

340370 - MATD-I2043 - Discrete Mathematics

Coordinating unit: 340 - EPSEVG - Vilanova i la Geltrú School of Engineering
 Teaching unit: 749 - MAT - Department of Mathematics
 Academic year: 2019
 Degree: BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2018). (Teaching unit Compulsory)
 BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2010). (Teaching unit Compulsory)
 ECTS credits: 7,5 Teaching languages: Catalan, Spanish

Teaching staff

Coordinator: Ester Simó Mezquita
 Others: Ester Simó Mezquita

Degree competences to which the subject contributes

Specific:

1. CEFB3. Ability to understand and to have a good command of discrete, logical, algorithmically mathematics and computing complexity and its application to automatical treatment of information by means of computational systems and its application to solve engineering problems.

Transversal:

3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
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

Study load

Total learning time: 187h 30m	Hours large group:	60h	32.00%
	Hours medium group:	0h	0.00%
	Hours small group:	15h	8.00%
	Guided activities:	0h	0.00%
	Self study:	112h 30m	60.00%

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Content

(ENG) Teoria de grafs: conceptes bàsics	Learning time: 26h Theory classes: 4h Practical classes: 4h Laboratory classes: 6h Self study : 12h
Description: .	
(ENG) Teoria de grafs: camins i connexió	Learning time: 22h Theory classes: 4h Practical classes: 4h Laboratory classes: 2h Self study : 12h
Description: .	
(ENG) Teoria de grafs: arbres	Learning time: 22h Theory classes: 4h Practical classes: 4h Laboratory classes: 2h Self study : 12h
Description: .	
(ENG) Combinatòria	Learning time: 27h Theory classes: 4h Practical classes: 5h Laboratory classes: 2h Self study : 16h
Description: .	

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(ENG) Recurrències	Learning time: 24h Theory classes: 4h Practical classes: 5h Self study : 15h
Description: .	
Related activities: .	

Bibliography

Basic:

Grimaldi, Ralph P. Matemáticas discreta y combinatoria : una introducción con aplicaciones. 3a ed. Argentina [etc.]: Addison-Wesley Iberoamericana, 1997. ISBN 9684443242.

Gimbert i Quintilla, Joan ; Moreno Chiral, Ramiro ; Ribó Balust, Josep ; Valls Marsal, Magda. Apropament a la teoria de grafs i als seus algorismes. Lleida ; Zaragoza: Edicions de la Universitat de Lleida ; F.V. Libros, 1998. ISBN 8489727651.

Rosen, Kenneth H. Exploring discrete mathematics : with maple. McGraw-Hill, 1997. ISBN 0070541280.

Complementary:

Anderson, Ian. Introducción a la combinatoria. Barcelona: Vicens Vives, 1993. ISBN 8431632801.

Biggs, Norman L. Matemática discreta. Barcelona: Vicens-Vives, 1992. ISBN 8431633115.

Bollobás, Béla. Graph theory : an introductory course. New York, NY: Springer-Verlag, 1979. ISBN 0387903992.

Comellas Padró, Francesc ; Fàbrega, Josep ; Sànchez, Anna ; Serra, Oriol. Matemática discreta [on line]. Barcelona: Edicions UPC, 2001 [Consultation: 16/01/2015]. Available on: <<http://hdl.handle.net/2099.3/36194>>. ISBN 8483014564.

Lipschutz, Seymour ; Lipson, Marc. Matemáticas discretas. 3a ed. México [etc.]: McGraw-Hill, 2009. ISBN 9789701072363.