

Dongseo University
Global Studies Institute

The Role of philosophy Science and Economy in Technological Development
2016-1 Semester

Instructor: 엘레나

Classroom: N/A

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Class Time: N/A

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Course Description:

This course is designed to be an overview of technological progress from different perspectives: philosophical/historical, scientific, and economic. Beginning with a historical and philosophical background, the course will move on to explore the uses of technology in scientific observations and experiments, and contribution of technology into economy growth. We will discuss how important is to control and manage technology development properly in order to design safe future. A range of examples on how technology contributes in countries' economic development will be studied. This course is to help students deal with massive technological change. This is the information age, and the jobs of tomorrow may not have names yet. Flexibility is the key to success in the information age.

Course Goals & Objectives:

The underlying goal of this course is to give students a general image on how the technology is connected with philosophy, science, and economy. A philosophical and historical approach should help students to understand how to learn new things and improve professional practice through formulating new problems, developing creativity and communicative skills. A scientific perspective of technology will develop students' analytical skills. The economic part of this course is devoted to a concern all humans share - where this technology progress will bring us, and how will it reflect on future global economy?

Course Outline

Week	Description
1	1 Introduction. Unit 1: A history of Ingenuity (discussion about the factors that encourage innovation amongst humans. Why do we innovate? What are some of the greatest inventions? What were the advantages and disadvantages of these developments?) Unit 2: Writing (discussion about how written communication changed the world. Why is writing important?)
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2	1 Unit 2: Writing (how Hangeul changed Korea) Unit 3: Irrigation (the production of large quantities of food is a technological development which has changed the world; we will look at the first cultures to discover irrigation; how did irrigation change early civilizations. Group work: The global food network; What next for food production?)
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3	1 Unit 4: The Compass (Navigation led to cultural exchange. Group work: What are the advantages and disadvantages of cultural exchange?) Unit 5: The Printing Press (The printing press led to the further spread of knowledge, which in turn led to further technological developments. How did the printing press change the world?)
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4	1 Unit 5: The Printing Press (Group work: The sharing of knowledge is a powerful tool. But what kind of

		knowledge was shared during the early years of the printing press?) Unit 6: Nuclear Fission (How has nuclear fission changed the world? What moral duties do we have to use this development correctly?)
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5	1	Review 1. Quiz 1.
	2	Review 1. Quiz 1.
6	1	Unit 1: The Economics of Technological Development: Religion, War, the Cold War, and Technological development. Unit 2: The Economics of Technological Development: Computing. Unit 3: The Economics of Technological Development: The Internet.
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7	1	Unit 4: The Economics of Technological Development: The Space Race. Unit 5: The Economics of Technological Development: Robotics, Cyborgs, and Artificial Intelligence (AI). Unit 6: The Economics of Technological Development: Microsurgery, Smart Drugs, and the Human Genome.
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8	1	Unit 7: The Economics of Technological Development: The Future of Wealth. Unit 8: The Economics of Technological Development: The Future Space Race. Unit 9: The Economics of Technological Development: The Future of Energy.
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9	1	Unit 10: The Economics of Technological Development: Global Warming. Unit 11: The Economics of Technological Development: Future Transportation. Unit 12: The Economics of Technological Development: Nanotechnology and 3D Printing.
	2	Unit 10: The Economics of Technological Development: Global Warming. Unit 11: The Economics of Technological Development: Future Transportation. Unit 12: The Economics of Technological Development: Nanotechnology and 3D Printing.
10	1	Review 2. Quiz 2.
	2	Review 2. Quiz 2.
11	1	Unit 1: What is Science? Unit 2: Branches of Science. Unit 3: The Role of Science in Developing Countries.
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12	1	Unit 4: Physical Sciences in Technological Development.
	2	Unit 4: Physical Sciences in Technological Development.
13	1	Unit 5: Life Sciences and Technology. Unit 6: Earth Sciences and Technology.
	2	Unit 5: Life Sciences and Technology. Unit 6: Earth Sciences and Technology.
14	1	Unit 7: Interrelation of Sciences in Technological Development. Review 3.
	2	Unit 7: Interrelation of Sciences in Technological Development. Review 3.
15	1	Review 3. Quiz 3.
	2	Review 3. Quiz 3.

Class Website: eclass.dongseo.ac.kr

Course Assignments & Grading:

- *Grading: Attendance - 10% Assignment – 20% Discussion – 10%
Mid-term exam - 30% Final exam - 30%*

- *There will be three quizzes - 20% for each block (i.e., 3 blocks * 20% = 60% total)*
- *Assignment: A student diary, class participation, and attendance to gauge student knowledge of the material.*

Teaching Method:

- This course uses lectures, presentations, videos, question and answer sessions, and student diaries to teach the material effectively. The presentations, for each class, will discuss in depth the history, economics, philosophy, and science behind technological development. There will also be videos and discussions. The class will be taught by three professors: Week 1-5 (block 1): Michael Walker Week 6-10 (block 2): Laura Stephenson Week 11-15 (block 3): Elena Tsomko.