

## [MTC002] KNOWLEDGE REPRESENTATION AND REASONING

### GENERAL INFORMATION

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

### PROFESSORS

DUO ZUBIAURRE, AITOR

### REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	(No previous knowledge required)

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>M1T105</b> - Design, develop and implement knowledge representation and reasoning models and their application in intelligent environments.	x			2,6
<b>M1T120</b> - Apply acquired knowledge and problem-solving skills in new, unfamiliar or changing environments within broader (or multidisciplinary) contexts related to their area of study.		x		0,4
<b>Total:</b>				<b>3</b>

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

### SECONDARY LEARNING RESULTS

**MIRA08** [!] *Aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos, poco conocidos o cambiantes dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio*

#### 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

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

W

100%

#### MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 3 h.

NCH - Non-class hours: 7 h.

TH - Total hours: 10 h.

**MIRA07** [!] *Conocer las técnicas de representación del conocimiento y modelos de razonamiento en entornos inteligentes*

#### 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

Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree

W

30%

#### MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

project, master's thesis, challenges and problems  
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.

## CONTENTS

Symbolic Artificial Intelligence Fundamentals

Knowledge representation models

Reasoning and Planning

## LEARNING RESOURCES AND BIBLIOGRAPHY

### Learning resources

Moodle Platform  
Technical articles

### Bibliography

Russell, S. J., & Norvig, P. (2016). Artificial intelligence: a modern approach. Pearson.