Last update: 03-07-2019

330127 - TMEC - Mechanics Technology

Coordinating unit: 330 - EPSEM - Manresa School of Engineering

Teaching unit: 712 - EM - Department of Mechanical Engineering

Academic year: 2019

Degree: BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)

ECTS credits: 6 Teaching languages: Catalan, Spanish

Teaching staff

Coordinator: ANAS AL OMAR MESNAOUI

Others: JOSE IGNACIO ALCELAY LARRION - JOAN VALLEJO SERRANO - DANIEL VALLS MARGARIT

Degree competences to which the subject contributes

Specific:

1. (ENG) Saber usar los instrumentos de medición y aplicación de los métodos de fabricación.

2. (ENG) Diseñar procesos de fabricación, según el tipo de pieza, sus propiedades y sus características, seleccionando las máquinas apropiadas y los parámetros a controlar.
3. (ENG) Optimizar los parámetros de control de procesos de fabricación.

4. (ENG) Evaluar los costes de fabricación de una pieza adoptando diferentes metodologías.

Transversal:

5. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
6. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
7. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
8. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.

Learning objectives of the subject

Last update: 03-07-2019

330127 - TMEC - Mechanics Technology

Study load

Total learning time: 150h	Hours large group:	45h	30.00%
	Hours medium group:	0h	0.00%
	Hours small group:	15h	10.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

Last update: 03-07-2019

330127 - TMEC - Mechanics Technology

Content

(ENG) 1: Introducció a la Tecnologia Mecànica	Learning time: 13h Theory classes: 5h Self study : 8h
(ENG) 2: Metrologia	Learning time: 18h Theory classes: 5h Laboratory classes: 2h Self study : 11h
(ENG) 3: Conformat per Deformació Plàstica	Learning time: 31h Theory classes: 10h Laboratory classes: 2h Self study : 19h
(ENG) 4: Conformat per arrencada de ferritja.	Learning time: 32h Theory classes: 10h Laboratory classes: 3h Self study : 19h
(ENG) 5: Conformat per Fusió i Emmotllament	Learning time: 22h Theory classes: 7h Laboratory classes: 2h Self study : 13h
(ENG) 6: Soldadura	Learning time: 17h Theory classes: 5h Laboratory classes: 2h Self study : 10h

330127 - TMEC - Mechanics Technology

(ENG) 7: Introducció al control numèric	Learning time: 17h Theory classes: 3h Laboratory classes: 4h Self study : 10h

Last update: 03-07-2019

330127 - TMEC - Mechanics Technology

Planning of activities

(ENG) 1: PRÀCTICA DE LABORATORI. METROLOGIA	Hours: 5h Laboratory classes: 2h Self study: 3h
(ENG) 2: RESOLUCIÓ DE PROBLEMES. CONFORMAT PER DEFORMACIÓ PLÀSTICA.	Hours: 5h Laboratory classes: 2h Self study: 3h
(ENG) 3: PRÀCTICA DE LABORATORI. CONFORMAT PER ARRENCADA DE FERRITJA.	Hours: 7h Laboratory classes: 3h Self study: 4h
(ENG) 4: RESOLUCIÓ DE PROBLEMES. CONFORMAT PER FUSIÓ I EMMOTLLAMENT.	Hours: 5h Laboratory classes: 2h Self study: 3h
(ENG) 5: PRÀCTICA DE LABORATORI. SOLDADURA.	Hours: 5h Laboratory classes: 2h Self study: 3h
(ENG) 6: PRÀCTICA DE LABORATORI. CONTROL NUMÈRIC.	Hours: 9h Laboratory classes: 4h Self study: 5h
(ENG) 7: PRIMERA PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA.	Hours: 12h Theory classes: 2h Self study: 10h
(ENG) 8: SEGONA PROVA INDIVIDUAL D'AVALUACIÓ CONTÍNUA.	Hours: 12h Theory classes: 2h Self study: 10h

Last update: 03-07-2019

330127 - TMEC - Mechanics Technology

(ENG) 9: PROVA FINAL.	Hours: 18h Theory classes: 3h Self study: 15h

Bibliography

Basic:

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Complementary:

Schey J.A. Introduction to manufacturing processes. 3r ed. Boston: McGraw Hill, 2000. ISBN 0070311366.

Ostwald, P. F. Manufacturing processes and systems. 9th ed. New York: John Wiley & Sons, 1997. ISBN 0471047414.

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Lasheras Esteban, J. Mª. Tecnología mecánica y metrotecnia. San Sebastián: Editorial Donostiarra, 1997. ISBN 8470630873.

Coca Rebollero P.; Rosique Jimenez J. Tecnología mecánica y metrotecnia. Madrid: Pirámide, 1996. ISBN 8436816633.

Compain, L. Metrología de taller. Bilbao: Urmo, 1974.

Micheletti, G. F. Mecanizado por arranque de viruta. Barcelona: Blume, 1980. ISBN 847002502.