

Chemistry of the Origin of Life & Early Evolution

Literature Resources

Course Textbooks

The course begins with the reading of *Life's Origin - The Beginnings of Biological Evolution*, J. W. Schopf, University of California Press, 2002. This book is written at an introductory level for the popular press, which provides the students with a common level of knowledge, as well as a relatively quick overview of the field. Selected chapters of the text *Origins of Life on the Earth and in the Cosmos*, 2nd ed., Geoffrey Zubay, Academic Press, 2000, are also used over the course of the semester, but the text is usually listed as "recommended" to the students taking the course.

Additional Papers & Supplementary Resources

Fitz, D.; H. Reiner; K. Plankensteiner and B. M. Rode. **Possible Origins of Biohomochirality**, *Current Chemical Biology*, 2007, 1, 41-52.

Hodgson G.W., and C. Ponnampuruma. **Prebiotic Porphyrin Genesis: Porphyrins from Electric Discharge in Methane, Ammonia, and Water Vapor**, *Proc. Natl. Acad. Sci. USA* 59, 1968, 22-28.

Raymond, J.; O. Zhaxybayeva; J. P. Gogarten; S. Y. Gerdes; R. E. Blankenship. **Whole-Genome Analysis of Photosynthetic Prokaryotes**, *Science* 298, 2002, 1616-1620.

Rothemund, P. **A New Porphyrin Synthesis. The Synthesis of Porphin**, *J. Am. Chem. Soc.* 58, 1936, 625-627.

Urey, H. **On the Early Chemical History of the Earth and the Origin of Life**, *Proc. Natl. Acad. Sci. USA* 38, 351-363.

Examples of Recommended Books for Individual Reading & Written/Oral Report

Dawkins, Richard. **The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design**, W. W. Norton & Company, 1996, 358 p.

Dawkins, Richard. **The Selfish Gene**, Oxford University Press; 2nd Ed edition, 1990, 368 p.

Fenchel, Tom. **Origin and Early Evolution of Life**, Oxford University Press, 2003, 224 p.

Margulis, Lynn and Dorion Sagan. **Acquiring Genomes: The Theory of the Origins of the Species**, 256 pages, Basic Books, 2003.

Margulis, Lynn and Dorion Sagan. **Microcosmos: Four Billion Years of Evolution from Our Microbial Ancestors**, University of California Press, 1997, 300 p.

Margulis, Lynn and Karlene V. Schwartz. **Five Kingdoms: An Illustrated Guide to the Phyla of Life on Earth** (3rd edition), Owl Books, 1997, 544 p.

Schopf, J. William. **Cradle of Life: The Discovery of Earth's Earliest Fossils**, Princeton University Press, 1999, 367 p.