Last update: 03-07-2019

330056 - M2 - Mathematics II

Coordinating unit: 330 - EPSEM - Manresa School of Engineering

Teaching unit: 749 - MAT - Department of Mathematics

Academic year: 2019

Degree: BACHELOR'S DEGREE IN ENERGY AND MINING RESOURCE ENGINEERING (Syllabus 2012). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2016). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)

ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: JOSE MIGUEL GIMENEZ PRADALES

Others: MONTSERRAT ALSINA AUBACH - JOSEP M. CORS IGLESIAS - MARGARITA DOMENECH BLAZQUEZ - JOSEP FREIXAS BOSCH - M. ANTONIA MOLINA HERNANDEZ - XAVIER MOLINERO ALBAREDA - FRANCISCO PALACIOS QUIÑONERO - MONTSERRAT PONS VALLES - M. ALBINA PUENTE DEL CAMPO - JOSEP MARIA ROSSELL GARRIGA - JOSEP RUBIÓ MASSEGÚ - ENRIC VENTURA CAPELL

Degree competences to which the subject contributes

Specific:

1. (ENG) CE1: Capacitat per la resolució dels problemes matemàtics que puguin sorgir en l¿enginyeria. Aptitud per aplicar els coneixements sobre: àlgebra lineal, geometria, geometria diferencial, càlcul diferencial i integral, equacions diferencials i en derivades parcials, mètodes numèrics, algorísmica numèrica, estadística i optimització.

Transversal:

2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
3. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
4. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.

Learning objectives of the subject

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Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	20.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

Content

(ENG) 1. CAMPS ESCALARS	Learning time: 30h Theory classes: 6h Laboratory classes: 6h Self study : 18h
(ENG) 2. INTEGRACIÓ MÚLTIPLE	Learning time: 60h Theory classes: 12h Laboratory classes: 12h Self study : 36h
(ENG) 3. CÀLCUL VECTORIAL	Learning time: 60h Theory classes: 12h Laboratory classes: 12h Self study : 36h

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Planning of activities

(ENG) A1: CAMPS ESCALARS	Hours: 4h Laboratory classes: 1h Self study: 3h
(ENG) A2: INTEGRACIÓ MÚLTIPLE	Hours: 4h Laboratory classes: 1h Self study: 3h
(ENG) A3: CÀLCUL VECTORIAL	Hours: 4h Laboratory classes: 1h Self study: 3h
(ENG) A4: E1 I E2: PROVES ESCRITES	Hours: 16h Theory classes: 4h Self study: 12h

Bibliography

Basic:

Stewart, James. Cálculo multivariable. 4ª ed. México: International Thomson, 2001. ISBN 9706861238.

Thomas, George Brinton. Cálculo. Vol. 2, Varias variables. 11ª ed. México: Pearson Educación, 2005-2006. ISBN 9702606446.

Larson, Ron; Hostetler, Robert P.; Edwards, Bruce H. Cálculo y geometría analítica. Vol. 2. 6ª ed. Madrid: McGraw-Hill, 1999. ISBN 8448123530.

Bradley, Gerald L.; Smith, Karl J. Cálculo. Vol. 2, Cálculo de varias variables. Madrid: Prentice Hall, 1998. ISBN 8489660778.