820070 - JD - Games and Decisions

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2015
Degree: BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits: 6
Teaching languages: Spanish

Teaching staff
Coordinator: JORGE PEREIRA GUDE
Others: JORGE PEREIRA GUDE

Prior skills
Knowledge of statistics

Degree competences to which the subject contributes

Transversal:

Teaching methodology
The subject uses a 40% of master classes, and 60% of problem ans exercises.

Learning objectives of the subject
To Show the students different tools to take decisions. To establish the basis to capacitate student to formalize problems, and decision processeses.

A secondary objective of the subject is to complement other decision methods that the student has studied in different subject.
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### Study load

<table>
<thead>
<tr>
<th></th>
<th>Hours large group:</th>
<th>Hours medium group:</th>
<th>Hours small group:</th>
<th>Guided activities:</th>
<th>Self study:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total learning time:</strong> 150h</td>
<td>45h</td>
<td>0h</td>
<td>15h</td>
<td>0h</td>
<td>90h</td>
</tr>
<tr>
<td><strong>Learning time:</strong> 31h 30m</td>
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</table>

**Theory classes:** 9h  
**Laboratory classes:** 3h  
**Self study:** 19h 30m

**Guided activities:** 0h  
**Self study:** 90h  

**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%

### Content

#### Single Person decision-making

**Learning time:** 29h  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 17h

#### Decision Trees

**Learning time:** 29h  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 17h

#### Utility and evaluation of alternatives

**Learning time:** 29h  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 17h

#### Zero-Sum games

**Learning time:** 31h 30m  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 19h 30m

#### Cooperative games

**Learning time:** 31h 30m  
Theory classes: 9h  
Laboratory classes: 3h  
Self study: 19h 30m
Evaluation is performed by solving small exercises during the classes, student presentations and guided exercises.

**Bibliography**

**Basic:**


**Complementary:**