

Energy Efficiency Line Guides for School Buildings in Florence in a Postgraduate Master Course

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Abstract : The ABITA Master course of the University of Florence offered by the Department of Architecture covers nearly all the energy-relevant issues that can arise in public and private companies and sectors. The main purpose of the Master course, active since 2003, is to analyse the energy consumption of building technologies, components, and structures at the conceptual design stage, so it could be very helpful, for designers, when making decisions related to the selection of the most suitable design alternatives and for the materials choice that will be used in an energy-efficient building. The training course provides a solid basis for increasing the knowledge and skills of energy managers and is developed with an emphasis on practical experiences related to the knowledge through case studies, measurements, and verification of energy-efficient solutions in buildings, in the industry and in the cities. The main objectives are: i) To raise the professional standards of those engaged in energy auditing, ii) To improve the practice of energy auditors by encouraging energy auditing professionals in a continuing education program of professional development, iii) Implement in the use of instrumentations for the typical measurements, iv) To propose an integrated methodology that links energy analysis tools with green building certification systems. This methodology will be applied at the early design stage of a project's life. The final output of the practical training is to achieve an elevated professionalism in the study of environmental design and Energy management in buildings. The results are the redaction of line guides instruction for the energy refurbishment of Public schools in Florence. The school heritage of the Municipality of Florence requires interventions for the control of energy performance, as old construction buildings are often made without taking into account the necessary envelope performance. For this reason, every year, the Master's course aims to study groups of public schools to enable the Municipality to carry out energy redevelopment interventions on the existing building heritage. The future challenges of the education and training program are related to follow-up activities, the development of interactive tools and the curriculum's customization to meet the constantly growing needs of energy experts from industry.

Keywords : expert in energy, energy auditing, public buildings, thermal analysis

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