Program	59TL – Telematics Engineering B. Eng.

Course number and name	
Number	595010252
Name	Introduction To Artificial Intelligent In The Cloud
Semester	S8 [(February-June)]

Credits and contact hours	
ECTS Credits	4,5
Contact hours	45

Coordinator's name	Fernando Pescador del Oso [fernando.pescador@upm.es]

Specific course information

Description of course content

The course is divided into three modules that correspond to three basic Microsoft certifications that are part of the Microsoft Learn for Educators program.
The first module introduces the concepts and services available in Microsoft Azure. AZ-900 Certification (https://docs.microsoft.com/es-es/learn/certifications/exams/az-900)
The second module exposes the fundamental concepts of cloud databases and develops Microsoft Azure data services. DP-900 Certification (https://docs.microsoft.com/es-es/learn/certifications/exams/dp-900)
The third module introduces artificial intelligence and Microsoft Azure services that can be used to create AI solutions. AI-900 Certification (https://docs.microsoft.com/es-es/learn/certifications/exams/ai-900)
Students who follow the subject will take the official certification exams organized by the university within the Microsoft Learn for Educators program free of charge.

List of topics to be covered

1. Azure Fundamentals
    - 1.1. Azure main concepts
    - 1.2. Most important services of Azure
    - 1.3. Most important administrative solutions and tools in Azure
    - 1.4. General concepts of security in Azure
    - 1.5. Desccribe the features of identity, gobernance and privacity
2. Introduction to Microsoft Azure Data
    - 2.1. Explore the Data Base concepts
    - 2.2. Relational data in Azure
    - 2.3. Non relational data in Azure
    - 2.4. Explote new data stotage systems in Azure
3. Introduction to Microsoft Azure AI
    - 3.1. Introduction to AI

3.2. Automatic Learning 3.3. Artificial Vision 3.4. Natural Languague Processing (NLP) 3.5. Conversational AI
Prerequisites or co-requisites
- Computer Networks
Course category in the program

__ R (required)	**_X_ E (elective)** *(elective courses may not be offered every year)*

Specific goals for the course
Specific outcomes of instruction
RA1280 – To explain the concepts of relational and non-relational data in Azure. RA1281 – To identify the components of a modern data warehouse in Azure. RA1282 – To describe the characteristics of computer vision, natural language processing, and conversational AI in Azure. RA1278 – To explain general cloud computing concepts and the main services available with Microsoft Azure. RA1279 – To explain the security and networking features of Microsoft Azure. RA1283 – To describe the fundamental principles of machine learning in Azure.

Further reading and supplementary materials
– Moodle Web resources. – Virtual Lab: “Microsoft virtual platform” (web resource). – Microsoft Certification Description: https://docs.microsoft.com/es-es/Learn/

Teaching methodology			
_X_ lectures	**_X_ problem solving sessions**	**_ _ collaborative actions**	**_X_ laboratory sessions**
Other:			