

[GIH206] ARTIFICIAL INTELLIGENCE

GENERAL INFORMATION

Studies	DEGREE IN COMPUTER ENGINEERING		Subject	SOFTWARE ENGINEERING, INFORMATION SYSTEMS AND SMART SYSTEMS
Semester	2	Course	3	Mention / Field of specialisation
Character	COMPULSORY		Language	EUSKARA
Plan	2017	Modality	Adapted Face-to-face	Total hours
Credits	6	Hours/week	5.39	97 class hours + 53 non-class hours = 150 total hours

PROFESSORS

ZUGASTI URIGUEN, EKHI

REQUIRED PREVIOUS KNOWLEDGE

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

SKILLS

VERIFICA SKILLS

SPECIFIC

GIE301 - To know the foundations, models and techniques for smart systems and to analyse, design and build information systems, services and applications which use these techniques in any scope of application.

GENERAL

GIGC08 - To build on basic concepts and technologies to expand knowledge and development of new methods and technologies, and to acquire flexibility to adapt to new situations.

GIGC09 - To be able to take the initiative in problem solving, decision making, autonomy and creativity. To be able to communicate and transmit knowledge, abilities and skills inherent in their work as a Computer Engineering Technician.

BASIC

G_CB2 - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

G_CB4 - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

G_CB5 - To have developed learning abilities required to embark on subsequent studies with a high level of autonomy.

LEARNING RESULTS

RG301 Assumes responsibilities in the work team, organizing and planning the tasks to be developed, facing the contingencies and encouraging the participation of its members.

LEARNING ACTIVITIES

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

CH

2 h.

NCH

3 h.

TH

5 h.

EVALUATION SYSTEM

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

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 2 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 5 h.

RG302 Analyze the intervening variables in the problem and propose actions for a stable situation.

LEARNING ACTIVITIES

Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out

CH

2 h.

NCH

2 h.

TH

4 h.

individually and/or in teams

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

100%

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

RG194 [!] *Análisis de los impactos de los ODS en el proyecto realizado*

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

2 h.

2 h.

4 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

100%

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

RG304 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in writing.

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.

2 h.

5 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

100%

(No mechanisms)

Comments: Continuous assessment. It may be asked to redo the document.

CH - Class hours: 3 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 5 h.

RG305 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in spoken form.

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.

2 h.

5 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

100%

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 3 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 5 h.

RG1331 [!] *Comprender la teoría de agentes inteligentes; Aplicar algoritmos de búsqueda ;*

LEARNING ACTIVITIES

CH

NCH

TH

Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams

7 h.

3 h.

10 h.

Individual study and work, tests and evaluations and check points

2 h.

2 h.

Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

20 h.

6 h.

26 h.

Individual and team exercises

7 h.

1 h.

8 h.

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

30%

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

70%

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

Comments: Minimum grade: 5

CH - Class hours: 36 h.

NCH - Non-class hours: 10 h.

TH - Total hours: 46 h.

RG1332 [!] *Comprender la teoría de machine learning. Aplicar algoritmos de machine learning ;*

LEARNING ACTIVITIES

CH

NCH

TH

Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams

7 h.

3 h.

10 h.

Individual study and work, tests and evaluations and check points

2 h.

2 h.

Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

20 h.

6 h.

26 h.

Individual and team exercises

6 h.

2 h.

8 h.

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

30%

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

70%

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

Comments: Minimum grade: 5

CH - Class hours: 35 h.

NCH - Non-class hours: 11 h.

TH - Total hours: 46 h.

RGI333 [!] *Utilizar un framework de Colecciones para aplicaciones de machine learning.*

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	4 h.	11 h.	15 h.
Individual study and work, tests and evaluations and check points	2 h.		2 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	3 h.	8 h.
Individual and team exercises	3 h.	7 h.	10 h.

EVALUATION SYSTEM

W

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

30%

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

70%

Comments: Minimum grade: 5

MAKE-UP MECHANISMS

Written, coding/programming and individual oral tests for the evaluation of technical skills in the field

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

CH - Class hours: 14 h.

NCH - Non-class hours: 21 h.

TH - Total hours: 35 h.

CONTENTS

1. Software agents: pieces of code that make decisions based on environmental conditions. 2. 2. Informed and uninformed search mechanisms in state space.3. Local search.4. Machine Learning: general concepts.5. Machine Learning: Scikit-Learn

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Moodle Platform
Subject notes

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=INFORMATICA32&ejecuta=35&