(B) Course information in english

General course information:

Course title:	**ENVIRONMENTAL ENGINEERING**	**Course code:**	CE04_U07
Credits:	4	**Work load (hours):**	132
Course level:	Undergraduate ✱	Graduate ☐	
Course type:	Mandatory ✱	Selective ☐	
Course category:	Basic ✱	Orientation ☐	
Semester:	4^{o}	**Hours per week:**	4
Course objectives (capabilities pursued and learning results):			
The objective of this course is the basic training & introduction of civil engineering students on general issues regarding the human & natural environment with emphasis to environmental technologies in the most important section of environmental impacts. It is an introductory course where the students learn about environmental legislation, natural & human ecosystems, sustainable development, and are trained on basic environmental impacts on air pollutants, environmental noise, liquid & solid wastes fauna & flora etc.. . This course consists a very important educational tool especially for all students which covering all sections provided by the civil engineers department.			
Prerequisites:			
The activation of the Environmental Law course is higly advisable			

Instructor's data:

Name:	Konstantinos VOGIATZIS
Level:	Associate Professor
Office:	1st floor Civil Eng. Building
Tel. – email:	24210-74170 kvogiatz@uth.gr
Other tutors:	-

Specific course information:

Week No.	Course contents	Hours	
		Course attendance	Preparation
1	Environmental protection & Sustainable development: Basic principles, Env. Law 4010 - EIA's legal context	4	4
2	Major Environmental topics/areas/impacts – Evaluation & Environmental approval procedure	4	4
3	Air Pollutants – Atmospheric environment : Basic sources & emissions	4	4
4	Air Pollutants – Atmospheric environment : Dispersion models	4	4
5	Greenhouse effect & the Climatic Change	4	4
6	Climatic Change - The Copenhagen Accord	4	4
7	Acoustic Environment: Noise sources during construction & operation	4	4
8	Acoustic Environment: Basic elements of noise protection	4	4
9	Liquid & Solid wastes :Treatment, Management, Transportation & Recycling	4	4
10	Water resources & Water Environment	4	4
11	Land uses – Sensitive areas - Natural & Human Ecosystems	4	4
12	Urban Sustainable Transportation & Mass Media	4	4
13	Management & Monitoring of environmental parameters	4	4
14	METROLOGICAL EQUIPMENT FOR ENVIRONMENTAL MONITORING	4	4

Additional hours for:			
Class project	Examination	Preparation for examination	Educational visit
-	4	8	1 day depending conditions

Suggested literature:

- K. Vogiatzis, "**Environmental Engineering & Institutional Framework for Implementation**", 2nd Edition, Symmetria, Publications, 2012.
- K. Vogiatzis, S. Chaikali, A. Chatzopoulou "**Protection of the Greek Noise Landscape – Institutional Framework of the Environmental Noise**" Papasotiriou Publications,2009.
- Δίκαιο Περιβάλλοντος, (Δημόσιο Δίκαιο και Περιβάλλον) Γλυκερία π. Σιουτη Εκδόσεις ΑΝΤ. Ν. ΣΑΚΚΟΥΛΑ, Αθήνα Κομοτηνή 1993
- Η περιβαλλοντική πολιτική στην Ελλάδα ΟΟΣΑ Παρίσι 1983
- Οικολογική Θεωρία και Πράξη στις Περιβαλλοντικές Μελέτες (χλωρίδα, πανίδα και οικοσυστήματα) Γ. Βαβίζος, κ. Ζαννάκη Εκδόσεις ΠΑΠΑΖΗΣΗ,1998
- Ατμοσφαιρική Ρύπανση (επιπτώσεις, έλεγχος & εναλλακτικές τεχνολογίες Ι. Β. Γεντεκάκης, Παν. Πάτρας Εκδόσεις ΤΖΙΟΛΑ
- Θάμνοι και δέντρα στην Ελλάδα, Τόμος ΙΙ Θ.Ι. Αραμπατζης Οικολογική κίνηση Δράμας & ΤΕΙ Καβάλας, Δραμα 2001
- Wastewater engineering : treatme nt, disposal, and reuse, Metcalf & Eddy, Inc. 3rd ed., revised by George Tchobanoglous, Franklin L. Burton. New York : McGraw-Hill, c1991.

Teaching method *(select and describe if necessary -* **weight***):*		
Teaching	✱	45%
Seminars	✱	15%
Demonstrations	☐	…….%
Laboratory	✱	15%
Exercises	✱	10%
Visits at facilities	✱	15%
Other *(describe):* …….	☐	…….%
Total		100%

Evaluation method *(select)-* **weight:**				
	written	%	*Oral*	%
Homework	☐		☐	
Class project	☐		☐	
Interim examination	☐		☐	
Final examinations	✱	100%	☐	
Other *(describe):* ……	☐		☐	