



METADATA

Title: Building Physics and Principles of Environmental Design of Buildings

Other Titles: -

Language: Greek

ISBN: 978-960-603-072-7

Subject: ENGINEERING AND TECHNOLOGY, NATURAL SCIENCES AND AGRICULTURAL SCIENCES, MEDICINE AND HEALTH SCIENCES, LIFE SCIENCES, BIOLOGICAL SCIENCES

Keywords: Building Physics / Environmental Design / Renewable Energy Applications In Buildings / Sustainable Architecture / Energy Saving In Buildings

Bibliographic Reference: Papamanolis, N. (2015). Building Physics and Principles of Environmental Design of Buildings [Undergraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-498>

Abstract

Building Physics, as a scientific discipline, examines the mechanisms of interaction of the building with the environment, as well as the mechanisms of shaping the living conditions inside it. Therefore, it covers part of the knowledge used in Environmental Architectural Design to ensure satisfactory indoor comfort and hygiene conditions with the minimum possible consumption of non-renewable energy. The book is organized into three sections. The first section describes the basic characteristics of the natural environment and the impact on it of anthropogenic activities. The second section includes chapters from Building Physics, concerning the management

of basic environmental parameters, such as solar radiation, temperature, humidity, wind, indoor air pollution, noise, in relation to the effects on buildings and the consequences of these effects on the formation of conditions inside them. The third section examines in general the integration of the building into its environment, natural and man-made. Reference is made to the inverse effects, i.e., those that the building exerts on the environment, both direct and wider, and in particular those that are related to its behavior as an energy consumer. In this context, the applications of Renewable Energy Sources in buildings are also examined.

