295558 - 295EQ023 - Management and Organization

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 732 - OE - Department of Management
Academic year: 2019
Degree: MASTER'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2019). (Teaching unit Compulsory)
ECTS credits: 6
Teaching languages: English

Teaching staff
Coordinator: Jorcano Molins, Jesus

Opening hours
Timetable: To set according to class schedules (it would probably be an hour before each class)

Prior skills
Knowledge of English at a sufficient level to speak, understand and read normally.
Due to the fact it is a subject that the student has not done during their undergraduate studies, it is not necessary to get other previous capacities but a minimal technical knowledge (mathematics and calculation in general) that students enrolled in the master already own.

Requirements
• Theoretical activities and class exercises can be done in any classroom with the only requirement of having computer, projector and office software (Power Point, Excel, Word, Acrobat).
• For the development of the practical classes it is necessary to have a classroom where tables and chairs can be moved in different ways to form dynamic groups. The practices are concreted in a business game board version. The total number of students who can perform the simulation at the same time may not exceed of 30 and will need to do the simulations in 3 blocks of 4 hours each

Degree competences to which the subject contributes

Specific:
CEMUEQ-07. Directing and organizing companies, as well as production and service systems, applying knowledge and capabilities of industrial organization, commercial strategy, planning and logistics, commercial and labor legislation, financial and cost accounting
CEMUEQ-08. Direct and manage the organization of work and human resources, applying criteria of industrial safety, quality management, occupational risk prevention, sustainability, and environmental management

Generical:
CGMUEQ-01. Ability to apply the scientific method and the principles of engineering and economics, to formulate and solve complex problems in processes, equipment, facilities and services, in which the matter undergoes changes in its composition, state or energy content, characteristic of the chemical industry and other related sectors among which are the pharmaceutical, biotechnological, materials, energy, food or environmental
CGMUEQ-03. To lead and to manage technically and economically projects, facilities, plants, companies and technology centers in the field of chemical engineering and related industrial sectors
CGMUEQ-08. Lead and define multidisciplinary teams capable of solving technical changes and management needs in national and international contexts
CGMUEQ-10. Adapt to changes, being able to apply new and advanced technologies and other relevant developments, with initiative and entrepreneurial spirit
Transversal:

01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.

03 TLG. 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.

Teaching methodology

- Master Class Participatory: Documentation and bibliography on the theory of each subject will be identified and mostly provided in advance.
- Problem-based learning: Preparation and completion of case studies and exercises in class.
- Realization of a complete board version business game, where students will have to form teams and make strategic and operational decisions and compete between them.
- Autonomous learning

Learning objectives of the subject

Get an awareness of a company operating in an open system with continuous relationships with the environment. Know how to identify and analyze business models, key business functions, formulation, planning, deploying and implementation of business strategies, decision-making in situations of uncertainty, troubleshooting and tools for management control (scorecards), management of intangible assets and the nature of the management function. This awareness can be applied in managing complex projects, Organizational business units and whole Organizations. Ability to analyze economic information and evaluate the impact of business decisions on the company's economic and financial situation.

Specific objectives:
1. Get an awareness of the concepts, principles and tools of the administration and management of any kind of enterprises.
2. To have a global and integrated vision of the Organization.
3. Ability to formulate policies and business strategies.
4. Ability to analyze the economic and financial information of the company, for decision-making processes.
5. To Develop managerial skills.
6. Get capacity to apply the knowledge acquired in the design and management of enterprises or business units.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 34h 22.67%</th>
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</thead>
<tbody>
<tr>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
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<tr>
<td>Hours small group: 20h</td>
<td>13.33%</td>
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<tr>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td>Self study: 96h</td>
<td>64.00%</td>
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# Content

| Introduction to Organizations | Learning time: 8h  
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<thead>
<tr>
<th></th>
<th>Theory classes: 8h</th>
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</thead>
</table>
| **Description:**             | Definitions. The fundamentals: Mission, vision and values.  
|                              | Different types of Organizations.  
|                              | The organization as an open system. Processes. Functional structure an organization |
| **Specific objectives:**     | 1 i 2              |

| Business Models and strategy | Learning time: 12h  
<table>
<thead>
<tr>
<th></th>
<th>Theory classes: 12h</th>
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</table>
| **Description:**             | Different methodologies for the identification of business models.  
|                              | Strategy, concepts. Competitive analysis (external and internal analysis).  
|                              | Enhancing intellectual capital management as a key source of sustainable competitive advantage |
| **Specific objectives:**     | 1, 2, 3 i 6        |

| Managerial skills            | Learning time: 8h  
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<thead>
<tr>
<th></th>
<th>Theory classes: 8h</th>
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</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Managing people. Team working and multicultural team working. Organizational leadership</td>
</tr>
<tr>
<td><strong>Specific objectives:</strong></td>
<td>1 and 5</td>
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</tbody>
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### Economic and financial structure of organisations

**Learning time:** 12h  
**Theory classes:** 12h

**Description:**  
Economic and financial planning (budgets and Forecasts).

**Specific objectives:**  
1, 2, 4, i 6

### Costs

**Learning time:** 8h  
**Theory classes:** 8h

**Description:**  
Concept and differences between cost, overheads and payments.  
Type of cost: fixed costs. Variable/semi-variable costs. Direct/indirect costs.  

**Specific objectives:**  
1, 2, 4, i 6

### Investment Decisions. Investment Analysis

**Learning time:** 8h  
**Theory classes:** 8h

**Description:**  
Concepts.  
Types of investments.  
Key variables: Initial outlay and cash-flow.  
Investment analyses: Static and dynamic methods.

**Specific objectives:**  
1, 2, 4, i 6
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<table>
<thead>
<tr>
<th>Operations Planning and Management</th>
<th>Learning time: 8h</th>
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<tr>
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<td>Theory classes: 8h</td>
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**Description:**
- Production management.
- Production systems (Push Systems, Pull Systems, TOC, JIT)
- Continuous improvement. 5S, TPM

**Specific objectives:**
- 1, 3 i 6

<table>
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<tr>
<th>Project Management</th>
<th>Learning time: 4h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 4h</td>
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**Description:**
- Project Management: Introduction
- Project planning
- Project execution
- Closure and revision; The Learning Cycle

**Specific objectives:**
- 1, 3 i 6

**Qualification system**
- 2 Partial examinations each one weighting 35% of the final grade. (Total 70%)
- Participation and exercises run in class (Periodic controls): 10%
- Introducing the Business game simulation final report, conclusions, review and argumentation of the decisions taken in each period and lessons learned: 20%

If the course is not approved, the students will take a final exam, with the final result being achieved in this exam. In case of the final exam is not being aprovèd, students do a re-evaluation test. The criteria that will govern this evaluation test are set out in point 1.1.3 of the Evaluation and Permanence Regulations for the EEBE undergraduate and master studies. http://eebe.upc.edu/ca/estudis/normatives-academiques/documents/eebe.normativa-avaluacio-i-permanencia-18-19-aprovat-je-2018-06-013.pdf

**Regulations for carrying out activities**

Rules will be facilitated at the beginning of the academic year

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Last update: 03-05-2019
Bibliography

Basic:


Complementary:


