



TECHNICAL UNIVERSITY OF CRETE
SCHOOL OF ENVIRONMENTAL ENGINEERING

Code: Course:

Mandatory: Elective: Specialization:

Semester F S Teaching Units ECTS

Teaching Hours per week: T E L

Instructors:

Textbooks (Eudoxus):

1. SUE ROAF, MANUEL FUENTES, ΣΤΕΡΗΑΝΙΕ ΘΟΜΑΣ, "ΕΚΟΔΟΜΕΙΝ", 2009, ISBN: 978-960-8455-66-5, ΨΥΧΑΛΟΣ ΦΙΛΙΠΠΟΣ & ΣΙΑ ΕΚΔΟΤΙΚΗ Ο.Ε.
2. ΑΣΗΜΑΚΟΠΟΥΛΟΣ Δ., ΑΡΑΜΠΑΤΖΗΣ Γ., ΑΓΓΕΛΗΣ - ΔΗΜΑΚΗΣ Α., ΚΑΡΤΑΛΙΔΗΣ Α., ΤΣΙΛΙΓΚΙΡΙΔΗΣ Γ., "ΑΝΑΝΕΩΣΙΜΕΣ ΠΗΓΕΣ ΕΝΕΡΓΕΙΑΣ", 2015, ISBN: 978-960-6706-76-9, "σοφία" Ανώνυμη Εκδοτική & Εμπορική Εταιρεία

Other recommended books:

1. Krarti, M. (2000). Energy audit of building systems: an engineering approach. CRC Press. [ISBN 0-84939-587-9](https://doi.org/10.1002/9781118133111)

Notes:

[E-class](#)

Labs: # of lab exercises: Individual Reports Team Reports

Lab final written exam % of Final Lab Grade

Final Grade: Final Exam %

Project %

Labs %

Other () %

Course Syllabus:

Week	Subject
1.	Introduction and heat transfer for buildings.
2.	Energy load calculations: Part 1: heating load.
3.	Energy load calculations: Part 2: cooling load.
4.	Energy consumption for heating cooling and lighting.
5.	Presentation of Energy Plus.
6.	Energy efficiency in buildings. Discussion of projects.

7.	Case studies of energy efficiency in the built environment
8.	Deepening and design of energy systems
9.	Presentation of the virtual Lab of the course
10.	Special RES applications. Desalination. Autonomous energy systems
11.	RES integration in the built environment
12.	Life Cycle Analysis in the Environmental Impact Assessment
13.	Discussion and Review of critical topics