한국외국어대학교
HANKUK UNIVERSITY OF FOREIGN STUDIES
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81, Oedae-ro, Mohyeon-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17035, Korea

Hankuk University of Foreign Studies

2026 Winter Session

PHIL 410 Ethics of Innovation: Technology, Risk and Responsibility

Course Outline

Course Code: PHIL 410

Instructor: TBA

Home Institution: TBA

Office Hours: By appointment

Email: TBA

Credit: 4

Class Hours:

This course will have 60 class hours, including 32 lecture hours, 8-hour professor office, 8-hour T A discussion sessions, 4-hour review sessions, 8-hour extra classes.

Course Description

This course examines the ethical challenges that accompany technological innovation, with a focus on how emerging discoveries and applications transform human life while provoking complex moral questions. Students will engage with contemporary developments such as conversational AI platforms (e.g., ChatGPT, Google Gemini), robotics designed for human interaction (e.g., Tesla's humanoid robots), large-scale data collection and its social implications, the dilemmas posed by autonomous vehicles, biomedical interventions that push the boundaries of human enhancement, and sustainability debates surrounding food systems and renewable energy.

Core themes include identifying and assessing technological risks, clarifying the ethical responsibilities of scientists and engineers, and understanding how institutions and regulatory frameworks shape professional decision-making. The course is taught through case-based analysis, allowing students to grapple with real-world issues ranging from fairness in algorithmic systems to catastrophic engineering failures in high-stakes industries. By the end of the semester, students will be equipped with frameworks and analytical tools for navigating ethical dilemmas at the intersection of innovation, risk, and responsibility.

Prerequisites: N/A

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REQUIRED TEXT AND OTHER READING MATERIAL:

1. **Wessel Reijers, Mark Thomas Young, and Mark Coeckelbergh**. *Introduction to the Ethics of Emerging Technologies*. 2025
2. **Robert McGinn**. *The Ethical Engineer: Contemporary Concepts and Cases*. Princeton University Press, 2018.
3. **Stuart Russell**. *Human Compatible: Artificial Intelligence and the Problem of Control*. Viking, 2019.
4. **Ronald Sandler**. *Ethics and Emerging Technologies*. Palgrave Macmillan, 2014.

Course Grades:

Case Study Reviews (2 @ 200 pts each)	400 pts
Writing Assignments (2 @ 100 pts each)	200 pts
Exams (2 @ 200 pts each)	400 pts
Total	1000 pts

Grading System (1 ~ 100)

A+ : 96 - 100	A : 91 - 95
B+ : 86 - 90	B : 81 - 85
C+ : 76 - 80	C : 71 - 75
D+ : 66 - 70	D : 60 - 65
F : 0 - 59	
Pa : Pass	Fa : Fail

Course Schedule:

Week	Theme	Topics & Case Studies	Assessments
Week1	*Ethics, Professions, and Technology's Reach*	- Technology's power and the ethics gap in engineering - Professional responsibility and obligations of engineers - Governance of technology: risk and responsibility - Social media and digital harms - Comparative study of professional codes of ethics	—
Week2	*Ethical Reasoning and Responsibility in Practice*	- Objective foundations of ethics: reasoning, relativism, and objectivity - Core responsibilities of engineers and scientists - Case Study Cluster: Automotive design dilemmas; corporate responsibility in marketing	**Test #1** (ethical concepts & reasoning)

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Week	Theme	Topics & Case Studies	Assessments
		- Collaborative case analysis methods (Ethics Bowl approach)	
Week3	*Failures, Systems, and Institutional Accountability*	- Case Study Cluster: Defense software & battlefield management; collaborative research practices; early computing devices; database systems - Case Study Cluster: Structural engineering failures; industrial disasters and multinational corporate negligence	—
Week4	*Global Challenges and Emerging Technologies*	- Case Study Cluster: Aerospace engineering failures; biotechnology, nanotechnology, and agricultural risk; automotive safety controversies; historical cases of engineering complicity - Case Study Cluster: Autonomous systems and self-driving cars; infrastructure design failures; urban environmental controversies; sustainability and rural development - Case Study Cluster: Digital privacy and surveillance; biomedical frontiers in enhancement and biosynthesis	**Test #2** (comprehensive case analysis)