Universitat Autònoma de Barcelona

2022/2023

Airline Operations

Code: 101769
ECTS Credits: 6

Degree	Type	Year	Semester
2501233 Aeronautical Management	OB	3	1

Contact

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Use of Languages

Principal working language: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Other comments on languages

Some Seminaris may be imparted in english

Teachers

Jordi Manzano Puigredon

External teachers

Carlos de la Fuente
Francisco J. Gámez
Luís Escofet

Prerequisites

None

Objectives and Contextualisation

Introduce the student in airline operations by addressing the following aspects:

1. Awareness of the importance of quality, safety and the role played by the human factor in these aspects
2. Know the processes of boarding people and cargo in an aircraft
3. Introduce the basic concepts about the flight of an aircraft and the influence of meteorological factors
4. Establish the basis of the internal organization of an airline to respond to the previous challenges

Competences

- Communication.

- Identify, develop and maintain the necessary resources to meet the tactical and operative needs inherent to air transport activities.
- Personal attitude.
- Personal work habits.
- Supervise the management of resources in an airport.
- Thinking skills.
- Use knowledge of the fundamental principles of mathematics, economics, information technologies and psychology of organisations and work to understand, develop and evaluate the management processes of the different systems in the aeronautical sector.

Learning Outcomes

1. Assess alternatives in the case of self-handling.
2. Communicate knowledge and findings efficiently, both orally and in writing, both in professional situations and with a non-expert audience.
3. Critically assess the work done.
4. Describe the general aspects of JAR/EASA rules.
5. Describe the operations to be coordinated in aircraft turnaround time.
6. Develop critical thought and reasoning.
7. Develop curiosity and creativity.
8. Develop independent learning strategies.
9. Develop the ability to analyse, synthesise and plan ahead.
10. Draw up and interpret passenger service procedures.
11. Identify the human resources (cabin crew) for the daily operations of aircraft.
12. Identify the maintenance operations to be performed on aircraft, and their impact on quality of service.
13. Identify the resources and procedures necessary to ensure flight safety.
14. Identify types of airlines and services that they offer.
15. Maintain a proactive and dynamic attitude towards career progression, personal growth and continuous professional development. Have the will to succeed.
16. Make efficient use of ICT in communicating ideas and results.
17. Manage time and available resources. Work in an organised manner.
18. Plan and control operations.
19. Plan the activities that make up the turnaround cycle in airline operations.
20. Understand the basic principles of general meteorology and climatology.
21. Use English as the primary language of professional communication.
22. Work independently.

Content

BLOCK 1: Aeronautics

- Organization of an Airline
- Aeronautics. Aircraft Construction, principles of Flight, Aerodynamics, Performances
- Climate Theory

BLOCK 2: Safety

- Safety management
- Quality system
- Human factors

BLOCK 3: Handling

- Handling. Part 1 (Passengers)
- Handling. Part 2 (Luggage and Cargo)
- Aircraft loading

BLOCK 4: Maintenance

- Aircraft maintenance: scheduled and non-scheduled
- CAMO organisation
- EASA rules
- Quality systems

Methodology

Teaching will be offered on campus or in an on-campus and remote hybrid format depending on the number of students per group and the size of the rooms at 50% capacity.

Theory classes

Professor exposition who will give the basic concepts and encourage participation for debate. All the subjects are about real experiences of aerial activity and are eminently professional. The main basis of the subject is the demonstration of the theory of an airline management based on the experience of the speakers.

Problem-solving seminar

The Aviation Fundamentals classes (aircraft weight and balance exercises), airline Audit as well as the Operations Engineering (performance calculation exercises), incorporate one hour of problem-solving each. The students receive the data and the questions of each subject and must be completed in a specific time.

Practical project 1 - group

For the topic: Airlines, students form groups of 3 students and perform a practical work assigned by the teacher to each group. After a minimum of 2 weeks, each group presents the work to the teacher.

Practical project 2 - individual

Each student chooses a topic from a list of topics proposed by the professor. Each student has at least one month to prepare the work and send it for correction.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Problem-solving sessions	2	0.08	13, 19
Project presentations	12	0.48	3, 20, 2, 4, 5, 7, 6, 16, 12, 14, 15, 18, 21
Theory classes	36	1.44	1, 20, 10, 4, 5, 11, 13, 12, 14, 18, 19
Type: Supervised			
Tutorship	12	0.48	1, 20, 10, 4, 5, 11, 13, 12, 14, 18, 19
Type: Autonomous			
Project (Team)	12	0.48	3, 2, 7, 16, 17, 21
Study	42	1.68	8, 9, 6, 17, 22

Assessment

The assessment of the subject is based on the realization of two projects, one in group and the other individual, and two partial tests. The projects must be submitted in the terms that will be reported during the course. On the day determined by the Coordination of studies, a recovery test will be scheduled to the student(s) who has not passed one or both partial exams.

It will be valued positively if the projects are written and/or presented in English.

The student can submit to the recuperation of the recoverable activities whenever it has been presented to a set of activities that represent a minimum of two-thirds of the total grade of the subject

A student will be considered non-assessment possible (NA) if it is not presented to the examination of any of the two parts of the subject.

Obtain a distinction grade or Honour grade (A+) is a decision of the subject faculty. The regulations of the UAB indicate that can only be awarded to students who have obtained a final grade of 9.00 or more. It can be granted up to 5% of students enrolled.

Without prejudice to other disciplinary measures considered appropriate, the irregularities committed by the student that can lead to a variation in the rating of an evaluation act will be qualified with a zero. Therefore, copy, plagiarizing, cheating, let copy, etc. In any of the assessment activities, it will imply suspending it with a zero.

The proposed evaluation activities may undergo some changes according to the restrictions imposed by the health authorities on on-campus courses.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Activities and problems	10%	16	0.64	1, 3, 20, 2, 10, 4, 5, 9, 6, 13, 12, 14, 19, 21
Exam	50%	2	0.08	1, 3, 20, 2, 10, 5, 9, 6, 17, 11, 13, 12, 18, 19, 22
Project	40%	16	0.64	3, 2, 8, 9, 7, 6, 16, 17, 15, 18, 22, 21

Bibliography

Documents:

1. PRESENTATIONS

2. AIR OPS (EASA)

3. How to implement an AS9100 (ETI GROUP)

4. Manual del Piloto (FAA)

5. Mejora continua (artículo)

Links of interest:

REVISTA AVIACIÓ: http://www.skybrary.aero

ACCIDENTS AÈRIS: http://www.planecrashinfo.com/database.htm

REVISTA SEGURETAT: http://wwwflightsafety.org

IATA: http://www.iata.org

AVIACIÓ CIVIL INTERNACIONAL: http://www.icao.int

DIRECCIÓ GENERAL D´AVIACIÓ CIVIL: http://www.mfom.es

AIS: http://ais.aena.es

EUROCONTROL: http://www.eurocontrol.int

EASA: http://www.easa.eu.int

FAA: http://www.faa.gov

EUR LEX: http://eur-lex.europa.eu

Software

Flight AEA2154

ATM

Loadsheet

Performances

Meteorology