

[GJC304] OP S1. MECHANICAL ELEMENTS

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING	Subject	?
Semester	1	Course	2
Character	OPTIONAL	Mention / Field of specialisation	???
Plan	2025	Modality	Face-to-face
Credits	3	Language	EUSKARA/CASTELLANO
		Hours/week	2.5
		Total hours	45 class hours + 30 non-class hours = 75 total hours

2030 AGENDA GOALS



PROFESSORS

(No professor appointed)

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
GRAPHIC EXPRESION	(No previous knowledge required)

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GJR221 - To know the basic principles of machine elements	x			2,6
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		0,24
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		0,16
Total:				3

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

SECONDARY LEARNING RESULTS

RGJ231 They select mechanical machine parts from commercial catalogues, assessing their operating conditions.

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	3 h.	2 h.	5 h.
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	4 h.	3 h.	7 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	4 h.	2 h.	6 h.
Carrying out exercises and solving problems individually and/or in teams	4 h.	3 h.	7 h.

EVALUATION SYSTEM

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

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests
Comments: Final mark: written retake exam (75%) + exam (25%). Laboratory practices will be made-up by on-going evaluation.

CH - Class hours: 15 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 25 h.

1RGJ291 (1 sem) Establish the responsibilities of team members using appropriate techniques to promote their efficiency in project development (sharing resources, contributing ideas, seeking consensus, evaluating results, the process, etc.).

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

1 h.

NCH

1 h.

TH

2 h.

EVALUATION SYSTEM

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

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: With the project of the second semester

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGJ292 (1 sem) Identify and accurately explain the SDGs addressed by the project carried out.

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

1 h.

NCH

1 h.

TH

2 h.

EVALUATION SYSTEM

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

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGJ293 (1 sem) Correctly draft and structure the project report, using appropriate language. To do so, search for and use the appropriate sources of information.

LEARNING ACTIVITIES

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

CH

1 h.

NCH

1 h.

TH

2 h.

EVALUATION SYSTEM

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

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Revision and correction of the written report of the semester project

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGJ290 (1 sem) Propose the objectives and planning of a project that will enable you to acquire and/or reinforce your knowledge of technologies—which are sometimes at the cutting edge of knowledge—and define an effective learning strategy.

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

1 h.

NCH

1 h.

TH

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: With the project of the second semester

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGJ294 (1 sem) Give an oral presentation of the project, arguing effectively and using language correctly.

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

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: With the oral presentation of the project of the second semester

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

RGJ230 They know mechanical machine parts and their functions, identifying their selection parameters.

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

5 h.

3 h.

8 h.

Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning

6 h.

5 h.

11 h.

Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

9 h.

7 h.

16 h.

Practical work in workshops and/or laboratories, individually and/or in teams

5 h.

5 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

35%

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

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

65%

Comments: Final mark: written retake exam (75%) + exam (25%). Laboratory practices will be made-up by on-going evaluation.

CH - Class hours: 25 h.

NCH - Non-class hours: 15 h.

TH - Total hours: 40 h.

CONTENTS

1. CONNECTING ELEMENTS AND FITTINGS2. ROTARY GUIDE ELEMENTSFrictional guidance elementsRolling guidance elements3. LINEAR GUIDANCE ELEMENTSFrictional guidance elementsRolling guidance elements4. SEALING ELEMENTSStatic sealingDynamic sealing

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Topic related web quires

Labs

Presentations by external Lecturers

Slides of the subject

Moodle Platform

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=MECATRONICA21&ejecuta=25&_ST