

**Operacions aeroportuàries II**

Codi: 101756  
Crèdits: 6

Titulació	Tipus	Curs	Semestre
2501233 Gestió Aeronàutica	OB	2	1

**Professor/a de contacte**

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**Utilització d'idiomes a l'assignatura**

Llengua vehicular majoritària: anglès (eng)

Grup íntegre en anglès: No

Grup íntegre en català: No

Grup íntegre en espanyol: No

**Equip docent**

Mercedes Elizabeth Narciso Farias

**Prerequisites**

Students are expected to have the following background:

- Completion of the course "Airport Operations I" (101757).
- Basic knowledge of English language, at a level sufficient to understand theoretical material, assignments and exams of the course. However, it should be noticed that both exams and written assignments can be submitted in any of three languages: English, Catalan or Spanish.

**Objectius**

This course discusses the management, administration, financing and operating of airports. The course is designed for those students who are interested in airport management as a career field or others who can benefit from an in-depth exposure to airport management. An understanding of the operation and management of airports plays an important role in rounding out the aviation elective course offerings to students in any of the aviation degree programs. Whether such students are interested in airport management as a career field or another segment of aviation such as the airlines, general aviation or government, how the airport interfaces with these segments is an integral part of his/her overall education. Therefore, its contribution is largely synergistic, but it also provides an opportunity to acquire an in-depth analysis of the phases of airport management; specifically, master planning or the physical facility planning, economics of master planning or the physical facility planning, economics of airport operation and organizational structure. The duties and responsibilities of the airport management team will be analyzed.

Upon the course completion, students will be able to:

1. Discuss the aspects of Airport Operations Management.
2. Identify, compare and evaluate the various airport types, categories, operational systems, areas, functions, and agents roles.
3. Explain the evolution of various organizational designs and managerial functions at airports.
4. Identify the major areas of managerial attributes, responsibility and expertise.

5. Identify the major streams of airport revenue and expenses, budget types, leases, rates, and pricing strategies.
6. Understand the airport tactical and operational planning activities.
7. Describe the scope and significance of airport maintenance to include major categories, costs, design considerations, environmental concerns, and techniques for dealing with repairs.
8. Recognize and explain the economic importance and related impacts of airports on the community and transportation infrastructure.
9. Explain airport capacity potential and apply statistical measures to traffic demand forecasts.
10. Explain the ground handling planning and scheduling.

## Competències

- Actitud personal.
- Comunicació.
- Disposar dels fonaments de matemàtiques, economia, tecnologies de la informació i psicologia de les organitzacions i del treball, necessaris per comprendre, desenvolupar i avaluar els processos de gestió dels diferents sistemes presents al sector aeronàutic.
- Hàbits de pensament.
- Hàbits de treball personal.
- Identificar, desenvolupar o adquirir, i mantenir els recursos necessaris per donar resposta a les necessitats tàctiques i operatives inherents a les activitats del transport aeri.

## Resultats d'aprenentatge

1. Avaluar de forma crítica el treball realitzat.
2. Comunicar eficientment de forma oral i/o escrita coneixements, resultats i habilitats, tant en entorns professionals com davant de públics no experts.
3. Descriure l'entorn aeronàutic en l'àmbit de les operacions aeroportuàries.
4. Descriure les operacions en l'àrea de control de terminal (TMA).
5. Desenvolupar estratègies d'aprenentatge autònom.
6. Desenvolupar la capacitat d'anàlisi, síntesi i prospectiva.
7. Desenvolupar la curiositat i la creativitat.
8. Desenvolupar un pensament i un raonament crític.
9. Fer un ús eficient de les TIC en la comunicació i la transmissió d'idees i resultats.
10. Gestionar el temps i els recursos disponibles. Treballar de manera organitzada.
11. Identificar els recursos logístics necessaris en un aeroport per a la gestió de les operacions costat terra per atendre l'escala de les aeronaus.
12. Identificar els recursos tecnològics necessaris per a la gestió costat aire de les operacions en àrea de control de terminal.
13. Identificar les operacions de manteniment de la infraestructura, així com la repercussió que tenen en la qualitat del servei.
14. Mantenir una actitud proactiva i dinàmica respecte al desenvolupament de la pròpia carrera professional, el creixement personal i la formació continuada. Tenir esperit de superació.
15. Treballar de manera autònoma.
16. Utilitzar l'anglès com l'idioma de comunicació i de relació professional de referència.

## Continguts

Airport Operations II provides students with a deeper understanding of the management, administration, financing and operating of small, medium, large and hub airports. The course is designed for those students who are interested in airport management as a career field or others who can benefit from an in-depth exposure to airport management.

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general aviation or government, how the airport interfaces with these segments is an integral part of his/her overall education. Therefore, its contribution is largely synergistic, but it also provides an opportunity to acquire an in-depth analysis of the phases of airport management; specifically, master planning or the physical facility planning, economics of master planning or the physical facility planning, economics of airport operation and organizational structure. The duties and responsibilities of the airport management team will be analyzed.

#### **Online Resources used for the communication between course staff and students**

- Campus Virtual: <http://cv.uab.cat>
- Campus Virtual forum
- Staff emails

#### **Building Blocks of a Course**

The course consists of the following building blocks:

- Lectures (theoretical sessions)
- Practical sessions - each session takes 2 hours and 30 minutes per group
- Seminars - each seminar takes 1 hour per group
- 1 midterm exam (test) - the duration is 2 hours and 30 minutes
- 1 final exam (test) - the duration is 2 hours and 30 minutes
- Resubmissions

#### **Contents**

##### **PART I: AIRPORT OPERATIONS MANAGEMENT**

- Introduction to Airport Operations
- Airport Operations Specific Features
  - Ground Handling Management
  - Gate Assignment and Check-In Counter Assignment
  - Landing and Arrival Methods
  - Take off and Departure Methods
  - Security and Screening Management
  - Peaks and Airline Rescheduling

##### **PART II: GROUND HANDLING PLANNING AND SCHEDULING**

- Ground Handling Overview: Passenger Services, Ramp Services, Load Control, Communications and Flight Operations, Cargo and Mail Warehouse Services, Support Services, Security, Aircraft Maintenance
- IATA Standard Service Level Agreement
- Tactical Planning
  - Objectives
  - Workload Planning
  - Staff Rostering
- Operational Planning
  - Objectives
  - Ground Handling Operations Scheduling
  - Flight Delays Management
- Safety and Security Management
  - Safety Challenges in Passenger Handling, Baggage Handling, Cargo/Mail Handling and Aircraft Handling Procedures
  - Risk Management
  - Safety Improvement Initiatives
  - Legislators and Executive Institutions
  - Safe Ground Handling Methodology
- Environment Friendly Ground Handling

##### **PART III: AIRPORT CAPACITY MANAGEMENT**

- Airport Landside Capacity
- Airport Airside Capacity
- Methods for Measuring Airport Landside Capacity
- Airport Demand
- Methods for Analyzing and Forecasting the Airport Passenger Demand
- An Application of the Econometric Methods
- Matching the Airport Capacity to Demand in the Short-Term
- The Airport Master Plan

#### **PART IV: AIRPORT COLLABORATIVE DECISION MAKING**

- Objectives
- Milestones Approach
- System Wide Information Management (SWIM)
- Real Cases

#### **PART V: THE FUTURE AIRPORTS**

- The Airport as Multimodal Transport Node
- Design and Operations of the Future Airports
- Green Airports
- Airports as a part of Smart Cities

### **Metodologia**

The main contents of this course will be introduced in regular lectures. The course also includes (1) problem sessions that are focused on the application of specific methods to realistic problem solving, and (2) seminars where students will be encouraged to deeply analyze particular topics of the course.

### **Activitats formatives**

Títol	Hores	ECTS	Resultats d'aprenentatge
<b>Tipus: Dirigides</b>			
Problem sessions	15	0,6	1, 2, 3, 6, 8, 9, 10, 11, 12, 14, 15, 16
Regular lectures	25	1	3, 4, 8, 11, 12, 13, 16
Seminars	10	0,4	2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 16
<b>Tipus: Autònomes</b>			
Assignments	100	4	1, 3, 4, 5, 6, 8, 10, 11, 12, 13, 15, 16

### **Avaluació**

The final grade will be estimated based on four graded works according to the following formula:

**Final grade = 0.20 \* The average grade for practical sessions + 0.10 \* The average grade for seminars + 0.25 \* Midterm\_exam + 0.45 \* Final\_exam**

It is mandatory to visit at least 40% of theoretical lectures. The final grade will be reduced by 1 point if this requirement is not met (unless prior agreement with the professors is achieved).

The student is considered as "Not evaluable" if he/she:

- has not participated in all 3 practical sessions, neither participated in their resubmissions.
- OR has not participated in both mid-term and final exams (including their resubmissions).

### Honors (Matrícules d'Honor)

Honors are awarded on the basis of the completed body of the student's work. In particular, honors are only awarded to the students who obtained at least 9.00 for all activities of the course (seminars, practical sessions and exams).

### Late assignments

- No late submissions of the practical sessions will be accepted.
- Similarly, it will not be possible to resubmit seminars.

### Resubmissions

The exams (midterm and final exams) and practical sessions can be resubmitted not more than one time according to the course schedule.

The maximum grade that can be received for a resubmitted work is 9. The average of the first and last grades will constitute the final grade of a corresponding work.

The student must resubmit a practical session, if he/she obtained a <5 grade for the activity.

To be eligible for resubmitting the mid-term and final exams, the student must obtain a minimum grade of 3.5 in the average of the subject's activities and he/she must have submitted all past activities. For example, to be eligible to resubmit the final exam, the student must obtain at least 3.5 as the average of all practical sessions and the mid-term exam. Moreover, he/she must have submitted all practical sessions and the mid-term exam. The student cannot recover the final exam, if he/she has not been evaluated for any of the previously mentioned activities.

### Plagiarism

In case of revealing a plagiarism in the course activities, the relevant activity will be evaluated with 0.

### Students who repeat the course

Students who fall into this category will need to resubmit practical sessions, mid-term and final exams. The final grade of such students will be estimated as follows:

Final grade = 0.20 \* The average grade for practical sessions + 0.35 \* Midterm\_exam + 0.45 \* Final\_exam

### Activitats d'avaluació

Títol	Pes	Hores	ECTS	Resultats d'aprenentatge
Class and Seminars Participation (discussions, assignments, attendance, attention in class, questions raised, etc.)	10%	0	0	2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 16
Final examination	45%	0	0	3, 4, 11, 12, 13, 15
Mid-term examination	25%	0	0	3, 4, 11, 12, 13, 15
Problem sessions (3 sessions)	20%	0	0	1, 2, 3, 6, 7, 8, 9, 10, 11, 12,

## **Bibliografia**

There is no required text for this course. Lectures, course handouts and other materials will be posted periodically on the Campus Virtual. The following books are recommended as optional reading:

- Neufville, R. and Odoni, A. Airport Systems. Planning, Design, and Management. 2nd Edition. 2013.
- Vasigh, B., Fleming, K. Introduction to Air Transport Economics: From Theory to Applications. 2nd Edition. 2013.
- Francisco Salazar De La Cruz. INDUSTRIA AEROPORTUARIA. Editorial Círculo Rojo, 2013.