

Senior Thesis Brief Description

Thesis Title	Implementation of energy audit of Frederick University SEAS Lab
Programme of Studies	BSc in Civil Engineering, Frederick University, Cyprus
Course	CEP 400 Senior Project
Area of Study	Computational Building Physics – Whole Building Energy Analysis Experimental Building Physics – In-situ Measurements
Student's Name	Christiana Panteli
Students Reg. Number	5808
Supervisor	Dr.-Ing. Paris A. Fokaides, V. Lecturer, Civil Engineering Department
Supervisory Committee	Dr. Petros Christou, Ass. Professor, Civil Engineering Department Dr. Demetris Nicolaides, Lecturer, Civil Engineering Department
Semester	Spring Semester 2015
Short Description	The purpose of this study was the implementation and the analysis of a comprehensive energy audit in the SEAS Lab of Frederick University, a research building of 1000 m ² area. In terms of this study, the building elements and the building systems of the investigated unit were analysed. The energy consumption of the building was analysed and allocation of energy consumption to consumption sources was implemented. Particularly for the structural aspect, IR thermography was implemented to define the actual performance of building elements and to define weak points of the building shell. A comprehensive strategy for reducing the energy consumption of the building was developed and justified, based on the actual consumption of the building, as well as in the state-of-the-art in energy saving in the building sector.