



# Course guide

## 295900 - TCAEM - Technology and Sciences in Ancient Times: Egypt and Mesopotamia

Last modified: 08/08/2024

**Unit in charge:** Barcelona East School of Engineering  
**Teaching unit:** 713 - EQ - Department of Chemical Engineering.

**Degree:** BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Optional subject).

**Academic year:** 2024    **ECTS Credits:** 6.0    **Languages:** Spanish

### LECTURER

**Coordinating lecturer:** FRANCISCO JAVIER GIMENEZ IZQUIERDO

**Others:** Primer quadrimestre:  
FRANCISCO JAVIER GIMENEZ IZQUIERDO - Grup: T1

### TEACHING METHODOLOGY

The teacher will develop theoretical explanations as well as practical examples. In addition, the teacher will guide different works for homework. Active learning as well as Cooperative learning will be extensively used.

### LEARNING OBJECTIVES OF THE SUBJECT

- At the end of the course, the student should be able to:
- Describe the evolution of the ancient mediterranean civilizations at the Bronze Age
  - Identify funerary monuments depending on the place and the time
  - Identify the materials used in the antiquity in pigments, glass objects and jewels.
  - Describe the commercial routes in the ancient Mediterranean
  - Identify the metals used in the Bronze Age and their application

### STUDY LOAD

Type	Hours	Percentage
Hours large group	60,0	40.00
Self study	90,0	60.00

**Total learning time:** 150 h



## CONTENTS

### 1) INTRODUCTION

**Description:**

- 1.1 Myth, science and technology: the mythical discourse and the logical discourse
- 1.2 The Mediterranean Neolithization
- 1.3 The Urban Revolution in Mesopotamia
- 1.4 The Bronze Age

**Full-or-part-time:** 15h

Theory classes: 6h

Self study : 9h

### 2) ANCIENT EGYPTIAN CIVILIZATION

**Description:**

- 2.1 Egyptology: from Cleopatra VII until XXI century
- 2.2 Geography and Symbology
- 2.3 Ancient Egyptian writing
- 2.4 History of the Ancient Egypt

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h

### 3) TECHNOLOGY OF THE FUNERARY PRACTICES

**Description:**

- 3.1 Egyptian pyramids. The Great Pyramid at Giza
- 3.2 Egyptian tombs. The Valley of the Kings (KV)
- 3.3 Mummification and paleopathology

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h

### 4) ANCIENT DECORATIVE ARTS

**Description:**

- 4.1 The industry of Ancient pigments and colors
- 4.2 The 'Egyptian Blue'
- 4.3 Glass

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h



## 5) ANCIENT MEDITERRANEAN METALLURGY

### Description:

- 5.1 Copper
- 5.2 Arsenical copper
- 5.3 Bronze
- 5.4 Tin "mystery"

### Full-or-part-time: 25h

Theory classes: 10h

Self study : 15h

## 6) GEMS STONES

### Description:

- 6.1 Lapis
- 6.2 Obsidian
- 6.3 Turquoise
- 6.4 Other gem stones

### Full-or-part-time: 25h

Theory classes: 10h

Self study : 15h

## 7) TROY AND THE END OF THE BRONZE AGE

### Description:

- 7.1 The Sea Peoples
- 7.2 The Trojan War
- 7.3 The start of the Iron Age

### Full-or-part-time: 10h

Theory classes: 4h

Self study : 6h

## GRADING SYSTEM

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## EXAMINATION RULES.

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Written exams with books.

## BIBLIOGRAPHY

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### Basic:

- Shaw, Ian. Historia del antiguo Egipto. Madrid: La Esfera de los Libros, [2016]. ISBN 9788490606674.
- Nicholson, Paul T.; Shaw, Ian. Ancient egyptian materials and technology. Cambridge: Cambridge University Press, cop. 2000. ISBN 0521452570.

## RESOURCES

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**Other resources:**

Booklet in ATENEA

Articles from scientific journals

Books chapters

Photographies