Goi Eskola Politeknikoa | Mondragon Unibertsitatea
Course: 2023 / 2024 - Course planning

[MNG005] MODELLING AND SIMULATION

GENERAL INFORMATION

Studies	MASTER DEGREE IN DATA ANALYSIS, CYBERSECURITY AND CLOUD COMPUTING		**Subject**	Methodological Research Foundations
Semester	1	**Course** 2	**Mention / Field of specialisation**	???
Character	OPTIONAL			
Plan	2019	**Modality** Adapted Face-to-face	**Language**	EUSKARA/CASTELLANO
Credits	3	**Hours/week** 0	**Total hours**	51 class hours + 24 non-class hours = **75 total hours**

PROFESSORS

EGUREN EGUIGUREN, JOSE ALBERTO

UNZUETA ARANGUREN, GORKA

REQUIRED PREVIOUS KNOWLEDGE

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

SKILLS

VERIFICA SKILLS

SPECIFIC

MNCE17 - Ability to manage Research, Development, and technological Innovation.

BASIC

M_CB6 - To have and understand knowledge which provides a base or opportunity to be original in the development and/or application of ideas, often in an investigation context

LEARNING RESULTS

RNM012 [!] *Demostrar capacidad para la gestión de la Investigación, Desarrollo e Innovación tecnológica*

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	8,5 h.	8 h.	16,5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	12 h.		12 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	4 h.	9 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%	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

CH - Class hours: 25,5 h.
NCH - Non-class hours: 12 h.
TH - Total hours: 37,5 h.

RNM013 [!] *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
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	8,5 h.	8 h.	16,5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	12 h.		12 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	4 h.	9 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Presentation and defence of exercises, case studies,	100%	Presentation and defence of exercises, case studies, computer

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Goi Eskola
Politeknikoa
Escuela Politécnica
Superior

computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

CH - Class hours: 25,5 h.
NCH - Non-class hours: 12 h.
TH - Total hours: 37,5 h.

CONTENTS

1. INTRODUCTION TO DOE2. FULL FACTORIAL DESIGN3. FRACTIONAL FACTORIAL DESIGN4. TAGUCHI METHOD

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	BOX, GEORGE E.P.; HUNTER, WILLIAM G.; HUNTER, J. STUART. Estadística para investigadores. Ed. Reverté, Barcelona, 1988
	PRAT, ALBERT; TORT-MARTORELL, XAVIER; GRIMA, PERE; POZUETA, LOURDES. Métodos Estadísticos. Control y mejora de la calidad. Ed. UPC, Barcelona, 1997. ISBN 84-8301-222-7
	PHADKE, MADHAV S. Quality Engineering using robust design. Ed. AT&T Bell Laboratories, 1989. ISBN 0-13-745167-9.
	TAGUCHI G.; ELSAYED A. E.; HSIANG T. Quality Engineering in Production Systems. Mc Graw Hill, 1989. ISBN 0-07-062830-0.
	HIRANO, Hiriyuki. Poka Yoke. Mejorando la calidad del producto evitado los defectos. Productivity Press, Inc. ISBN: 84-87022-73-1