# [MTC001] DATA INGEST AND STORAGE

## GENERAL INFORMATION

| | | | | | |
|---|---|---|---|---|---|
| **Studies** | MASTER'S DEGREE IN ARTIFICIAL INTELLIGENCE | | | **Subject** | ? |
| **Semester** | 1 | **Course** | 1 | **Mention / Field of specialisation** | |
| **Character** | COMPULSORY | | | | |
| **Plan** | 2024 | **Modality** | Face-to-face | **Language** | CASTELLANO |
| **Credits** | 3 | **Hours/week** | 0 | **Total hours** | 33 class hours + 42 non-class hours = **75 total hours** |

## PROFESSORS

REGUERA BAKHACHE, DANIEL

## REQUIRED PREVIOUS KNOWLEDGE

| Subjects | Knowledge |
|---|---|
| *(No specific previous subjects required)* | *(No previous knowledge required)* |

## LEARNING RESULTS

| LEARNING RESULTS | KC | SK | AB | ECTS |
|---|---|---|---|---|
| **M1T104** - Define, design and develop the process of ingesting, storing and parallel processing of data. | | | *x* | 2,6 |
| **M1T122** - Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context. | | *x* | | 0,4 |
| | | | **Total:** | 3 |

*KC: Knowledge or Content / SK: Skills / AB: Abilities*

## SECONDARY LEARNING RESULTS

**MIRA11** **[!]** ***Diseñar e implementar procesos automatizados para la extracción, transformación y carga de datos de fuentes heterogéneas***

| LEARNING ACTIVITIES | CH | NCH | TH |
|---|---|---|---|
| Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams | 6 h. | 21 h. | 27 h. |
| Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints | 2 h. | | 2 h. |
| Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects | 20 h. | | 20 h. |
| Carrying out exercises and solving problems individually and/or in teams | 2 h. | 14 h. | 16 h. |

| EVALUATION SYSTEM | W | MAKE-UP MECHANISMS |
|---|---|---|
| Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems | 30% | Individual written and/or oral tests or individual coding/programming tests |
| Individual written and/or oral tests or individual coding/programming tests | 70% | |

**CH - Class hours:** 30 h.
**NCH - Non-class hours:** 35 h.
**TH - Total hours:** 65 h.

**MIRA12** **[!]** ***Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación.***

| LEARNING ACTIVITIES | CH | NCH | TH |
|---|---|---|---|
| Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams | 3 h. | 7 h. | 10 h. |

| EVALUATION SYSTEM | W | MAKE-UP MECHANISMS |
|---|---|---|

| | | |
|---|---|---|
| Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems | 100% | *(No mechanisms)* |

**CH - Class hours:** 3 h.
**NCH - Non-class hours:** 7 h.
**TH - Total hours:** 10 h.

## CONTENTS

Methods and techniques of information ingestion

Information storage technologies

Design and implementation of information ingestion and storage flows

## LEARNING RESOURCES AND BIBLIOGRAPHY

| Learning resources | Bibliography |
|---|---|
| Subject notes<br>Technical articles | Crickard, P. (2020). Data Engineering with Python: Work with massive datasets to design data models and automate data pipelines using Python. Packt Publishing Ltd. |