

Senior Thesis Brief Description

Thesis Title	Building's energy upgrade in Cyprus
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
Student's Name	Rafaella Apousel
Students Reg. Number	5891
Supervisor	Dr.-Ing. Paris A. Fokaides, V. Lecturer, Civil Engineering Department
Supervisory Committee	Dr. George Michaelides, Ass. Professor, Civil Engineering Department Dr. Christakis Onisiphorou, Lecturer, Civil Engineering Department
Semester	Spring Semester 2014
Short Description	<p>The main objective of this study was the analysis of the energy performance of an existing dwelling in Cyprus. In terms of this analysis SBEM software was employed and the overall energy performance of the building was defined. Additionally, the operational (real) energy rating of the building was compared to the asset (design) rating, based on operational data.</p> <p>In terms of this study the SBEM software and its results were validated with the use of Hourly Analysis Program (HAP), which is a widely established calculation tool for buildings' thermal and cooling loads. The results provided by SBEM for the investigated dwelling were compared to those retrieved by HAP and possible ways of improving the calculation algorithms of SBEM were identified.</p>