

**General course information:**

<b>Course title:</b>	CONSTRUCTION MATERIALS	<b>Course code:</b>	CE02-UM4
<b>Credits:</b>	5	<b>Work load (hours):</b>	116
<b>Course level:</b>	Undergraduate <input checked="" type="checkbox"/>	Graduate	<input type="checkbox"/>
<b>Course type:</b>	Mandatory <input checked="" type="checkbox"/>	Selective	<input type="checkbox"/>
<b>Course category:</b>	Basic <input checked="" type="checkbox"/>	Orientation	<input type="checkbox"/>
<b>Semester:</b>	2ND	<b>Hours per week:</b>	4
<b>Course objectives (capabilities pursued and learning results):</b>			
Understanding of the basic properties and behavior of the most common construction materials.			
<b>Prerequisites:</b>			

**Instructor's data:**

<b>Name:</b>	Christos Papakonstantinou
<b>Level:</b>	Assistant Professor
<b>Office:</b>	Civil Eng. Building- 1 <sup>st</sup> Floor
<b>Tel. - email:</b>	24210 74160, cpapak@uth.gr
<b>Other tutors:</b>	

Specific course information:

Week No.	Course contents	Hours	
		Lecture	Preparation
1	Introduction - Basic Principles of physical, chemical and mechanical properties.	4	2
2	Rocks - Physical and Mechanical properties - Usage.	4	2
3	Mortars - Physical and Mechanical properties - Usage.	4	2
4	Manmade stones, Ceramics - - Physical and Mechanical properties - Usage.	4	2
5	Wood - Physical and Mechanical properties - Usage.	4	2
6	Structural Steel - Physical and Mechanical properties - Usage.	4	2
7	Steel used for reinforcing bars	4	2
8	Cement - production - properties	4	2
9	Aggregates - Properties gradation (exercise)	4	4
10	Concrete - Physical and Mechanical properties	4	2
11	Concrete Additives - Concrete Design (exercise)	4	2
12	Quality control of fresh and hardened concrete	4	2
13	Quality control of existing concrete	4	2
14	Polymers - Composite Materials - Physical and Mechanical properties - Usage.	4	2

**Suggested literature:**

1. TRIANTAFYLLOU A., «Construction Materials», ISBN 960-92177-1-0, Patra 2008.
2. Eleni Baxevani, « Construction Materials I» and «Construction Materials II», Thessaly University Press, Volos 2001.
3. J. ZANIEWSKI, M. MAMLOUK, «Materials for civil and construction engineers», Pearson Education, (US) 2005

Additional hours for:			
Class project	Examinations	Preparation for examinations	Educational visit
	2	22	6

--

Teaching method (select and describe if necessary - weight):		
Teaching	<input checked="" type="checkbox"/>	80%
Seminars	<input type="checkbox"/>	.....%
Demonstrations	<input type="checkbox"/>	.....%
Laboratory	<input type="checkbox"/>	.....%
Exercises	<input checked="" type="checkbox"/>	10%
Visits at facilities	<input checked="" type="checkbox"/>	10%
Other (describe): .....	<input type="checkbox"/>	.....%
Total		100%

Evaluation method (select)- weight:				
	<u>written</u>	<u>%</u>	<u>Oral</u>	<u>%</u>
Homework	<input type="checkbox"/>		<input type="checkbox"/>	
Class project	<input type="checkbox"/>		<input type="checkbox"/>	
Interim examination	<input type="checkbox"/>		<input type="checkbox"/>	
Final examinations	<input checked="" type="checkbox"/>	100	<input type="checkbox"/>	
Other (describe): Alternative .....	<input type="checkbox"/>		<input type="checkbox"/>	