

[MLG002] Modelling and Simulation

GENERAL INFORMATION

| | | | |
|------------------|--|--|---|
| Studies | UNIVERSITY MASTER'S DEGREE IN PRODUCTIVE LOGISTICS OPERATIONS MANAGEMENT | Subject | Methodological Research Foundations |
| Semester | 1 | Course | 2 |
| Character | OPTIONAL | Mention / Field of specialisation | ??? |
| Plan | 2022 | Modality | Face-to-face |
| Credits | 3 | Hours/week | 0 |
| | | Language | CASTELLANO |
| | | Total hours | 51 class hours + 24 non-class hours = 75 total hours |

PROFESSORS

(No professor appointed)

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

| LEARNING RESULTS | KC | SK | AB | ECTS |
|--|----|----|----|----------|
| MLRA19 - To demonstrate capacity for the management of technological Research, Development and Innovation | | x | | 1,5 |
| MLR125 - 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 | x | x | | 1,5 |
| Total: | | | | 3 |

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

SECONDARY LEARNING RESULTS

RLM012 [!] *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

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

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.

RLM013 [!] *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

Presentation and defence of exercises, case studies,

W

100%

MAKE-UP MECHANISMS

Presentation and defence of exercises, case studies, computer

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 DOE 2. FULL FACTORIAL DESIGN 3. FRACTIONAL FACTORIAL DESIGN 4. TAGUCHI METHOD

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes

Bibliography

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 evitando los defectos. Productivity Press, Inc. ISBN: 84-87022-73-1