[GJN303] MANAGEMENT OF INDUSTRIAL ASSETS

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING			**Subject**	?
Semester	2	**Course**	3	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2025	**Modality**	Face-to-face	**Language**	CASTELLANO/EUSKARA
Credits	3	**Hours/week**	2.5	**Total hours**	45 class hours + 30 non-class hours = **75 total hours**

2030 AGENDA GOALS

PROFESSORS

URKIOLA OLANO, JOSU

URIZAR AIZPURU, ENERITZ

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GJR314 - To know and apply the principles of maintenance and quality control systems			x	2,56
G-TR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and/or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,2
G-TR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,24
			Total:	3

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

SECONDARY LEARNING RESULTS

2RGJ392 **(2 sem) Identify and accurately discuss the SDGs that the project addresses, suggesting possible actions for improvement.**

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	1 h.		1 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%	*(No mechanisms)*

Comments: Continuous assessment. Retake is not foreseen.

CH - Class hours: 1 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 1 h.

RGJ311 **They set up data collection systems and analyse the data collected in order to continuously improve the availability of the productive means.**

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.	2 h.	3 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in	2 h.	2 h.	4 h.

interdisciplinary contexts, real and/or simulated, individually and/or in teams

	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	4 h.		4 h.
Carrying out exercises and solving problems individually and/or in teams	3 h.	2 h.	5 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	55%
Individual written and/or oral tests or individual coding/programming tests	45%

Comments: PC2 50% EN2 KAIZEN EXERCISES 20% PBL 30%

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

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 10 h.
NCH - Non-class hours: 6 h.
TH - Total hours: 16 h.

2RGJ390 **(2 sem) Define and manage the objectives and planning of a project that allows you to acquire and/or reinforce your knowledge of technologies—sometimes reaching the cutting edge of knowledge—and define an effective self-learning strategy.**

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	1 h.	1 h.	2 h.

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

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment. Retake is not foreseen.

CH - Class hours: 1 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 2 h.

RGJ310 **They identify and apply different techniques used for planning and quality improvement.**

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	1 h.	3 h.	4 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	4 h.		4 h.
Carrying out exercises and solving problems individually and/or in teams	4 h.	4 h.	8 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	65%
Individual written and/or oral tests or individual coding/programming tests	35%

Comments: EN1 ZERO DEFECTS 30% PC1 40% PBL 30%

MAKE-UP MECHANISMS

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 9 h.
NCH - Non-class hours: 7 h.
TH - Total hours: 16 h.

2RGJ393 **(2 sem)Prepare the project report, providing detailed arguments and using language that is correct, inclusive, and non-discriminatory.**

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	2 h.	1 h.	3 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%	*(No mechanisms)*

Comments: Continuous assessment. Retake is not foreseen.

CH - Class hours: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

RGJ309 Identify and apply different tools and strategies to ensure quality and zero defects in production processes.

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.	2 h.	3 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	2 h.	1 h.	3 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	3 h.		3 h.
Carrying out exercises and solving problems individually and/or in teams	4 h.	3 h.	7 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	70%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Individual written and/or oral tests or individual coding/programming tests	30%	Individual written and/or oral tests or individual coding/programming tests

Comments: EN1 ZERO DEFECTS 50% PC1 30% PBL 20%

CH - Class hours: 10 h.
NCH - Non-class hours: 6 h.
TH - Total hours: 16 h.

2RGJ391 (2 sem) Coordinate the work team, encouraging cohesion and a positive atmosphere to achieve the integration of all individuals and their contribution to achieving appropriate performance, both individually and as a group, for the development o(2 sem)

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	1 h.	1 h.	2 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%	*(No mechanisms)*

Comments: Continuous assessment. Retake is not foreseen.

CH - Class hours: 1 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 2 h.

Goi Eskola Politeknikoa | Mondragon Unibertsitatea
Course: 2025 / 2026 - Course planning

Goi Eskola
Politeknikoa
Escuela Politécnica
Superior

2RGJ394 **(2 sem) Give an oral presentation of the project, justifying the proposed solutions with detailed and precise arguments, and using language that is correct, inclusive, and non-discriminatory.**

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	2 h.	1 h.	3 h.

EVALUATION SYSTEM	W
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%

MAKE-UP MECHANISMS

(No mechanisms)
Comments: Continuous assessment. Retake is not foreseen.

CH - Class hours: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

RGJ312 **They select the right maintenance plan based on objective criteria**

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.	3 h.	4 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	2 h.	2 h.	4 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	3 h.		3 h.
Carrying out exercises and solving problems individually and/or in teams	3 h.	2 h.	5 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	60%	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
Individual written and/or oral tests or individual coding/programming tests	40%	Individual written and/or oral tests or individual coding/programming tests

Comments: PC2 50% EN2 KAIZEN EXERCISES 10% PBL 40%

CH - Class hours: 9 h.
NCH - Non-class hours: 7 h.
TH - Total hours: 16 h.

CONTENTS

Quality Engineering1.Introduction to quality management2.Quality Control Quality Control: Zero Defects2. Self-inspection 3.Basic StatisticsStatistical Process Control (S.P.C.)5.Inspection at source. Poka-Yoke 3.Quality planning and prevention Quality planning Failure Mode and Effects Analysis (FMEA).Maintenance Management1.Introduction to Maintenance Management2.Types of Maintenance1.Corrective, Preventive, Predictive3.Indicators in Maintenance Management1.Maintainability, Reliability and Availability2.Efficiency_ 6 major losses3.Other indicators4.Implementation of a Maintenance Management System1.Prerequisites2.RCM_AMFE3 .TPM and Autonomous Maintenance5.CMMS_Computerized Maintenance Management

---

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Procesos y Gestión de Mantenimiento y Calidad. Raimundo Fernández Díez. Marcombo 2018
Moodle Platform	
Class presentations	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=MECATRONICA32&ejecuta=20&_ST
Presentations by external Lecturers	OZEKI, K. ASAKA, T. Handbook of Quality Tools. The Japanese

approach. Productivity Press.

Advanced Quality Product Planning (APQP) and Control Plan including PPAP 2000. Plexus Corporation, 1999.

Product- Process FMEA. Renault Institute of Quality Management.

Moubray John, RCM II Mantenimiento Centrado en Confiabilidad, Aladon LLC, 2004

Introducción al TPM. Seiichi Nakajima. 1991. Tecnologías de Gerencia y Producción.

TPM en Industrias de Proceso. Tokutaro Suzuki. 1996. Productivity Press