

Engineering Ethics

Syllabus Number

5M274

Special Subjects

Elective 2 credit

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1. Course Description

There are various ethical matters that engineers and researchers should consider carefully, such as "why engineers are accountable for products," "can ideas and technologies be released to the public immediately," "is GM food safe." 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, review literature, and give presentations. (Skill)

•Students can raise original questions. (Skill)

•Students can write logically. (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.

Reference

北原義典 In addition to the following, they will be introduced at any time during the course.

『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』

ISBN: 978-4061565470 講談社、2015年

藤本温編 『技術者倫理の世界 第3版』

ISBN: 978-4627973039 森本出版株式会社、2013年

小出泰士 『JABEE対応 技術者倫理入門』

ISBN: 978-4621082522 丸善株式会社、2010年

戸田山和久 『新版 論文の教室——レポートから卒論まで』

ISBN: 978-4140911945 NHK出版、2012年

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) (10 to 30 minutes), and prepare the lecture using the LMS teaching materials (30 minutes). In addition, summarize the lecture content for the exam (60 minutes).

•The 12th, 13th: Look for literature which interests you, and summarize the contents (60 minutes). If you want to make a presentation, please prepare for it (120 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 (60 minutes).

6. Note

It is recommended to attend the course of "Ethics" held in the second semester, but this is not a requirement.

7. Schedule

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