

Guía docente

300110 - STCAPAI - Inteligencia Artificial Aplicada

Última modificación: 04/07/2026

Unidad responsable: Escuela de Ingeniería de Telecomunicación y Aeroespacial de Castelldefels
Unidad que imparte: **Titulación:** MÁSTER UNIVERSITARIO EN INTELIGENCIA ARTIFICIAL PARA INDUSTRIAS CONECTADAS (AI4CI) (Plan 2025). (Asignatura optativa).

Curso: 2026 **Créditos ECTS:** 3.0 **Idiomas:** Inglés

PROFESORADO

Profesorado responsable: Daniele Mioriandi (Affliant)

Otros: Daniele Mioriandi (Affliant)

CAPACIDADES PREVIAS

Working knowledge of Python.
Working knowledge of standard Python ML/DL libraries (sklearn, pytorch).
Understanding of core ML/DL concepts (model, methods, training, performance evaluation, overfitting etc.).

REQUISITOS

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METODOLOGÍAS DOCENTES

Lectures, assignment, autonomous work, project

OBJETIVOS DE APRENDIZAJE DE LA ASIGNATURA

This course introduces students to the practical applications of artificial intelligence (AI) across various industrial domains. Through a combination of lectures, hands-on projects, and case studies, students will gain the knowledge and skills necessary to develop and deploy AI solutions to solve real-world problems. Topics covered will include AI models and methods, practices for operating ML-powered solutions, usage of LLMs and ethical considerations in AI.

HORAS TOTALES DE DEDICACIÓN DEL ESTUDIANTE

Tipo	Horas	Porcentaje
Horas aprendizaje autónomo	48,0	64.00
Horas grupo grande	27,0	36.00

Dedicación total: 75 h

CONTENIDOS

Applied Artificial Intelligence

Descripción:

The course covers the following topics:

1- Introduction to Applied Artificial Intelligence

Overview of AI applications in different industries.

Ethical considerations and responsible AI practices.

2- Brief recap: Foundations of Machine Learning/Deep Learning

Supervised, unsupervised, and reinforcement learning.

Classification, regression, forecasting.

Training, fine tuning and overfitting.

Performance evaluation of ML/DL models.

3- Domains: computer vision, natural language processing, sequential data.

AI Deployment and Integration

Model deployment strategies.

Introduction to cloud-based AI services.

Integrating AI models into applications and systems.

4- Case Studies and Project Work

Analysis of real-world AI applications across industries.

Team project: Design and implementation of an AI solution for a specific use case.

5- Project Presentation and Wrap-Up.

Final project presentations by student groups.

6- Reflection on key learnings and future directions in applied AI.

Dedicación: 75h

Grupo grande/Teoría: 27h

Aprendizaje autónomo: 48h

SISTEMA DE CALIFICACIÓN

Project work; a project assignment to perform after the STC execution will also be evaluated.