



## METADATA

**Title:** Biology for humanities and social studies students

**Other Titles:** -

**Language:** Greek

**Authors:** Skalioti, I., Professor, UOA

**ISBN:** 978-618-228-301-1

**Subject:** MEDICINE AND HEALTH SCIENCES, LIFE SCIENCES, BIOLOGICAL SCIENCES

**Keywords:** General biology / Proteins / DNA / Theory of evolution / History of Biology

**Bibliographic Reference:** Skalioti, I. (2025). Biology for humanities and social studies students [Undergraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-1052>

## Abstract

As the title suggests, this book is written for non-specialist readers: students in the humanities/social studies students and the public. It has a wide scope and concerns the overview and explanation of central phenomena and general principles of the Biological Sciences. The goal is not to cover all areas of Biology but to develop important topics we encounter more in our daily lives, without all the technical details in more specialized textbooks. However, despite the attempt to popularize analytical mechanisms, the book also contains several of the latest developments in the field of Biological sciences, such as gene therapies or modern methods of studying brain function, which was unknown until a few years ago. The first part of the book (chapters 1-3) gives the overall context of this fascinating science: by presenting the various aspects of our lives that are affected by and/or depend on the findings of Biology; by describing the fundamental characteristics of living organisms; and by discussing current theories about the appearance of life on our planet. In addition, the trajectory of research in the field that is now called Biology is highlighted in the historical context of each era: from the natural philosophers

of Ionia in the sixth century BC to the nineteenth century, when Biology entered its contemporary phase. The second part (chapters 4-8) focuses on living organisms: what are their basic components; how they are created and how they develop, from the fertilized egg to the mature organism; how they are classified and how they evolve. And finally, how traits are inherited from generation to generation. These chapters develop and explain the concepts of DNA/RNA, genes, and chromosomes, discuss the question of heredity and predisposition to disease, describe how genetic diversity is ensured in populations, and present Darwin's observations and positions, as well as the main points of modern evolutionary theory. The third and final part is devoted to the most important of the systems of animal organisms, the nervous system. It describes neurons, the structural and functional units of the brain, and explains how they generate and transmit the electrical signals that allow interaction with the environment and transfer of information. Synapse function and the mode of action of drugs for neurological and psychiatric diseases are also analyzed, the issue of the functional specialization of the brain is examined and the

