Engineering Ethics

Syllabus Number 5M274
Special Subjects
Elective 2 credit

KANNARI YUTO

1. Course Description

There are various ethical matters that engineers and researchers should consider carefully, such as “why engineers are accountable for products,” "whose fault is an error," "should the design be improved to reduce accidents, even at the great expense," In this course, we will discuss the ethical issues engineers face while referring to specific cases.
This course is mainly a lecture style, but rather than one-way communication from the teachers, I will provide time for discussion and give the opportunity of presentation by applicants.
This course is designated to achieve to DP1, 2, 3, 4.

2. Course Objectives

・Students can understand the problems taken up in the course and explain in their own words. (Knowledge / Understanding)
・Students can think logically and critically. (Skill)
・Students can read critically.(Skill)
・Students can give presentations. (Skill)

3. Grading Policy

・Regular examination: 80%, active participation in this course (expressing opinions, reading texts, making presentation, summarizing): 20%
・I will provide feedback at the time of consideration in each lecture. I will also provide feedback on the presentations.

4. Textbook and Reference

Textbook
Lecture prints will be distributed on LMS.
Reference
小出泰士 『JABEE対応 技術者倫理入門』 丸善株式会社、2010年
ISBN：978-4621082522
黒田光太郎・戸田山和久・伊勢田哲治編 『誇り高い技術者になろう［第二版］』 名古屋大学出版会、2012年
ISBN：978-4815807061
北原義典 『はじめての技術者倫理 未来を担う技術者・研究者のために』 講談社、2015年
ISBN：978-4061565470
藤本温編 『技術者倫理の世界 第3版』 森本出版株式会社、2013年
ISBN：978-4627973039

5. Requirements(Assignments)

・The second to the 11th: The teaching materials for each lecture will be uploaded on LMS in advance. Think about the questions in the lecture at that time (e.g., why engineers are accountable for products) (30 minutes), and prepare the lecture using the LMS teaching materials (30 minutes). In addition, summarize the lecture content for the exam (120 minutes).
・The 12th, 13th: If you want to make a presentation, please prepare for it (180 minutes).
・The 14th: If you are a candidate for summary, summarize the contents of the lecture you are in charge of and prepare a short discussion (180 minutes).

6. Note

・It is recommended to attend the course of “Ethics” held in the second semester, but this is not a requirement.
・In this course, we will use LMS for distributing lecture prints, taking a questionnaire etc.

7. Schedule

[1] Introduction (What is engineering ethics?)
[2] Accountability (Why engineers are accountable for products?)
[3] Product liability (What are the correct use conditions?)
[4] Human error (whose fault is an error?)
[5] Cost-benefit analysis (Should the design be improved to reduce accidents, even at the great expense?)
[6] Whistle blowing (When is whistle-blowing allowed?)
[7] Intellectual property (Can ideas and technologies be released to the public immediately?)
[8] Globalization (Are there common global values?)
[9] Precautionary principle (Is GM food safe?)
[10] Environmental preservation (Why should we protect nature?)
[11] Human and technology (What is technology for humans?)
[12] Presentation①
[13] Presentation② and about summary
[14] Summary
[15] Examination and summary