

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

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 aircraft and the influence of meteorological factors
4. Establish the bases 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

1. Quality management
 - Definition of Quality, history and models
 - Deming cycle
 - QMS in aviation. ISO 9000
 - Quality problems in airlines
 - TQM in aviation
 - Quality assurance
 - Quality Audits in the world of airlines
3. Security
 - Definition and differences between Safety and Security
 - Flight safety
 - Illicit interference
 - Emergencies
 - Organization of Security in an airline
 - Flight Safety Program
 - Risk management
 - Crisis and Emergency Management. Human factors
 - Investigation and notification of accidents and incidents, crisis and emergencies. Human factors
 - Responses to different illicit interferences
 - Aerial kidnappings, weapons, explosives
 - Security requirements
5. Human factors
 - Introduction to human factors
 - Human factors in aviation
 - Error string
 - Training in Human Factors
 - Accidents and their analysis.

BLOCK 2

4. Handling. Part 1 (Passage)
 - Check-in: Security Control and Passports
 - Boarding of Passengers, Transportation.
 - Check-out: Disembarkation, Transportation, Baggage Pick-up.

5. Handling. Part 2 (Baggage and Cargo)

- Baggage route.
- Security controls.
- Cargo Treatment.
- Dangerous goods.

6. Load and Centered

- Introduction.
- Load Control
- Centering of the airplane: Stability and Gravity Center.
- Determination of the loaded weight and GC.
- Practices Load Sheet.

BLOCK3

7. Organization of an Air Company

- Organization Chart.
- Flight operations.
- Earth operations.
- Training Department.
- Aircraft Maintenance.
- Regulations.
- Documentation: MO, FCOM, QRH, AFM, MEL.

8. The airplane and its characteristics

- Structure of the plane.
- Sustainability and Aerodynamics
- Principles of the flight.
- Forces that act on an airplane.
- Aircraft Performance.

9. Meteorological Factors Affecting Aviation

- Climate Theory.
- Atmosphere. Altitude and Atmospheric Pressure.
- Wind and Currents.
- Aviation Meteorological Services.
- Observations. Reports. Weather charts.

Methodology

Masterclasses

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

Problem-solving seminar

Both the Aviation Fundamentals classes (aircraft weight and balance exercises) 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 and exposes their theses in front of the class.

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master class	36	1.44	1, 20, 10, 4, 5, 11, 13, 12, 14, 18, 19
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
Type: Supervised			
Tutorship	8	0.32	1, 20, 10, 4, 5, 11, 13, 12, 14, 18, 19
Type: Autonomous			
Project 1 (Team)	12	0.48	3, 2, 7, 16, 17, 21
Project 2 (Individual)	30	1.2	3, 2, 8, 9, 7, 6, 16, 22, 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, copying, plagiarizing, cheating, copying, etc. In any of the assessment activities, it will imply suspending it with a zero.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exam (Block 3)	40%	2	0.08	1, 10, 5, 11, 14, 18, 19
Exam (Blocks 1&2)	40%	2	0.08	20, 4, 13, 12
Project 1 - Document	5%	0	0	1, 20, 2, 4, 9, 7, 6, 17, 12, 14, 15, 18, 19, 21
Project 1 - Presentation	5%	4	0.16	3, 20, 2, 4, 7, 6, 16, 17, 12, 14, 18, 19, 21
Project 2 - Document	10%	0	0	1, 3, 2, 10, 4, 5, 8, 9, 7, 6, 11, 13, 12, 14, 15, 18, 22, 21

Bibliography

See virtual campus