29986 - History of Technology and Architecture

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	430 - Bachelor's Degree in Electrical Engineering 434 - Bachelor's Degree in Mechanical Engineering 435 - Bachelor's Degree in Chemical Engineering 436 - Bachelor's Degree in Industrial Engineering Technology 438 - Bachelor's Degree in Telecomunications Technology and Services Engineering 439 - Bachelor's Degree in Informatics Engineering 440 - Bachelor's Degree in Electronic and Automatic Engineering 470 - Bachelor's Degree in Architecture Studies 476 - 558 - Bachelor's Degree in Industrial Design and Product Development Engineering
ECTS	4.0
Year	XX
Semester	Half-yearly
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

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5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process that is designed for this subject is based on the following:

The proposed methodology seeks to promote retrospection in technological and scientific fields to understand the evolution of materiales and energy available, and its application to human progress.

In sessions with the whole group the more theoretical aspects are addressed in the form of master class and are supplemented by discussions on the social impact of technical changes.

The practical sessions provide a view of objects and installations for better understanding.

5.2.Learning tasks

Ongoing activities focus on presentations and debate in the classroom for the whole group. The teacher will present schemes and images in powerpoint to focus on specific topic. Original parts are also presented to illustrate and contextualize the most of it.

5.3.Syllabus

The program offered to the student to achieve the expected results include:

- Introduction: Prehistory. Mesopotamia and Egypt.
- Science and Technology in the Classical World: Greece and Rome.
- The medieval revolution: Tools and energy. The transmission of knowledge. Alchemy.
- Engineers and architects of the Renaissance. Mining and machinery.
- The proto-industrialization and scientific revolution.
- The steam era. The industrial Revolution.
- Energy, transportation and steel. Applications to Chemistry and Construction.
- Technological Development and Communications.
- Industry and architecture in Aragon.

5.4.Course planning and calendar

Schedule sessions and presentation of works

The lectures will be held in the classroom and schedule provided by EINA.
Type 4 (field practice in small groups)
Visits to Museums Theatre Forum and Roman baths.
Visits to churches: St. Paul, St. Philip, St. Charles, St. Engracia.
Views Patio Infanta, Canal Imperial, university auditorium.

Visits to museums and churches will be held Saturdays.

The work will be presented on paper or pdf via email before the deadline indicated by teacher.

Universidad Zaragoza

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5.5.Bibliography and recommended resources

- Forbes, Robert James. Historia de la técnica / R. J. Forbes ; [traducción de Julio Luelmo] . - 1ª ed. en español México ; Buenos Aires : Fondo de Cultura Económica, 1958
- Historia de la tecnología : la técnica en Occidente de la Prehistoria a 1900 / Melvin Kranzberg, Carroll W. Pursell, Jr. (eds.) Barcelona [etc.] : Gustavo Gili, D.L. 1981
- Gille, Bertrand. Introducción a la historia de las técnicas / Bertrand Gi=< prólogo de Santiago Riera i Tuèbols Barcelona : Crítica/Marcombo, 1999
- Los veintiún libros de los ingenios y de las máquinas / Pseudo-Juanelo Turriano ; prólogo de J. Antonio García-Diego Madrid : Colegio de Ingenieros de Caminos, Canales y Puertos : Ediciones Turner, D.L. 1983
- Marchis, V.. Storia delle machine. Tre millenni di cultura tecnológica / Marchis, V. Ed. Laterza, Bari,1994
- Hormigón Blázquez, Mariano. La historia de la industrialización de Zaragoza / Mariano Hormigón Blánquez; prólogos de José Mª Cuevas Salvador y Javier Ferrer Dufol Zaragoza : Confederación de Empresarios de Zaragoza, 1999
- Vitrubio Polión, Marco. Los diez libros de arquitectura / Marco Lucio Vitruvio ; traducción directal del latín, prólogo y notas por Agustín Blázquez Barcelona : Iberia, D.L. 1996
- Columela, Lucio Junio Moderato. De los trabajos del campo / de Lucio Junio Moderato Columela ; edición preparada por Antonio Holgado Redondo Madrid : Ministerio de Agricultura, Pesca y Alimentación [etc.], 1988
- Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers. |kSeleccions. L'Encyclopédie. Imprimerie, reliure : [recueil de planches sur les sciences, les arts libéraux et les arts méchaniques] / Diderot et D'Alembert [Paris] : Inter-livres, DL 1988 (|eBarcelona : |fSirven Grà fic)
- Kula, Witold. Las medidas y los hombres / por Witold Kula ; [traducción de Witold Kuss] . - 1ª ed. en español Madrid [etc.] : Siglo Veintiuno, 1980
- Asso y del Río, Ignacio Jordán de. Historia de la economía política de Aragón : Zaragoza, 1798 / Ignacio de Asso ; Prólogo e índices de José Manuel Casas Torres ; Prólogo a la segunda edición [de la del Instituto de estudios Pireniacos] de Antonio Higueras Arnal Zaragoza : Guara, 1983
- Biescas Ferrer, José Antonio. El proceso de industrialización en la región aragonesa en el período 1900-1920 / José Antonio Biescas Ferrer Zaragoza : Institución Fernando el Católico, 1985
- Fundamentos, método e historia de la ingeniería. J. Aracil. Ed. Síntesis. Madrid 2010.
- Arquitectura e Ingeniería del Hierro en España. P. Navascués. Findación iberdrola.