

**Guia docent de l'assignatura "Operacions aeroportuàries II"****2011/2012**

Codi: 101756

Crèdits ECTS: 6

Titulació	Pla	Tipus	Curs	Semestre
2501233 Gestió aeronàutica	829 Graduat en Gestió Aeronàutica	OB	2	1

**Contacte**

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**Utilització d'idiomes**

Llengua vehicular majoritària: anglès (eng)

Algun grup íntegre en anglès: No

Algun grup íntegre en català: Sí

Algun grup íntegre en espanyol: No

**Prerequisits**

It is advisable to have successfully completed the previous course on Airport Management (101757 - Operacions Aeroportuàries I).

**Objectius i contextualització**

Upon course completion, students will be able to:

1. Discuss the importance of each legislative act affecting Airport Management and the aviation industry.
2. Identify, compare and evaluate the various airport types, categories, operational systems, areas, functions, and roles.
3. Explain the evolution of various organizational designs and managerial functions at airports; identify the major areas of managerial attributes, responsibility and expertise; discuss the issues of power and authority as they relate to federal, state, and local airport issues.
4. Discuss the sources of funding for airports and airport funding policies in the United States; identify the major streams of airport revenue and expenses, budget types, leases, rates, and pricing strategies.
5. Recite the most significant Federal Aviation Regulations (FARs) and Transportation Security Regulations (TSRs) related to the various categories of security measures affecting public safety and the certification of airports and air carriers.
6. Identify the major sources of environmental issues faced by airports, especially the zones of noise and abatement procedures, and the applicable regulatory guidelines.
7. Recognize the various factors affecting the issue of public acceptance as it relates to airports and the aviation community; recite significant programs of public relations, marketing and political actions available to airports.
8. Describe the scope and significance of airport maintenance to include major categories, costs, design considerations, environmental concerns, and techniques for dealing with repairs.
9. Recognize and explain the economic importance and related impacts of airports on the community and transportation infrastructure; explain airport capacity potential and apply statistical measures to traffic demand forecasts.
10. Explain the airport master planning process to include its major elements, tasks, forecasting techniques, and development responsibilities.
11. Discuss the various elements of an airport's legal responsibilities to include common law, tort liability, criminal case laws, liens, and security.

## Competències i resultats d'aprenentatge

**1448:E01 - 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 en el sector aeronàutic.**

1448:E01.39 - Descriure l'entorn aeronàutic en l'àmbit de les operacions aeroportuàries.

1448:E01.40 - Descriure les operacions en l'àrea de control de terminal (TMA).

**1448:E05 - Identificar, desenvolupar o adquirir, i mantenir els recursos necessaris per satisfer les necessitats tàctiques i operatives inherents a les activitats del transport aeri.**

1448:E05.06 - Identificar els recursos tecnològics necessaris per a la gestió costat aire de les operacions en àrea de control de terminal.

1448:E05.07 - Identificar els recursos logístics necessaris en un aeroport per a la gestió de les operacions costat terra per atendre l'escala de les aeronaus.

1448:E05.08 - Identificar les operacions de manteniment de la infraestructura, així com la repercussió que tenen en la qualitat del servei.

**1448:T01 - Adquirir hàbits de pensament.**

1448:T01.01 - Desenvolupar un pensament i un raonament crítics.

1448:T01.02 - Desenvolupar la capacitat d'anàlisi, síntesi i prospectiva.

**1448:T02 - Adquirir hàbits de treball personal.**

1448:T02.01 - Treballar de manera autònoma.

1448:T02.02 - Desenvolupar estratègies d'aprenentatge autònom.

1448:T02.03 - Gestionar el temps i els recursos disponibles. Treballar de manera organitzada.

1448:T02.08 - Avaluar de manera crítica el treball dut a terme.

**1448:T04 - Tenir una bona capacitat de comunicació.**

1448:T04.01 - Comunicar eficientment, oralment i per escrit, coneixements, resultats i habilitats, tant en entorns professionals com davant de públics no experts.

1448:T04.02 - Fer un ús eficient de les TIC en la comunicació i la transmissió d'idees i resultats.

1448:T04.03 - Utilitzar l'anglès com idioma de comunicació i de relació professional de referència.

**1448:T06 - Tenir una actitud personal adequada.**

1448:T06.01 - 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.

1448:T06.02 - Desenvolupar la curiositat i la creativitat.

## Continguts

The focus of this course will be an examination of the management of airports. Emphasis is on the facilities that comprise an airport system, including airspace, airfield, terminal, and ground access operations.

Airport Operations Management is designed to provide the student with an understanding of the role of the airport manager in the management, administration, financing and operating of small, medium, large, hub airport.

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.

Students will be introduced to the history of airports including major national legislation affecting their development. The controlling factors in the development of an airport such as size and forecasting volumes, design considerations and zoning laws will be examined. Students will assume the role of management in

analyzing the factors involved in airport terminal development including location, size, and functional relationships of space and accommodation of ground transportation.

The course is designed for the student interested in airport management as a career field or others who can benefit from an in-depth exposure to airport management.

## **CONTENTS**

The Air Transportation Industry: a Historical Perspective / Present / Future

### **PART I: AIRPORTS AND AIRPORT SYSTEMS**

#### 1. Airports and Airport Systems: an Introduction

- 1.1. Airport Management on an International Level
- 1.2. Integrated Airport Systems
- 1.3. The Rules that Govern Airport Management
- 1.4. Organizations that Influence Airport Regulatory Policies
- 1.5. Airport Ownership and Operation
- 1.6. The Airport Manager and Public Relations

#### 2. Airports and Airport Systems: a Historical and Legislative Perspective

- 2.1. The Formative Period of Aviation and Airports: 1903-1938
- 2.2. Airport Growth: World War II and Post War Period
- 2.3. Airport Modernization: the Early Jet Age
- 2.4. Airport Legislation after Airline Deregulation
- 2.5. Management of Air Cargo

### **PART II: THE COMPONENTS OF THE AIRPORT**

#### 3. The Airfield, Airspace and Air Traffic Control

- 3.1. The Components of an Airport
- 3.2. Navigational Aids located on the Airfield
- 3.3. Security Infrastructure on Airfields
- 3.4. The Present-day Air Traffic Control Management and Operating Infrastructure
- 3.5. Current and Future Enhancements to Air Traffic Control
- 3.6. Components of the Airport Terminal

### **PART III: AIRPORT OPERATIONS AND FINANCIAL MANAGEMENT**

#### 4. Airport Operations Management

- 4.1. Pavement Management

4.2. Aircraft Rescue and Fire Fighting (ARFF)

4.3. Snow and Ice Control

4.4. Safety Inspection Program

4.5. Bird and Wildlife Hazard Management

5. Airport Security

5.1. History of Airport Security

5.2. New Security Enforcements for 2006s

5.3. Security at Commercial Service Airports

5.4. Security at General Aviation Airports

5.5. The Future of Airport Security

**PART IV: AIRPORT PUBLIC ADMINISTRATION AND PLANNING**

6. The Economic, Political, and Social Role of Airports

6.1. The Economic Role of Airports

6.2. Political Roles

6.3. Environmental Aspects of Airports

7. Airport Planning

7.1. Airport System Planning

7.2. The Airport Master Plan

7.3. The Airport Layout Plan

7.4. Forecasting

8. Airport Capacity and Delay

8.1. Defining Capacity

8.2. Estimating Capacity

8.3. Defining and Estimating Delay

8.4. Analytical Estimates of Delay

8.5. Other Measures of Delay

8.6. Approaches to Reducing Delay

9. The Future of Airport Management

9.1. Restructuring of Commercial Air Carriers

9.2. New Large Aircraft

9.3. Small Aircraft Transportation System

## 9.4. Future of Air Transportation

**Metodologia**

The main contents of this course are to be introduced in regular lectures. Students are also encouraged to analyze some real scenarios that will be debated during the scheduled problem sessions. These problem sessions are to be reinforced with additional case studies and simulation practices.

**Activitats formatives**

Activitat	Hores	ECTS	Resultats d'aprenentatge
<b>Tipus: Dirigides</b>			
Problem sessions	15	0.6	1448:E01.39 , 1448:E05.06 , 1448:E05.08 , 1448:T01.02 , 1448:T02.02 , 1448:T02.08 , 1448:T04.02 , 1448:T06.02 , 1448:T06.01 , 1448:T04.03 , 1448:T04.01 , 1448:T02.03 , 1448:T02.01 , 1448:T01.01 , 1448:E05.07 , 1448:E01.40
Regular lectures	30	1.2	1448:E01.39 , 1448:E01.40 , 1448:E05.06 , 1448:E05.08 , 1448:T04.03 , 1448:T06.02 , 1448:T06.01 , 1448:T01.01 , 1448:E05.07
Seminars	5	0.2	1448:E01.39 , 1448:E05.07 , 1448:T01.01 , 1448:T02.08 , 1448:T04.02 , 1448:T06.01 , 1448:T06.02 , 1448:T04.03 , 1448:T04.01 , 1448:T01.02 , 1448:E05.08 , 1448:E05.06 , 1448:E01.40
<b>Tipus: Autònomes</b>			
Assignments	100	4.0	1448:E01.39 , 1448:E05.07 , 1448:T01.01 , 1448:T02.01 , 1448:T02.03 , 1448:T04.02 , 1448:T06.02 , 1448:T06.01 , 1448:T04.03 , 1448:T02.08 , 1448:T02.02 , 1448:T01.02 , 1448:E05.08 , 1448:E05.06 , 1448:E01.40

**Avaluació**

The evaluation of this course is to be done based on two examinations: mid-term and final. In addition, proactivity and participation in classes will be considered.

Three regular problem/assignment sessions are scheduled on the course, summing up 30 % of the final mark.

**Activitats d'avaluació**

Activitat	Pes	Hores	ECTS	Resultats d'aprenentatge
Class Participation and Attendance (class discussions, assignments, attendance, attention in class, questions raised, etc.)	10%	0	0.0	1448:E01.39 , 1448:E01.40 , 1448:E05.06 , 1448:E05.08 , 1448:T04.01 , 1448:T06.01 , 1448:T06.02 , 1448:T04.03 , 1448:T01.01 , 1448:E05.07
Final examination	40%	0	0.0	1448:E01.39 , 1448:E05.07 , 1448:E01.40 , 1448:E05.06 , 1448:E05.08 , 1448:T04.03
Mid-term examination	20%	0	0.0	1448:E01.39 , 1448:E05.07 , 1448:E01.40 , 1448:E05.06 , 1448:E05.08 , 1448:T04.03

Problem 1	10%	0	0.0	1448:E01.39 , 1448:T01.01 , 1448:T01.02 , 1448:E05.08 , 1448:E05.07 , 1448:T02.01 , 1448:T02.03 , 1448:T06.02 , 1448:T06.01 , 1448:T04.03 , 1448:T04.02 , 1448:T04.01 , 1448:T02.08 , 1448:T02.02
Problem 2	10%	0	0.0	1448:E01.39 , 1448:E05.07 , 1448:T01.01 , 1448:T02.01 , 1448:T02.03 , 1448:T04.01 , 1448:T06.02 , 1448:T06.01 , 1448:T04.03 , 1448:T04.02 , 1448:T02.08 , 1448:T02.02 , 1448:T01.02 , 1448:E05.08 , 1448:E05.06 , 1448:E01.40
Problem 3	10%	0	0.0	1448:E01.39 , 1448:E05.08 , 1448:T01.02 , 1448:T02.02 , 1448:T02.08 , 1448:T06.02 , 1448:T06.01 , 1448:T04.03 , 1448:T04.02 , 1448:T04.01 , 1448:T02.03 , 1448:T02.01 , 1448:T01.01 , 1448:E05.07 , 1448:E01.40 , 1448:E05.06

### Bibliografia

Wells & Young, *AIRPORT PLANNING AND MANAGEMENT*, 5th ed., Irwin-McGraw Hill, 2004.