Goi Eskola Politeknikoa | Mondragon Unibertsitatea
Course: 2024 / 2025 - Course planning

Mondragon
Unibertsitatea
Goi Eskola
Politeknikoa
Escuela Politécnica
Superior

[MHB201] METHODOLOGICAL GUIDELINES FOR PREPARING A DOCTORAL THESIS

GENERAL INFORMATION

Studies	UNIVERSITY MASTER IN INDUSTRIAL ENGINEERING		**Subject**	?	
Semester	1	**Course**	2	**Mention / Field of specialisation**	???
Character	OPTIONAL				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO
Credits	3	**Hours/week**	0.67	**Total hours**	12 class hours + 63 non-class hours = **75 total hours**

PROFESSORS

- ABETE HUICI, JOSE MANUEL
- MARKIEGI GONZALEZ, URTZI
- ANAYA RODRIGUEZ, MAITE
- IZAGIRRE AIZPITARTE, UNAI
- LIZEAGA GOIKOETXEA, AITOR
- AYERDI CANTALEJO, JON

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MHRA19 - Knowledge and skills for calculating and designing industrial constructions and structures.		x		1,5
MHR125 - Having and understanding knowledge providing a basis or opportunity to be original in developing and/or applying ideas, often in a research context.		x		1,5
			Total:	**3**

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

ENAEE LEARNING RESULTS	ECTS
ENA126 - Knowledge and comprehension: Critical knowledge of the broad multidisciplinary context of engineering and the interrelations existing between the knowledge of the different fields.	0,38
ENA130 - Analysis in engineering: Ability to identify, formulate and solve engineering problems in emerging areas of their speciality.	0,37
ENA132 - Engineering projects: Ability to project while applying the knowledge and cutting-edge understanding of their engineering speciality.	0,37
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.	0,37
ENA136 - Research and innovation: High-level capacity and ability to project and carry out experimental investigations, interpret data with criteria, and draw conclusions.	0,37
ENA137 - Research and innovation: Ability to investigate the application of the most advanced technologies in their speciality.	0,37
ENA145 - Preparation of judgements: Ability to manage complex technical or professional activities or projects that require new approach approaches, assuming responsibility for the decisions made.	0,37
ENA148 - Continued training: Ability to undertake their own continued training independently.	0,37
	Total:
	3

SECONDARY LEARNING RESULTS

RAH204 **[!]** *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
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		31,5 h.	31,5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term

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exercises, term projects, challenges and problems | projects, challenges and problems

CH - Class hours: 6 h.
NCH - Non-class hours: 31,5 h.
TH - Total hours: 37,5 h.

RAH203 [!] *Demostrar capacidad para la gestión de la Investigación, Desarrollo e Innovación tecnológica*

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		31,5 h.	31,5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

CH - Class hours: 6 h.
NCH - Non-class hours: 31,5 h.
TH - Total hours: 37,5 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Class presentations Presentations by external Lecturers	OCDE (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities. Publicado por acuerdo con la OCDE, París (Francia). DOI: http://dx.doi.org/10.1787/9789264239012-en
	Leyton Castillo, A. (2012). Clases y tipos de Investigación Científica. https://investigacionestodo.wordpress.com/2012/05/19/clases-y-tipos-de-investigacion-cientifica/.
	Cegarra Sanchez, J.(2004). Metodología de la investigación científica y tecnológica. Madrid. Diaz de Santos.
	Zarraga, O (2016). Brake-clutch squeal prediction and suppression (tesis doctoral). Mondragon Unibertsitatea, Mondragón.
	Hernandez Sampieri, R. (2017). Fundamentos de investigación. Méjico. Mc Graw Hill.
	Nallaperumal, K.(2013). Engineering Research Methodology A Computer Science and Engineering and Information and Communication Technologies Perspective. Manonmaniam Sundaranar University. Tirunelveli, Tamil Nadu, India. https://www.researchgate.net/publication/259183120_Engineering_Research_Methodology_A_Computer_Science_and_Engineering_and_Information_and_Communication_Technologies_Perspective
	Kumar, R. (2011). Research methodology – A step-by-step guide for beginners. New Delhi. SAGE Publications.
	Sáez de Buruaga, M. (2018). A Novel Procedure Based on 2D Finite Element Modeling and Orthogonal Cutting Tests to Predict Machinability and Tool Wear Evolution Considering the Microstructure Effect of Lamellar Ferrite-Pearlite Steels (tesis doctoral).MU-MGEP.
	Bunge, M. (2001). La ciencia, su método y su filosofía. Editorial Sudamericana, Buenos Aires.