240627 - Culture, Technology and History in China and Japan

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 725 - MA I - Department of Applied Mathematics I
Academic year: 2015
Degree: BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 3
Teaching languages: Catalan, Spanish

Teaching staff

Coordinator: Carles Puig Pla
Others: Carles Puig Pla

Degree competences to which the subject contributes

Transversal:
1. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.
2. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.
3. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.

Teaching methodology

Presentation sessions of different topics, supplemented by the use of ICT and audiovisual resources.
Cooperative learning based on case studies; oral presentations and delivering papers by students.
Case studies preparation, based on library resources and web resources.

Learning objectives of the subject

Overall Objective
Evaluating the history of technological development in the Far East

Specific Objectives
Analyze the fundamental historical and cultural elements of Chinese and Japanese societies.
Identify the different processes that led to China's progress in different fields of technology before the arrival of Westerners (Jesuits, sixteenth century).
Recognize the historical and cultural context of the development of inventions and technological advances at Imperial China and modern Japan.
Describe the arrival of Japan in the modern world during the Meiji era (1868-1912)

Identify the main contributions of modern China and Japan technology.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group: 0h 0.00%</th>
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<tbody>
<tr>
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<td>Hours medium group: 30h 40.00%</td>
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<td>Hours small group: 0h 0.00%</td>
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<td>Guided activities: 0h 0.00%</td>
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<td>Self study: 45h 60.00%</td>
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# Content

## 1 Chinese civilization. Introductory study to China: territory, history and culture.

**Learning time:** 20h  
Theory classes: 8h  
Self study: 12h

**Description:**  
Brief introduction to traditional Chinese civilization. Geography, population area, climatic conditions, administrative divisions, ethnic majority. Distinctive cultural traits, language, writing, artistic expressions, medicine. History, characteristics of different dynastic periods and forms of organization of the Empire. Philosophical thought (Confucianism, Taoism, Buddhism ...).

## 2 Traditional Chinese technological progress and the emergence in the modern technological world

**Learning time:** 25h  
Theory classes: 10h  
Self study: 15h

**Description:**  
Main fields of traditional scientific and technical innovations before the arrival of the Jesuits in China in the sixteenth century. Printing (paper, wood engraving, typography) or proto-chemistry explosive chemistry (Chinese alchemy, gunpowder ...). Magnetic Physics (the Sinan, the compass needle ...). The use of animal power (stirrup, equine tack ...). Iron and steel technology; nautical inventions, astronomical instruments. Mechanical watches, the use of and hydraulic force; domestic technology. Technological achievements of Modern China.

## 3 Japanese world. Introductory study to Japan: territory, history and culture

**Learning time:** 10h  
Theory classes: 4h  
Self study: 6h

**Description:**  
The islands of Japan, demography, land and topography, climate, language, writing, cultural traditions. The different historical periods: unification and Nara, Heian, Kamakura, Ashikaga, Azuchi - Momoyama and Edo periods. Religious and philosophical beliefs (Shinto, Buddhism).

## 4 The entry of Japan into the world of technology and industrialization

**Learning time:** 20h  
Theory classes: 8h  
Self study: 12h

**Description:**  
Planning of activities

(ENG) EXPOSICIÓ ORAL I PRESENTACIÓ DEL CORRESPONENT TREBALL ESCRIT EFECTUAT EN GRUP.

(ENG) AVALUACIÓ CONTINUADA

Qualification system

The final mark will be the result of 3 tests or evaluations. Their respective weightings are:
Issues 1 and 2 (40%)
Issues 3 and 4 (30%)
Oral presentation and written work group (30%)

Regulations for carrying out activities

Compulsory oral presentation in class.

Bibliography

Basic:

Complementary: