

ECTS

(B) Course information in english

General course information:

Course title:	Chemistry for Engineers	Course code:	CE01_UM4
Credits:	5	Work load (hours):	122
Course level:	Undergraduate <input checked="" type="checkbox"/>	Graduate	<input type="checkbox"/>
Course type:	Mandatory <input checked="" type="checkbox"/>	Selective	<input type="checkbox"/>
Course category:	Basic <input checked="" type="checkbox"/>	Orientation	<input type="checkbox"/>
Semester:	1st	Hours per week:	4
Course objectives (capabilities pursued and learning results):			
<p>Upon completion of the course, the student acquires knowledge on:</p> <ul style="list-style-type: none"> • Basic chemistry principles, the periodic table, the chemical elements, chemical reactions and chemical kinetics, as well as the chemistry of various materials; • Metal corrosion; • Aquatic solution chemistry; • Photochemical atmospheric pollution; • Chemical interactions on environmental problems. 			
Prerequisites:			
None.			

Instructor's data:

Name:	Dr. Chrysi Laspidou
Level:	Associate Professor
Office:	Civil Engineering Faculty University of Thessaly Pedion Areos, 38334 Volos, Greece
Tel. – email:	2421074147 / laspidou@uth.gr
Other tutors:	-

Specific course information:

Week No.	Course contents	Hours	
		Course attendance	Preparation
1	Atomic structure (electrons, nucleus)	4	4
2	Elements of inorganic and organic chemistry	4	4
3	Chemical reaction	4	4
4	Types of Concentrations	4	4
5	Properties of Water	4	4
6	Aquatic solution chemistry	4	4
7	Atmospheric Chemistry	4	4
8	Photochemical atmospheric pollution and climate change	4	4
9	Environmental Chemistry I	4	4
10	Environmental Chemistry II	4	4
11	Geochemical Cycles I	4	4
12	Geochemical Cycles II	4	4
13	Metals and metal corrosion II	4	4

Additional hours for:			
Class project	Examinations	Preparation for examinations	Educational visit
		18	

Suggested literature:
<ul style="list-style-type: none"> • Εισαγωγή στην Περιβαλλοντική Μηχανική, Α.Γ. Κούγκολος, Εκδόσεις Τζιόλα. • Οικολογία: Οικοσυστήματα και Προστασία του Περιβάλλοντος, Κ. Χατζημπίρος, Εκδόσεις Συμμετρία. • Εισαγωγή στις Διεργασίες Καθαρισμού, Νερού και Λυμάτων, Κ. Χρυσικόπουλος, Εκδόσεις Τζιόλα • Βασικές Αρχές Ανόργανης Χημείας, Γ. Πνευματικάκης, Χ. Μητσοπούλου και Κ. Μεθενίτης, Εκδόσεις Αθ. Σταμούλης

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"/>	20%
Visits at facilities	<input type="checkbox"/>%
Other (describe):	<input type="checkbox"/>%
Total		100%

Evaluation method (select)- weight:				
	<i>written</i>	<i>%</i>	<i>Oral</i>	<i>%</i>
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):	<input type="checkbox"/>		<input type="checkbox"/>	