

## 330520 - FAOCAM - Computer-Aided Manufacturing (Cam)

Coordinating unit: 330 - EPSEM - Manresa School of Engineering  
Teaching unit: 712 - EM - Department of Mechanical Engineering  
Academic year: 2019  
Degree: BACHELOR'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2017). (Teaching unit Compulsory)  
ECTS credits: 3 Teaching languages: Catalan, Spanish

### Teaching staff

Coordinator: Alcelay Larrión, José Ignacio

Others: Martínez Fitó, Xavier  
Al Omar Mesnaoui, Anas  
Peña Pitarch, Esteban

### Degree competences to which the subject contributes

Specific:

1. (ENG) Ha de ser capaç de realitzar programes de control numèric (CNC) per a torn.
2. (ENG) Ha de ser capaç de realitzar programes de control numèric (CNC) per a centre de mecanitzat.
3. (ENG) Ha de ser capaç de interpretar, corregir i optimitzar programes de control numèric (CNC).

Transversal:

4. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
5. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
6. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.

### Learning objectives of the subject

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### Study load

Total learning time: 75h	Hours large group:	0h	0.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	40.00%
	Guided activities:	0h	0.00%
	Self study:	45h	60.00%

### Content

title english	Learning time: 12h Practical classes: 12h
Description: content english	
title english	Learning time: 14h Practical classes: 4h Self study : 10h
Description: content english	
title english	Learning time: 14h Practical classes: 4h Self study : 10h
Description: content english	
title english	Learning time: 20h Practical classes: 10h Self study : 10h
Description: content english	

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### Planning of activities

name english	Hours: 23h Practical classes: 8h Self study: 15h
name english	Hours: 18h Practical classes: 18h
name english	Hours: 2h Practical classes: 2h
name english	Hours: 2h Practical classes: 2h

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### Bibliography

#### Basic:

DeGarmo, Ernest Paul; Black, J. Temple; Kohser, Ronald A. Materiales y procesos de fabricación. 2ª ed. Barcelona: Reverté, 1988. ISBN 8429148221.

Groover, Mikell P. Fundamentos de manufactura moderna: materiales, procesos y sistemas [on line]. 3ª ed. México: McGraw-Hill, 2007 [Consultation: 24/07/2018]. Available on: <[https://discovery.upc.edu/iii/encore/record/C\\_\\_Rb1431683?lang=cat](https://discovery.upc.edu/iii/encore/record/C__Rb1431683?lang=cat)>. ISBN 9781456202514.

Kalpakjian, Serope; Schmid, Steven R. Manufactura, ingeniería y tecnología [on line]. 7ª ed. México: Pearson, 2014 [Consultation: 21/05/2019]. Available on: <[https://discovery.upc.edu/iii/encore/record/C\\_\\_Rb1510224?lang=cat](https://discovery.upc.edu/iii/encore/record/C__Rb1510224?lang=cat)>. ISBN 9786073227353 (VOL. 1), 9786073227421 (VOL. 2).

Chang, Tien-Chien; Wysk, Richard A.; Wang, Hsu-Pin. Computer-aided manufacturing. 3rd ed. Upper Saddle River: Prentice Hall, 2006. ISBN 0131429191.

Echepare Zugasti, Ricardo; López de Lacalle, Luís Norberto. Control numérico: conceptos y programación. Bilbao: Ediciones Técnicas Ízaro, 1990.

#### Complementary:

Leyensetter, A.; Wütemberger, G., dir. Tecnología de los oficios metalúrgicos. Barcelona: Reverté, 1974. ISBN 8429160663.

Schey, John A. Introduction to manufacturing processes. 3rd ed. Boston: McGraw-Hill, 2000. ISBN 0070311366.

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

Creese, Robert C. Introduction to manufacturing processes and materials. New York: Marcel Dekker, 1999. ISBN 0824799143.

Alting, Leo. Procesos para ingeniería de manufactura. México: Alfaomega, 1989. ISBN 9686223002.

Micheletti, Gian Federico. Mecanizado por arranque de viruta: tecnología mecánica. Barcelona: Blume, 1980. ISBN 847002502.