

330527 - GQ - Quality Management

Coordinating unit: 330 - EPSEM - Manresa School of Engineering
Teaching unit: 749 - MAT - Department of Mathematics
750 - EMIT - Department of Mining, Industrial and ICT Engineering
Academic year: 2019
Degree: BACHELOR'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2017). (Teaching unit Compulsory)
ECTS credits: 4,5 Teaching languages: Catalan, English

Teaching staff

Coordinator: JOSEP FREIXAS BOSCH & JORDI ALBIOL RODRÍGUEZ
Others: MONTSERRAT ALSINA AUBACH - JOSEP M. CORS IGLESIAS - MARGARITA DOMENECH BLAZQUEZ - RICARD DOMÍNGUEZ DÍAZ - JOSEP FREIXAS BOSCH - JOSE MIGUEL GIMENEZ PRADALES - 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:

CE1. Ability to solve mathematical problems that may arise in engineering. Ability to apply knowledge about: linear algebra; geometry; differential geometry; differential and integral calculus; differential equations and partial derivatives; numerical methods; numerical algorithms; statistics and optimization.
CE17. Quality control knowledge.

Transversal:

1. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.
2. 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.
3. 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.
4. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.

Learning objectives of the subject

ENG



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Study load

Total learning time: 112h 30m	Hours large group:	22h 30m	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	22h 30m	20.00%
	Guided activities:	0h	0.00%
	Self study:	67h 30m	60.00%

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Content

<p>1. PROBABILITY</p>	<p>Learning time: 11h 15m Theory classes: 2h 15m Laboratory classes: 2h 15m Self study : 6h 45m</p>
<p>Description: ENG</p>	
<p>2. DISTRIBUCIONS DISCRETES (ENG)</p>	<p>Learning time: 15h Theory classes: 3h Laboratory classes: 3h Self study : 9h</p>
<p>Description: ENG</p>	
<p>3. DISTRIBUCIONS CONTÍNUES (ENG)</p>	<p>Learning time: 19h 30m Theory classes: 3h 45m Laboratory classes: 3h 45m Self study : 12h</p>
<p>Description: ENG</p>	
<p>4. NOCIÓ D'INFERÈNCIA ESTADÍSTICA (ENG)</p>	<p>Learning time: 7h 30m Theory classes: 1h 30m Laboratory classes: 1h 30m Self study : 4h 30m</p>
<p>Description: ENG Related activities: ENG</p>	

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5. CONTROL ESTADÍSTIC DE PROCESSOS (ENG)	Learning time: 11h 15m Theory classes: 2h 15m Laboratory classes: 2h 15m Self study : 6h 45m
Description: ENG	
6. ANÀLISI EXPLORATÒRIA DE DADES (ENG)	Learning time: 11h 15m Theory classes: 2h 15m Laboratory classes: 2h 15m Self study : 6h 45m
Description: ENG	
7. CONCEPTES BÀSICS - QUALITAT TOTAL (ENG)	Learning time: 11h 15m Theory classes: 2h 15m Laboratory classes: 2h 15m Self study : 6h 45m
Description: ENG	
8. SISTEMES DE GESTIÓ DE LA QUALITAT (ENG)	Learning time: 19h 30m Theory classes: 3h 45m Laboratory classes: 3h 45m Self study : 12h
Description: ENG	

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Planning of activities

1. ACTIVITAT DELS PRIMERS QUATRE TEMES (ENG)	Hours: 3h Self study: 1h 30m Theory classes: 1h 30m
2. ACTIVITAT DELS TEMES DEL CINC AL VUIT (ENG)	Hours: 3h Self study: 1h 30m Theory classes: 1h 30m

Bibliography

Basic:

ASQ Statistics Division, . Glossary and tables for statistical quality control. Milwaukee, WI: 4e, ASQ Quality Pres, 2005. ISBN 0873896319.

Forcada, Santiago; Rubió Masegú, Josep. Elements d'estadística [on line]. Barcelona: Edicions UPC, 2007 Available on: <<http://hdl.handle.net/2099.3/36675>>. ISBN 9788483019269.

Bardina i Simorra, Xavier; Farré, Mercè. Estadística descriptiva. Bellaterra: Universitat Autònoma de Barcelona, Servei de Publicacions, 2009. ISBN 9788449025907.

Sarrion Gavilan, Maria Dolores. Estadística descriptiva. McGraw Hill, 2012. ISBN 9788448183318.

García Ore, Celestino. Estadística descriptiva y probabilidades para ingenieros. MACRO, 2016. ISBN 9786123040277.

Rausand, Marvin; Høyland, Arnljot. System reliability theory : models, statistical methods, and applications. 2nd ed. Hoboken: John Wiley & Sons, cop. 2004. ISBN 047147133X.

Winston, Wayne L. Microsoft Excel 2019 : data analysis and business modeling. Sixth edition. Redmond, WA: Pearson Education, 2019. ISBN 9781509305889.

García Oré, Celestino. Estadística descriptiva y probabilidades para ingenieros. Lima: Empresa Editora Macro, 2014. ISBN 9786123040277.

Complementary:

Devore, Jay L. Probabilidad y estadística para ingeniería y ciencias. 6ª ed. México [etc.]: Thomson, cop. 2005. ISBN 9706864571.

Prat Bartés, Albert. Métodos estadísticos : control y mejora de la calidad [on line]. 2ª ed. Barcelona: Edicions UPC, 2004 [Consultation: 26/07/2019]. Available on: <<http://hdl.handle.net/2099.3/36342>>. ISBN 8483017865.

Lipschutz, Seymour; Schiller, John J; Cortiñas Vázquez, Pedro; Santos Peña, Julián; ; Guzmán Justicia, Luis. Introducción a la probabilidad y estadística. Madrid [etc.]: McGraw-Hill/Interamericana de España, DL 2001. ISBN 8448125045.

Others resources: