

[MHD204] TRANSPORTATION AND INDUSTRIAL MAINTENANCE

GENERAL INFORMATION

| | | | |
|------------------|---|--|---|
| Studies | UNIVERSITY MASTER IN INDUSTRIAL ENGINEERING | Subject | ? |
| Semester | 1 | Course | 2 |
| Character | COMPULSORY | Mention / Field of specialisation | |
| Plan | 2022 | Modality | Face-to-face |
| Credits | 3 | Hours/week | 1.67 |
| | | Language | CASTELLANO |
| | | Total hours | 30 class hours + 45 non-class hours = 75 total hours |

PROFESSORS

| |
|--------------------------------------|
| ATORRASAGASTI ALDABALDETRECU, ESTELA |
| SAN MIGUEL UGARTE, AMAIA |

REQUIRED PREVIOUS KNOWLEDGE

| Subjects | Knowledge |
|---|---|
| <i>(No specific previous subjects required)</i> | <i>(No previous knowledge required)</i> |

LEARNING RESULTS

| LEARNING RESULTS | KC | SK | AB | ECTS |
|--|----|----|----|----------|
| MHRA17 - To demonstrate capacity for the design, construction and operation of industrial plants | | x | | 0,8 |
| MHRA21 - To demonstrate knowledge of methods and techniques of industrial transportation and maintenance | | x | | 1,48 |
| MHRA22 - To demonstrate knowledge and capabilities to carry out verification and control of facilities, processes and products | | x | | 0,36 |
| MHRA28 - To communicate your conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way | | x | | 0,12 |
| MHRA30 - To work with people, involving and directing them in a dynamic aimed at a common objective that includes reflection on their ethical and social responsibility, with a global vision of the work to be carried out and the characteristics that it requires (quality, deadlines,...), assuming responsibility for the decisions made | | x | | 0,12 |
| MHR126 - To apply the knowledge acquired and your problem-solving skills in new, little-known or changing environments within broader (or multidisciplinary) contexts related to your area of study | | x | | 0,12 |
| Total: | | | | 3 |

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

ENAE LEARNING RESULTS

| ENAE LEARNING RESULTS | ECTS |
|---|----------|
| ENA124 - Knowledge and comprehension: Deep knowledge and comprehension of the engineering disciplines of their speciality, at the level necessary to acquire the rest of the competencies of the degree. | 0,5 |
| ENA128 - Analysis in engineering: Ability to conceive new products, processes, and systems. | 0,5 |
| ENA131 - Engineering projects: Ability to project, develop and design new complex products (parts, components, finished products, etc.), processes and systems with specifications defined incompletely and/or with conflicts, which require the integration of knowledge from different disciplines, and consider social, health and safety, environmental, economic and industrial aspects; to select and apply the appropriate methodologies or employ creativity to develop new project methodologies. | 0,5 |
| ENA134 - Research and innovation: Ability to carry out bibliographic searches and consult and use databases and other information sources with discretion, in order to carry out simulations with the aim of conducting research on complex topics of their speciality. | 0,5 |
| ENA135 - Research and innovation: Ability to consult and apply codes of good practices and security in their speciality. | 0,5 |
| ENA138 - Practical application of engineering: Complete knowledge of the applicable techniques and methods of analysis, project and research, as well as their limitations. | 0,5 |
| Total: | 3 |

SECONDARY LEARNING RESULTS

RMH146 [!] *Conoce y diseña los medios de almacenaje, transporte y distribución de los materiales y productos terminados o en curso de fabricación dentro de la planta*

| LEARNING ACTIVITIES | CH | NCH | TH |
|---|----------|---------------------------|-------|
| Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects | 20 h. | 35 h. | 55 h. |
| Carrying out visits and/or learning trips to other university centres, laboratories, companies and/or thermal power plants | 5 h. | 5 h. | 10 h. |
| EVALUATION SYSTEM | <i>w</i> | MAKE-UP MECHANISMS | |

| | | |
|---|------|---|
| Individual written and/or oral tests or individual coding/programming tests | 100% | Individual written and/or oral tests or individual coding/programming tests |
| CH - Class hours: 25 h. NCH - Non-class hours: 40 h. TH - Total hours: 65 h. | | |

RMH147 [!] *Conoce los distintos sistemas de elevación (grúas, montacargas, ascensores...), la tecnología asociada a los mismos y es capaz de plantear alternativas según las necesidades del proceso productivo*

| LEARNING ACTIVITIES | CH | NCH | TH |
|---|------|------|------|
| Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects | 2 h. | 3 h. | 5 h. |
| Carrying out visits and/or learning trips to other university centres, laboratories, companies and/or thermal power plants | 3 h. | 2 h. | 5 h. |

| EVALUATION SYSTEM | W | MAKE-UP MECHANISMS |
|---|------|---|
| Individual written and/or oral tests or individual coding/programming tests | 100% | Individual written and/or oral tests or individual coding/programming tests |

CH - Class hours: 5 h.
NCH - Non-class hours: 5 h.
TH - Total hours: 10 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

| Learning resources | Bibliography |
|-------------------------------------|---|
| Subject notes | Anaya,J.J. (2000) Logística Integral. La Gestión Operativa de la empresa. Ediciones ESIC |
| Presentations by external Lecturers | Boyer, R. & Freyssenet, M. (2003) Los Modelos Productivos; Ediciones Fundamentos |
| Moodle Platform | Chase, R.B., Aquilano N.J. & Jacobs F.R. (1998) Production and Operations Management: Manufacturing and Services. Eighth Edition; Irwin/Mcgraw-Hill |
| Class presentations | Cox III, J. F., and Schleier Jr, J. G. (2010) Theory of constraints handbook. McGraw-Hill Education. |
| Video projections | Cox III, J.F., Boyd, L.H., Sullivan, T.T., Reid, R.A., and Cartier, B., (2012) The TOCICO Dictionary (Second Edition). McGraw-Hill Education |
| Slides of the subject | Pau Cos, J. & Navascúes y Gasca, R. (1998) Manual de Logística Integral; Ediciones Diaz de Santos |
| Topic related web quires | Pittman, P.H., and Atwater, J.B. (2019) The APICS Dictionary, 16th edition. American Production and Inventory Control Society |
| | Porter, M.E. (1980) Competitive Strategy: techniques for analyzing industries and competitors; The Free Press |
| | Porter, M.E. (1985) Competitive Advantage; The Free Press |
| | Prahalad, C. & Hamel, G. (1990) The Core Competence of the corporation; Harvard Business Review |
| | Umble, M., and Srikanth, M. L., (1995) Synchronous manufacturing: principles for world-class excellence. Spectrum Publishing, pp 211-255. |
| | Womack, J.P., Jones, D.T. & Roos, D. (1992) La máquina que cambió el mundo; Ediciones McGraw-Hill |
| | Womack, J.P. & Jones, D.T. (1996) Lean Thinking: Banish waste and create wealth in your corporation; Caledonian Internacional Book Manufacturing |

- Lérida, C. (2015). La liberalización del sector ferroviario en Europa: efectos sobre la eficiencia productiva y sobre los mercados de transporte (Tesis Doctoral). Universidad Nacional de Educación a Distancia (UNED).
- Conferencia de las Naciones Unidas sobre Comercio y Desarrollo (UNCTAD). (2011). Transporte Marítimo. Suiza: Publicación de las Naciones Unidas.
- Puertos del Estado. (2014). Informe Anual de Competitividad del año 2013 (pp. 2-99).Madrid: Ministerio de Fomento.
- Tompkins, J.A. y Smith, J.D. (1998). The Warehouse Management Handbook. North Carolina: Editors in Chief.
- Frazelle, E. (2002). Worldclass warehousing and material handling. McGraw-Hill .
- Rodríguez, R. (2015). Guía de Seguridad en procesos de almacenamiento y manejo de cargas. A Coruña: FREMAP.
- Puertos del Estado. (2010). Gestión de Mercancías. Ministerio de Fomento.
- Banker, S. (2014). Warehouse Management Systems & Warehouse Control Systems in the Age of Internet of Things.Recuperado de http://www.supplychain247.com/article/warehouse_management_systems_warehouse_control_systems/forte_industries
- McKinsey Quarterly (2013). The Internet of Things and the future of manufacturing.
Recuperado de:http://www.mckinsey.com/insights/business_technology/the_internet_of_things_and_the_future_of_manufacturing
- Barreto, L. & Amaral, A. & Pereira, T. (2017). Industry 4.0 implications in logistics: an overview. Procedia Manufacturing, 13. 1245-1252.