

CORE 103g THE PROCESS OF CHANGE IN SCIENCE: REVOLUTION AND EVOLUTION OF IDEAS
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(Professional background and research activities — [Web USC page link here](#))

The revolution and evolution of new ideas is the central focus of this course. Science (understanding nature) and technology (manipulating nature) are dominant themes influencing our society. Modern science is viewed as a logical approach to understanding nature and our place in the universe. Throughout the history of thought, however, the word “science” had a much broader meaning, with the word dating back to Latin origins that describe a process that produces basic knowledge in any field. The invention of writing led to general access to books and peer-reviewed journals. This advance was central to the documentation of progress in knowledge that, over centuries, led to the acceptance of new ideas regarding how our world works. These new ideas were sometimes accepted quite rapidly, but often there was a slower acceptance.

In this course, we will explore the historical development of revolutions in thinking in science and technology. Historical and modern literature will be explored, with opportunities for students to have in-person access to “Great Books” in science (rare books, in particular). There will also be a focus on the biographies of “Great Thinkers” in the history of scientific knowledge, spanning earlier to modern times.

In the latter part of the course, current societal issues will be discussed regarding the concept of “misinformation” in matters of science and technology related to human health, environmental change, disease prevention, food and energy policies, applications of artificial intelligence, and other emerging topics. Student engagement will be actively encouraged in the selection of these specific topics for in-depth review and discussion.

Required Reading:

- *Scientifica Historica: How the world’s great science books chart the history of knowledge.* Brian Clegg, 2019. Ivy Press.
- There will also be additional readings distributed during class.