

[GCK303] ENVIRONMENTAL PROCESS OPTIMISATION SMELTING

GENERAL INFORMATION

Studies	DEGREE IN ENGINEERING IN ECO-TECHNOLOGY IN INDUSTRIAL PROCESS		Subject	?
Semester	1	Course	3	Mention / Field of specialisation
Character	COMPULSORY		Language	ENGLISH
Plan	2022	Modality	Face-to-face	Total hours 30 class hours + 82.5 non-class hours = 112.5 total hours
Credits	4,5	Hours/week	1.67	

2030 AGENDA GOALS



PROFESSORS

GARCIA MICHELENA, PABLO

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GCR306 - Determines the process variables necessary to manufacture a component using a foundry technology		x		3,78
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		0,4
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		0,32

Total: 4,5

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

SECONDARY LEARNING RESULTS

1RGC391 (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

3 h.

3 h.

EVALUATION SYSTEM

Self-assessment

W

50%

Co-assessment

50%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Assessment of the acquired transversal skills:
Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: definition of objectives, planning,... Written and oral communication

Comments: Continuous assessment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

1RGC394 (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

4 h.

4 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%

Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: definition of objectives, planning,... Written and oral communication

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 4 h.

TH - Total hours: 4 h.

1RGC393 (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

4 h.

4 h.

EVALUATION SYSTEM

W

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

100%

Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: definition of objectives, planning,... Written and oral communication

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 4 h.

TH - Total hours: 4 h.

1RGC390 (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

4 h.

4 h.

EVALUATION SYSTEM

W

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

100%

Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: definition of objectives, planning,... Written and oral communication

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 4 h.

TH - Total hours: 4 h.

1RGC392 (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)

Comments: Assessment of the acquired transversal skills:

Followed methodology to solve the project: team work, decision making methods, conflict management... Project management:

definition of objectives, planning,... Written and oral communication

Comments: Continuous assessment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

RGC317 Knows the main features of advanced casting processes, involving clean casting technologies that minimize the environmental impact of cast products

LEARNING ACTIVITIES

CH

NCH

TH

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

2 h.

20,5 h.

22,5 h.

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

18 h.

18 h.

Carrying out exercises and solving problems individually and/or in teams

4 h.

8 h.

12 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

15%

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

85%

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

Comments: In order to calculate the average taking into account works and exercises, a minimum mark of 3.0 is necessary in the written exam

Comments: If the written mark of the exam is less than 3, the work note will not be taken into account. Final note of exams: 75 % recovery and 25 % first exam.

CH - Class hours: 24 h.

NCH - Non-class hours: 28,5 h.

TH - Total hours: 52,5 h.

RGC318 Optimizes casting processes with the help of numerical software

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

36 h.

36 h.

Computer simulation exercises, individually and/or in teams

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

Comments: Continuous assessment

CH - Class hours: 6 h.
NCH - Non-class hours: 36 h.
TH - Total hours: 42 h.

CONTENTS

1. Foundry fundamentals
 2. Foundry processes
 3. Environmental optimization trends in foundry processes
 4. Simulation of foundry processes

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Plataforma Moodle*
 [!] *Software específico de la titulación*
 [!] *Apuntes de la asignatura*
 [!] *Consultas en páginas web relacionadas con el tema*

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=EKOTEKNOLOGIA31&ejecuta=10&_ST