



İÇERİK YAZIM ŞABLONU

DERS ADI: General and Professional Ethics

MODÜL NO: 1

MODÜL ADI: General Ethics (Case Study)

DERS SORUMLUSU: Assist. Prof. Dr. Fatih BALCI

Objectives

Aim 1: You will be able to familiarize yourself with the objectives of the course,

Aim 2: You will discuss the importance of the course in general and professional ethical behaviour in the field of engineering

Aim 3: You will be able to familiarize yourself with the online learning environment and activities as well as course requirements.

Introduction

We will begin this module with a case study to discuss. During the lecture, you will have an interactive conversation together with the lecturer. Please make comments on the case and propose a solution. You need to read and understand the case before the discussion session. For further discussions, please visit the course forum page. Then, we will discuss the objectives of the course. Finally, we will talk about the requirements to be successful in this course.

Attention

- Read the case a couple of times.
- Do a quick research about the technical terms.
- Try to understand the case in detail.
- Put yourself in the main character's shoes in the case.
- Analyse the case and reflect on how you would react.
- Try to explain what you would do and why?
- For further discussions, visit the forum page!



Case

As a recent graduate of Engineering Tech, you have been employed in the R&D Chemical Engineering Division of Larom, Inc. for the past several months. You were hired because of the promising research you did with catalysts as a student at Engineering Tech.

A meeting of your division is called by your supervisor, Alex Smith. He announces that your unit must make a recommendation within the next two days on what catalyst should be used by Larom in processing a major product. The overwhelming consensus of the engineers in your unit, based on many years of experience, is that catalyst A is best for the job. But the research you have been conducting at Larom provides preliminary evidence that catalyst B might be more reliable, efficient, and considerably less costly. So, you ask if the recommendation can be delayed another month to see if firmer evidence can be found. Alex replies, "We don't have a month. We have two days." He then asks you to write up the report, leaving out the preliminary data you have gathered about catalyst B. He says, "It might be nice to do some more research on B, but we've already taken too much time on this project.

This is one of those times we have to be decisive--and we have to look decisive and quit beating around the bush. Management is getting impatient with us on this one. Besides, we've had a lot of experience in this area. You like working for Larom, and you feel fortunate to have landed such a good job right out of Engineering Tech. You have no desire to challenge your colleagues. Besides, you don't necessarily disagree with them about which catalyst is best. Still, you wish you had been given more time to work on catalyst B, and you feel uncomfortable about leaving the preliminary data out of the report. What should you do?

Definitions

Ethics: The study of the characteristics of morals.

Engineering Ethics: Rules and standards governing conduct of engineers. A body of philosophy indicating ways that engineers should conduct themselves in their professional capacity.

General Ethics

Ethical cases can go far beyond issues of public safety and may involve bribery, fraud, environmental protection, fairness, honesty in research and testing, and conflicts of interest. During your undergraduate education, you will receive training in basic and engineering sciences, problem-solving methodology, and design, but generally receive little training in business practices, safety, and ethics. The purpose of this course is to provide **a text and a resource** for the study of ethics and to help future engineers are prepared for confronting and resolving ethical dilemmas that you might encounter during your professional careers.



Ethics is the study of the characteristics of morals. Ethics also deals with the **moral choices** that are made by each person in his or her relationship with other persons.

Engineering ethics is the rules and standards governing the conduct of engineers in their role as professionals. Engineering ethics encompasses the more general definition of ethics but applies it more specifically to situations involving engineers in their professional lives. Thus, engineering ethics is a body of philosophy indicating the ways that engineers should conduct themselves in their professional capacity.

Several notorious cases that have received a great deal of media attention in the past few years have led engineers to gain an increased sense of their professional responsibilities. These cases have led to an awareness of the importance of ethics within the engineering profession as engineers realize how their technical work has far-reaching impacts on society. The work of engineers can affect public health and safety and can influence business practices and even politics. One result of this increase in awareness is that nearly every major corporation now has an ethics office that has the responsibility to ensure that employees have the ability to express their concerns about issues such as safety and corporate business practices in a way that will yield results and won't result in retaliation against the employees. Ethics offices also try to foster an ethical culture that will help to head off ethical problems in a corporation before they start.

The goal of this course is to **sensitize** you to important ethical issues before you have to confront them. You will study important cases from the past so that you will know what situations other engineers have faced and will know what to do when similar situations arise in your professional career. Finally, you will learn techniques for **analyzing and resolving** ethical problems when they arise. These are the types of situations that we will discuss in this course. The goal, then, is **not to train** you to do the right thing when the ethical choice is obvious and you already know the right thing to do. Rather, the goal is to train you to **analyze complex problems and learn to resolve** these problems in the most ethical manner.

ORIGINS OF TODAY'S ETHICS

Nowadays, the subject of ethics is developing as a field of science. This area is largely **linked to other areas like law, religion and philosophy.** Basically, **perspectives, event interpretations and evaluations are made within this field of ethics science.** **Ethical analyses are carried out in practice areas in many other professions.** **The origin of today's Ethics based on the former studies in philosophy, culture, religion and law.**

- Ancient Greeks - especially Socrates, Aristotle (Do a research and read their life)
- Judeo – Christian tradition
- Islam
- Buddhists
- Hindus

Western ethics have principally evolved from the first two.

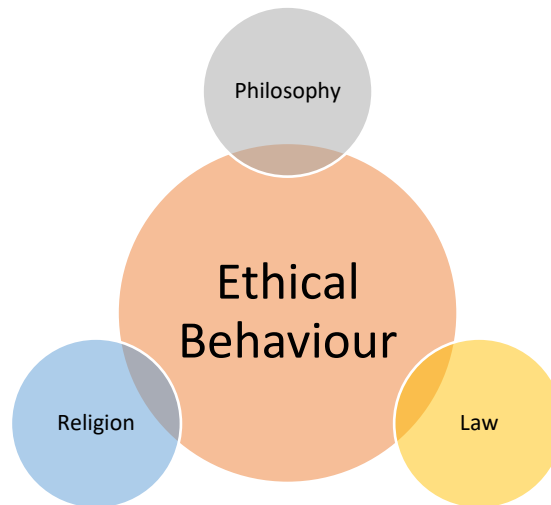


Figure 1. Origins of today's Ethics

Ethics and religion

Some people's ethics are based in religion (however, nominally religious people may not be ethical). Persons who are ethical don't have to be religious.

Ethics and law

Engineering and business are governed by laws at the international and local levels. Things that are legal might be considered unethical – e.g., releasing a known toxic material that is unregulated into the air. As an engineer, you are minimally safe if you follow the law.

Personal vs. Business Ethics

Personal ethics deal with how we treat others in our day-to-day lives. Professional (business) ethics often involves choices on an organizational level rather than a personal level.

Ethics problems

We rarely have a correct answer that everyone will come up with. There will be a range of solutions that are clearly right, some of which will be better than others. There will be a range of solutions that are clearly wrong.

REFERENCES

- Fleddermann, C. B. (1999). Engineering ethics (Vol. 4). Upper Saddle River, NJ: Prentice Hall.
- Rabins, M.J., Harris, E., Pritchard, M.S., and Lowery, L.L., "Engineering Ethics," <http://ethics.tamu.edu>