

[GCJ301] MATERIAL ELASTICITY AND STRENGTH

GENERAL INFORMATION

Studies	DEGREE IN ENGINEERING IN ECO-TECHNOLOGY IN INDUSTRIAL PROCESS		Subject	MATERIAL ENGINEERING	
Semester	1	Course	2	Mention / Field of specialisation	
Character	COMPULSORY		Language	EUSKARA	
Plan	2022	Modality	Face-to-face	Total hours	51 class hours + 61.5 non-class hours = 112.5 total hours
Credits	4,5	Hours/week	2.83		

2030 AGENDA GOALS



PROFESSORS

GALLO FERNANDEZ, ANGEL

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS

	KC	SK	AB	ECTS
GCR209 - To apply the principles of resistance and elasticity of materials in the sizing of mechanical components in the field of engineering		x		4,02
G-RTR1 - 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		0,32
G-RTR2 - 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: 4,5

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

SECONDARY LEARNING RESULTS

1RGC290 (1 sem)

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.	3 h.

EVALUATION SYSTEM

	W
Self-assessment	50%
Co-assessment	50%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

1RGC294 (1 sem)

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.	2 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

100%

(No mechanisms)

CH - Class hours: 0 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 2 h.

1RGC292 (1 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)

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGC221 [!] Dimensiona componentes mecánicos sometidos a estados de carga complejos, analizando tensiones y deformaciones y seleccionando el material óptimo para soportar esas solicitaciones

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

4 h.

19,5 h.

23,5 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

100%

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: 4 h.

NCH - Non-class hours: 19,5 h.

TH - Total hours: 23,5 h.

1RGC291 (1 sem)

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.

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)

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

1RGC293 (1 sem)

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

NCH

TH

2 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)

CH - Class hours: 0 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 2 h.

RGC220 [!] *Resuelve problemas y ejercicios de componentes sometidos a solicitaciones simples, analizando tensiones y deformaciones*

LEARNING ACTIVITIES

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

CH

NCH

TH

31 h.

31 h.

Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints

8 h.

8 h.

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

38 h.

38 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: 46 h.

NCH - Non-class hours: 31 h.

TH - Total hours: 77 h.

CONTENTS

Fundamentals and review of mechanical physics (statics) 2.2. Tension-compression3. Shear4. Torsion5. Bending6. FEM

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Plataforma Moodle*

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in k.pl?grupo=EKOTEKNOLOGIA21&ejecuta=40