

## DATOS GENERALES

<b>Curso académico</b>	Curso 2024/2025
<b>Tipo de curso</b>	Microcredencial Universitario
<b>Número de créditos</b>	14,00 Créditos ECTS
<b>Matrícula</b>	260 euros (importe precio público pendiente de aprobación por el Consejo Social Universitat de València.) Preu general
<b>Requisitos de acceso</b>	Tourism professionals in general, seeking to strengthen their technological profile.

**Modalidad** Presencial

**Lugar de impartición** ETSE-UV

**Horario** Lunes a viernes, de 15:30h a 20:30h

## Dirección

**Organizador** 0

**Dirección** José Rafael Magdalena Benedito  
Profesor/a Titular de Universidad. Departament d'Enginyeria Electrònica. Universitat de València

## Plazos

**Preinscripción al curso** Hasta 07/03/25

**Fecha inicio** Marzo 25

**Fecha fin** Mayo 25

## Más información

**Teléfono** 961 603 000

**E-mail** [informacion@adeituv.es](mailto:informacion@adeituv.es)

## PROGRAMA

## Introduction to AI

Fundamentals of AI:

1. Introduction to AI
  2. Types of AI
  3. Basic Algorithms and Techniques
- Machine Learning and Practical Applications
1. Supervised and Unsupervised Learning
  2. Neural Networks and Deep Learning
  3. Ethics and the Future of AI

## Programming in AI

Introduction to Python and R

1. Python Fundamentals
2. R Fundamentals

Advanced Programming in Python and R

1. Python Functions and Modules
2. Functions and Packages in R

Data Manipulation and Analysis

1. Python Data Manipulation
2. Data Manipulation in R

Introduction to Machine Learning

1. Machine Learning in Python
2. Machine Learning in R

## Practical Projects and Applications

1. Python Project
2. Project in R

### Practical Activities

- Exercises and practical examples during each section
- Group discussions on case studies
- Mini-projects to apply the concepts learnt

[ML algorithms and examples. Generative AI](#)

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### Introduction to Machine Learning Algorithms:

1. Machine Learning Fundamentals
2. Data Preprocessing

### Classification Algorithms:

1. Classification in Python
2. Classification in R

### Day 3: Regression Algorithms:

1. Regression in Python
2. Regression in R

### Clustering Algorithms:

1. Clustering in Python
2. Clustering in R

### Introduction to Generative AI:

1. Basic Concepts of Generative AI
2. Implementation of GANs in Python

### Natural Language Processing (NLP):

1. NLP Fundamentals
2. NLP Models in Python

### Practical Projects in Python:

1. Classification Project
2. Generative AI Project

### Practical Projects in R:

1. Clustering Project
2. NLP Project

### Practical Activities:

- Exercises and practical examples during each section
- Group discussions on case studies
- Mini-projects to apply the concepts learnt

[Commercial tools for ML: examples](#)

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### Introduction

1. Overview of Trading Tools
2. Free vs. Commercial Tools

### Google Colab

1. Exploring Google Colab
2. Modelling and Deployment in Google Colab

### Microsoft Azure ML Free Tier

1. Introduction to Microsoft Azure ML Free Tier
2. Modelling and Deployment on Azure ML Free Tier

## AWS Free Tier

1. Getting to know AWS Free Tier
2. Modelling and Deployment on AWS Free Tier

### Practical Activities

- Exercises and practical examples during each section
- Group discussions on case studies
- Mini-projects to apply the concepts learnt

## [Computer network architecture](#)

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### [Web servers and services](#)

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#### Introduction to Web Servers and Web Services

1. What are Web Servers and Web Services?
2. Basic Web Server Components

#### Basic Web Server Configuration

1. Apache Installation and Configuration

#### Installation and Configuration of Nginx

- Installation of Nginx on different operating systems
- Basic Configuration and Configuration Files
- Serving Static Web Pages

#### Web Services and Dynamic Applications

1. Introduction to Dynamic Web Applications
2. Configuring Servers for Dynamic Applications

#### Web Services in the Cloud

1. Introduction to Cloud Computing
2. Configuration of Web Services in the Cloud

#### Management and Maintenance of Web Servers

1. Monitoring and Maintenance of Servers
2. Scalability and High Availability

#### Practical Projects and Case Studies

1. Complete Web Server Configuration Project
2. Case Studies and Group Discussion

### Practical Activities

- Exercises and practical examples during each section
- Group discussions on case studies
- Mini-projects to apply the concepts learnt

## [Database management and security](#)

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#### Introduction to Databases

1. What is a Database?
  2. Components and Architecture of a Database
- #### Database Design and Modelling
1. Relational Database Design
  2. NoSQL Database Design

#### Database Management

1. Relational Database Administration
2. NoSQL Database Administration

#### Cybersecurity Fundamentals

1. Introduction to Cybersecurity
2. Basic Security Measures

#### Database Security

- Database Security Fundamentals 2.
2. Advanced Security Practices

#### Practical Projects and Case Studies

1. Relational Database Management Project
2. NoSQL Database Management Project

#### Practical Activities

- Exercises and practical examples during each section
- Group discussions on case studies
- Mini-projects to apply the concepts learnt

## PROFESORADO

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### Miguel García Pineda

Profesor/a Titular de Universidad. Departament d'Informàtica. Universitat de València

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### Carlos Hernani Morales

Técnico/a Superior U.V.. Universitat de València

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### Fernando Mateo Jimenez

Profesor/a Titular de Universidad. Departament d'Enginyeria Electrònica. Universitat de València

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### Carlos Náchter Collado

Investigador Pas Universitat de Valencia

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### Oscar José Pellicer Valero

Investigador/a Doctor/a U.V. Junior. Universitat de València

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### Sonia Pérez Díaz

Catedrático/a de Universidad. Universidad de Alcalá de Henares

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### Joan Vila Francés

Profesor/a Titular de Universidad. Departament d'Enginyeria Electrònica. Universitat de València

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### Yolanda Vives Gilabert

Ayudante/a Doctor/a. Departament d'Enginyeria Electrònica. Universitat de València

## OBJETIVOS

Las salidas profesionales que tiene el curso son:

Technical digital content managers, AI consultants in tourism, tourism resource management, hotel resource management

To provide attendees with

- an overview of the IT tools and information management services that are required for effective and competitive information management
- a thorough understanding of AI tools, which can be applied to tourism business processes and data.
- An overview of the landscape and possible applications of AI to tourism management.

## METODOLOGÍA

This is a theoretical-practical course. The methodology is based on problem-based learning and reverse class. Participants will receive the theoretical bases that will allow them to put them into practice through different techniques, including role-play. In this way, they will be able to solve real situations that may arise when carrying out a correct data analysis. With regard to the online methodology, the contents will be provided through the virtual classroom and will consist of theoretical

units, video viewing and questionnaires to facilitate the study of data analysis.

To assess whether the objectives of the course have been achieved, both theoretical and practical evaluation will be carried out, as well as taking into consideration aspects such as punctuality, attendance and participation in each of the activities proposed. The tests will consist of true/false questionnaires, multiple-choice tests and simulated situations in the UV's IT classroom.