

# Revolutions in Science and Technology

HISS Online 2024

## ► COURSE DESCRIPTION

This course explores the great revolutions in the history of science and technology in the 19th and 20th centuries: Darwin's theory of evolution, Einstein's theory of relativity, the atomic bomb, and the discovery of DNA. The course examines the cultural and social impacts, as well as the scientific and technological significance, of these events. Social aspects of science and technology will be discussed, along with gender-related questions.

The course covers a single scientific and technological revolution over the span of 2-3 weeks. In the first week of each revolution, the focus is on the "origin" of the scientific and technological revolution, entering into the intellectual background and evolution of revolution. The second week of each revolution concentrates on the reception of the scientific and technological revolution, examining how the scientific community and intellectual society embraced this revolution. In the third week, the focus shifts to the socio-cultural impacts brought about by this revolution.

In the 14th week, social issues are addressed, particularly gender problems and credit sharing in scientific research and prerequisite for future revolutions in science and technology.

## ► COURSE REQUIREMENTS AND GRADING

- Grading: class attendance (20 pts), midterm exam (40 pts), the final exam (40 pts)

- **Class attendance:** 20 pts

The course is composed of 15 sessions including mid-term exam (session 8) and the final exam (session 15). Except exams, one session has 2-3 online lectures. When you complete watching all the online lectures in one session, it will count as one attendance. When you miss one session, you will lose 2 pts from your class attendance.

**Important Notice:** You must attend more than 2/3 of the 15 sessions. If you fail to do so, your grade will be an F regardless of your exam scores.

The deadline for completing your attendance is [July 25, 11:59 PM Korean time](#). You can watch the lectures at any time you want before the deadline.

- **Midterm Exam:** 40 pts (7. 12. 9:00 am ~ 7. 24. 11:59 pm, one hour exam)

· The midterm exam covers sessions 1 through 7.

· You can take your online exam on session 8 (mid-term) of Hanyang LMS. (LMS → Quizzes → Midterm)

· You will have **one hour** to take the exam at any time between **9:00 AM on July 12 to 11:59 PM**

**July 24 Korean time.**

· Please keep in mind that the deadline for submitting your answers is 11:59 PM on July 24 Korean time, so you must complete the exam before then.

- **The final exam:** 40 pts (7. 15. 9:00 am ~ 7. 25. 11:59 pm, one hour exam)

· The final exam covers session 9 through 14.  
· You can take your online exam on session 15 (the final exam) of Hanyang LMS. (LMS → Quizzes → the final exam)

· You will have one hour to take the exam at any time between 9:00 AM on July 15 to 11:59 PM July 25 Korean time.

· Please keep in mind that the deadline for submitting your answers is 11:59 PM on July 25 Korean time, so you must complete the exam before then.

► **SUGGESTED READINGS**

- Peter Bowler, *Evolution: The History of an Idea* (Univ. of California Press, 2009)
- Peter Bowler and Iwan Morus, *Making Modern Science* (Univ. of Chicago Press; Second edition, 2020)

► **COURSE SCHEDULE**

Session	Session Title
1	Course Preview
2	Darwinian Revolution – The Origins of the Origin
3	Darwinian Revolution - Darwin’s Theory of Evolution in the Making
4	Darwinian Revolution – Reception of Darwinism
5	Einstein Revolution – The Origin of Relativity
6	Einstein Revolution – Reception of Relativity
7	Einstein Revolution – The Assassin of Relativity
8	<b>Mid-term Exam</b>
9	Atomic Bomb Revolution –The Manhattan Project and the Nazi Bomb Project
10	Atomic Bomb Revolution - Who could control the atomic bomb?
11	Atomic Bomb Revolution – Big Science and Big Politics
12	DNA Revolution – The Origin of Double Helix
13	DNA Revolution – Bio-engineering and Its Social Impact
14	Social Issues in Revolutions + Outlook on the Future Revolutions
15	The Final Exam