subject	Training and Learning Results		
Knowledge of the structure and the elements that conform the current system of world-wide transport.		C14	D1 D5 D8
Understanding of the legal characteristics of the aerial transport and knowledge of this transport mode law	B1 B7	C14 C21	D1 D2 D3 D4 D8 D13

Knowledge of the different elements that integrate the system of transports: aerial companies, manufacturing, airports, aerial navigation suppliers	B1 B7	C14 C19	D1 D2 D4 D6 D8 D13
Comprise the most important aspects of the situation of the aerial transport in the actuality, so much in Spain how in the rest of the world	B1 B7	C14 C19 C21	D1 D2 D3 D4 D6 D8 D13
Knowledge of the different systems and subsystrems onboarded in aerospace vehicles	B1 B7	C14 C19 C21	D1 D3 D4 D8 D13
Knowledge of the way in which the aerial way inserts in the system of transport and the distinct forms of cooperation and intermodal competition	B1	C14	

Contents

Topic	
Aerial transport	Structure and elements that constitue current world-wide transport system. Insertion of the aerial mode in the transport system and the different ways of cooperation and intermodal competition. Economic and social benefits of the aerial transport. Legal frame of the aerial transport and international law system. Elements that constitute the system of transportation: aerial companies, manufacturing, airports, aerial navigation suppliers. Situation of the aerial transport nowadays, in Spain and in the rest of the world.
Onboard systems	Introduction to flight systems Engine and fuel Systems Hydraulic System Eectrical System Pneumatic System Air conditioning Systems Navigation Systems Positioning Systems

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	35	68.5	103.5
Laboratory practical	12	14.5	26.5
Report of practices, practicum and external practices	2.5	14.5	17
Objective questions exam	3	0	3

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	The teacherwill expose the theoretical bases of the subject. The students will have basic reference texts
Laboratory practical	IT and laboratory solutions will be used to solve problems and exercises and apply the knowledge achieved.

Personalized assistance

Methodologies	Description
Lecturing	The teacher will attend personally the doubts and queries of the students, in person, or by telematic support.
Laboratory practical	The teacher will attend personally the doubts and queries of the students, in person, or by telematic support.

Assessment

	Description	Qualification	Training and Learning Results		
Report of practices, practicum and external practices	Report covering all requirements given	20	B1 B7	C14 C19 C21	D1 D2 D3 D4 D5 D6 D8 D13
Objective questions exam	Test o short-questions valuation exam. The mark need to be greater than 4 out of 10 to be eligible for compensation	80	B1 B7	C14 C19 C21	D3 D8

Other comments on the Evaluation

First oportunity:

- For the evaluation of the exam to be carried out, the student must have attended all the practices and made all the required deliveries of laboratory practices on the dates indicated; In addition, it will be necessary that the average grade of the deliveries exceeds 4 out of 10.

- The minimum mark to be reached in the final continuous assessment exam will be 4 out of 10 to be able to weigh the exam and practices.

- To pass the subject, you must pass a weighted grade (exam, work, practice) of 5 out of 10. The exam may consist of test questions and / or short questions and / or questions developmental.

Second oportunity:

- Students who have not passed the subject in the first oportunity will take an extraordinary exam that will have the same format and the same requirements as the first oportunity

- In order to pass the subject, the weighted minimum mark between exam and practice reports will be 5 out of 10, and it is also necessary that this test exceed 4 out of 10.

As a student at the University of Vigo, the University Student Statute, approved by Royal Decree 1791/2010 of December 30, establishes in its article 12, point 2d, that the university student has the duty to refrain from the use or cooperation in fraudulent procedures in assessment tests, in the work carried out or in official university documents . Therefore, the student is expected to have adequate ethical behavior. If unethical behavior is detected during the course (copying, plagiarism, use of unauthorized electronic devices or others), the student will be penalized with a grade of 0.0 on the written or deliverable test where such fraud is detected.

Sources of information

Basic Bibliography

Ian Moir & Allan Seabridge, **Aircraft systems**, Wiley,

Mike Tooley, **Aircraft digital electronic and computer systems**, Routledge,

Luis Utrilla Navarro, **Descubrir el transporte aéreo**, Aena Aeropuertos SA,

Arturo Benito, **Descubrir el transporte aéreo y el medio ambiente**, AENA,

Complementary Bibliography

L. Tapia, **Derecho aeronáutico**, Bosch,

A. Benito, **Descubrir las líneas aéreas**, AENA,

Recommendations

Subjects that it is recommended to have taken before

Aerospace technology/O07G410V01205