

[MRA001] DATA VISUALISATION

GENERAL INFORMATION

Studies	Master's Degree in ROBOTICS AND CONTROL SYSTEMS		Subject	Automation
Semester	1	Course	1	Mention / Field of specialisation
Character	OPTIONAL		Language	ENGLISH
Plan	2019	Modality	Adapted Face-to-face	Total hours
Credits	3	Hours/week	0	31 class hours + 44 non-class hours = 75 total hours

PROFESSORS

REGUERA BAKHACHE, DANIEL

REQUIRED PREVIOUS KNOWLEDGE

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

SKILLS

VERIFICA SKILLS

SPECIFIC

MRCE08 - Designing, developing and implementing the model of data representation according to their nature and interpreting them to extract knowledge.

CROSS

MRCTR2 - Ability to do their job with a cooperative and participatory attitude, while being socially responsible

BASIC

M_CB8 - To be able to integrate different types of knowledge and make complex judgements based on information that, in spite of being partial or limited, includes ideas on the social and ethical responsibilities associated with the application of knowledge

LEARNING RESULTS

RA081 The ability to identify and understand the concepts of visual analysis and human/computer interaction

LEARNING ACTIVITIES

	CH	NCH	TH
Individual study and work, tests and evaluations and check points	1 h.	2 h.	3 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.	4 h.	10 h.
Individual and team solving of exercises, problems, and practices	6 h.	11 h.	17 h.

EVALUATION SYSTEM

	W
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	40%
Written, coding/programming and individual oral tests for the evaluation of technical skills in the field	60%

MAKE-UP MECHANISMS

Individual written and oral tests to assess technical skills of the subject

Comments: All activities (control points, individual and group assignments, etc...) must have a minimum grade of 5 and there will be an extra opportunity for those who do not pass in the first try. In case of a second-chance examination, the final grade will be calculated as follows: first try examination grade * 25% + second-chance examination grade * 75%. In the exams it is necessary to obtain a minimum grade of 4 to calculate the average grade of the learning outcome. Otherwise, the learning outcome grade will be the grade of the exam. In all activities with a grade less than 5, recoveries are mandatory.

CH - Class hours: 13 h.
NCH - Non-class hours: 17 h.
TH - Total hours: 30 h.

RA082 The ability to analyze and evaluate the data visually to generate and/or obtain information or value, actively collaborating to evaluate and assume the social responsibility implicit in the proposal

LEARNING ACTIVITIES		CH	NCH	TH
Individual study and work, tests and evaluations and check points		1 h.	2 h.	3 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects		7 h.	10 h.	17 h.
Individual and team solving of exercises, problems, and practices		10 h.	15 h.	25 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS		
Individual written and oral tests to assess technical skills of the subject	60%	Individual written and oral tests to assess technical skills of the subject		
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	40%	Comments: All activities (control points, individual and group assignments, etc...) must have a minimum grade of 5 and there will be an extra opportunity for those who do not pass in the first try. In case of a second-chance examination, the final grade will be calculated as follows: first try examination grade * 25% + second-chance examination grade * 75%. In the exams it is necessary to obtain a minimum grade of 4 to calculate the average grade of the learning outcome. Otherwise, the learning outcome grade will be the grade of the exam. In all activities with a grade less than 5, recoveries are mandatory.		
CH - Class hours: 18 h. NCH - Non-class hours: 27 h. TH - Total hours: 45 h.				

CONTENTS

- Introduction to data visualization
- Data Visualization Libraries and Frameworks
- Visual Analytics
- Human-Computer Interaction and evaluation of Visual Analytics applications

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=MASTERROBOTIKA11&ejecuta=35&_ST
Topic related web quires	
Technical articles	