**Lesson 1:**

**Ancient:**

* Doctors, lawyer were not organized as professions.
* A professional was a person who professed his/her faith publicly. There is a religious origin to the word “profession”.

**Medieval:**

* Religious orders
* Secular guilds: Exclusive organizations created to preserve rights and of members. Guild associations received authority from kings, city hall or clergy. 2 Types:
  + Merchant guilds: created to protect traders.
  + Craft guilds: group of craftsmen involved in same profession: bakers, cobblers, etc.

Guilds operated in feudal society. Extreme inequality between peasants and landlords. Restricted movement between levels. Guilds located in cities and so separate from rural exploitation. Guilds provided a way of upward movement un status/wealth.

Functions if a Guild

|  |  |
| --- | --- |
| Responsibilities | Services |
| * Restricted poor workmanship * Forbade advertising. * Regulated prices * Exerted monopoly control * Limited number of masters | * Gave some health insurance to members. * Supported dependents of members in case of death. * Made donations to city. * Served as councilors. * Constructed public buildings |

**Modern:**

* Business entrepreneur:
  + Owns a business enterprise.
  + Generates revenue from a stock of human, financial or physical capital.
* White-collar worker
  + Salaried with high wages
  + Administrative or technical work
  + Risk of obsolescence.
* Blue-collar worder
  + Members who sell their manual labour (low-skilled)
  + Earn hourly wages for their labour, limited or no benefits.
  + Risk of technological obsolescence.

**Attributes of Modern Professionals**

Modern professionals share four main attributes. These attributes are:

* Intellectual skills that are acquired through a formalized system of education or training
* The exercise of judgment on matters connected with the practice of work
* Membership in self-governing societies
* Their practice of work contributes directly to advance public welfare.

**The attribute of skill:** A key aspect of the nature of skill that professionals possess is that it is composed of varied and intellectually demanding techniques and practices, thus requires individuals to exert considerable effort in acquiring them. In order to acquire these skills individuals are required to undergo an extensive and formal education usually at the university level. This is so because many of the techniques require a base of scientific, technological or mathematical education that can only be gained from university based education. It is therefore not enough to have an individual serve as an apprentice for practical training.

**The attribute of judgment**: A key factor of this attribute arises from the nature of the work that professionals perform. Since the work is varied and not routine work, it cannot be mechanized. The variation in the requirements of work means that individuals as part of their work have to make choices. These choices while based on the training they receive, have to be made by the understanding of the individual. These choices have direct consequences for the public.

**The attribute of membership in self-governing societies:** Given the specialized training and knowledge that professionals possess, and given the importance of their work for public welfare, it is vitally important that the actions of professionals be governed by other professionals who are capable of evaluating the nature of work they do. Thus modern professionals need to be members of self-governing professional associations. These associations are usually established by the government to govern the actions of professionals to ensure that they practice their profession to further public welfare.

**The attribute of advancing public welfare:** A critical aspect of a professional is the important role they play in advancing public welfare in society. If they practice their profession in an ethical fashion, professionals make a significant contribution to improving the welfare of citizens. Conversely, malpractice or the unethical practice of the profession can have a significantly adverse effect on citizens and society. For example, consider the effect that bad construction in a bridge could have on the general population that relies on the bridge to meet their transportation needs.

In Canada, a professional is usually described as a person who meets these above four attributes. For example, in the Canada Labour code, a professional is defined as in the course of their employment, engaged in the application of specialized knowledge ordinarily acquired by a course of instruction and study resulting in graduation from a university or similar institution, and is eligible to be a member of a professional organization that is authorized by statute to establish the qualifications for membership in the organization. Now, even though professionals may all possess these same attributes, professionals may be categorized into two kinds depending on the type of employment they have. These two kinds of professionals are independent professionals and employed professionals.

* **Independent professionals** as the name indicates work independently and are paid directly by the client for the service provided by the professional. As a result of their independence in employment these professionals have much greater autonomy in their actions. o A good example of this kind of an arrangement might be a consulting engineer or a private doctors or architects.
* An **employed professional**, on the other hand, is usually hired by a company or organization. In return for a monthly salary, the professional provides their services to their employer. It is the employer that usually sets the terms of their work and so the professional has much less autonomy in their actions. An example of this kind of professional would be a nurse working in a hospital, a manufacturing engineer working for a company.

**Professional System**

Since professionals play a vital role in advancing the public welfare of societies, governments around the world have devised mechanisms to control how professionals can be made accountable to society at large for their actions. When a member of the public feels they have been treated unjustly or unfairly by a professional, there needs to be a mechanism that will allow the public to ask a professional to explain their actions. One such means is the professional system. The professional system can be defined as a formalized organization that links professionals with society they operate within. The key objective of the professional system is to ensure that professions are organized to be accountable to society. Professional associations composed of professionals practicing the same profession are a key aspect of the linkage between professionals and society. The professional systems vary considerably around the world depending on local values and norms. But there are some aspects that are common between most professional systems.

* First, most professional systems have formal rules (sometime laws) that govern the actions of individual professionals.
* Second, professionals become members of a profession when they receive a license to practice the profession. The professional license, just like a driver’s license, allows the individual to practice that profession.
* Third, breaking formal rules can result in penalties and depending on the nature of violation even loss of license. It is through the licensing system that the actions of professionals are governed by the government.

The moral aspects of a profession, in turn, direct our attention to values that underpin professional actions. These values can be understood along two dimensions.

* First, professional values are those that guide the nature of professional relations with clients, employers, and fellow professionals. This includes aspects such as values of honesty, integrity, loyalty and responsibility.
* A second aspect of professional values relate to societal leadership that relate to how the professional should relate to the values that underpin a particular society or nation they work within. These relate to such aspects as law, prejudice, and safety.

The power that a profession has in society translates directly into the higher social status that professionals have in society. While an individual professional may not be the most financially successful, their status is usually disproportionate to their means. This higher status is the result of two factors.

* First, society values professionals for the skill and expertise they possess in contributing directly to public welfare.
* Second, society values professionals, because their technical expertise can guide important decisions that society can make collectively. Technical expertise is relevant because of the scientific basis that it brings in solving global problems. In doing so, it provides an alternative to the messiness of decision-making of politicians and political leaders in democracies.

**Lesson 2:**

Ordre des ingénieurs du Québec entre 2020-2021:

* 6.6 mois la durée moyenne d’une enquête
* 3068 inspections (2745 en 2018-2019)
* 1450 ingénieurs sensibilisées à la prévention de la pratique illégale
* 3228 nouveaux permis d’exercice de la profession d’ingénieur octroyés
* 16469 participants aux activités de développement professionnel

Difference between Canada and U.S.

|  |  |  |
| --- | --- | --- |
|  | Canada | US |
| Engineering professional associations | Statutorily self-regulated | Not governed by a comprehensive legislation  Managed by a board constituted with both engineers and non-engineers |
| Practice of the profession | Closed  Need to obtain a professional license.  Illegal to work as an engineer without that license | Can do engineering work without license |

**Professional System in Québec:**

Unique system of governance of professions in north America

* 5 primary groups that administer the System
  + Government of Québec
    - Reports to the National assembly (NA) of Québec on the operation of the professional system
    - The minister presents legislations and resolutions regarding the professional system in the NA
  + Professional Tribunal
    - Judges who are appointed by the court of Québec.
    - Hears appeals on decisions made by disciplinary councils of different orders.
  + Office des professions du Québec
    - Ensures that different orders respect their mission.
    - Advices the government of Québec
  + Québec Interprofessional Council
    - Composed of representatives of all 46 orders.
    - Advisory body that can be consulted in professional matters.
  + 46 Professional Orders
    - Mission of professional orders. Encure protection of the public
    - 2 Types of professional orders
    - Professions with reserved titles & exclusive practice (25)
      * OIQ
    - Professions with reserved titles (21)
      * Order of the professional technologists.
* Reason for the professional System
* Operation of the professional system
* Management of professional orders

C-26 Professional code <http://legisquebec.gouv.qc.ca/en/ShowDoc/cs/C-26>

I-9 Engineers Act <http://legisquebec.gouv.qc.ca/en/ShowDoc/cs/I-9>

**The Professional System in Canada**  One of the factors that make it very unique is **the formal nature of control** over individual professionals. This formal control is created by making professional associations **statutory bodies**. In other words, the work of professional associations is strengthened by the power of a law passed by the respective provincial legislative assembly.

Each professional association derives its power to control individual professionals from this statutory standing. Another aspect of the professional system in Canada is the **closed nature of the profession. In other words, in order to practice most professions in Canada**, an individual has to become a member of the corresponding professional association. A person, who practices the profession without an explicit license, is considered to be practicing the profession illegally and could face legal action. The statutory nature of professional associations in Canada gives it a strong social contract model. A social contract model for professional associations allow it to clearly define how professional associations contribute to improving public good. Such a model places more emphasis on member responsibilities rather than rights. The social contract model needs to be differentiated from the collective bargaining model of associations. **A collective bargaining model is common for labour unions. In a collective bargaining model, associations are groups that try to further private interest rather than public good**. So, such associations **have more rights and demands and fewer responsibilities**. It is important to remember that the professional system in **Canada** follows the **social contract model** and not the collective bargaining model. As a result, professional associations are very different from labour unions.

**History of Professions in Québec**

Since Québec was colonized by France and then subsequently by Britain, the model of professional regulation that developed in Québec bore the influences of professional systems from these countries. Prior to 1970, the professional system in Québec could be characterized by the existence of weak social contracts. In other words, the professional system did little to be explicitly accountable to society. This lack of direct accountability was the product of nonstandardized professional associations, whose mandates were not uniform across the province. Another fact was the acceptance of the “liberal professional”. A liberal professional operated with limited oversight and was independent to conduct their professional practice. A related aspect was the absence of a strong, legally binding code that governed the conduct of individual professionals. A combination of these three factors resulted in the weak social accountability of the professional system.

**Impetus for Change**

By the 1970, for several social and political reasons, there was considerable interest in transforming the professional system in the province. The force for this change came from several directions. A major force for change was the **Quiet Revolution** or La Revolution Tranquille. The quiet revolution, during the 1960s and 1970s, initiated an immense social and political transformation in Québec society. The objective was to begin a period of massive state intervention into the affairs of society at different levels in order to transform the province from a traditional, conservative society to a progressive and modern one. This period saw the government intervene in reforming sectors of health, education, and social welfare to institute Page 2 of 2 policies that we see around us even today – universal health care, nationalization of electricity production, and a network of public universities. In 1970, as part of the Quiet Revolution, the Castonguay-Nepveu Commission into the province’s health system made some important recommendations regarding Québec’s professional system. The commission recommended reorganizing the professional system to make it appropriate to the province’s new social and economic changes. It also recommended strengthening the professional system’s social contract to ensure the government had a strong supervisory role over the affairs of the system.

**Québec’s Revamped Professional System**

In response to these pushes, in 1973, the National Assembly of Québec initiated the reorganization of a new professional system. The professional system has its legal basis in The Professional Code. The Professional Code is a law of public order that was passed by the National Assembly to reflect its desire to protect the public in matters concerning professional service. In other words, the professional code is a law that lays down in detail how Québec’s professional system should be organized and administered. The Professional Code describes the key components of the professional system. It also specifies the actions of different professional orders that are part of the professional system. Finally, it creates a single law that applies to the entire professional system in the province.

**Lesson 3:**

Professional morality:

* Internal influences (Self-governance)
  + Ethics
    - NOT a personal opinion.
    - Understanding of the philosophical basis for making moral choices.
    - An objective system of making choices.
    - Objectivity of ethical analysis is qualified by circumstances.
  + Values
    - Beliefs that define individuals.
    - Are the basis of world views and guide behaviors.
    - Govern the choices we make
* External influences (governance by an outside authority)
  + Law
    - Established by competent authorities in a society.
    - Govern what is allowed, required or forbidden.
    - Are often based in customs and morals of that society.
  + Morals
    - ARE personal opinion
    - Classification of right or wrong acts
    - Based on cultural, religious or customary mores.
    - Can differ from place, community, region, and country.
    - Example: not looking at someone face is respectful in some countries but disrespectful in others.

Engineering ethics are both internal and external:

* Is the analysis of decision, choices and policies that are morally desirable in engineering practice and research.
* Purpose:
  + Moral Awareness: Awareness of value conflicts that underlie choices.
  + Moral Autonomy: ability to think critically and independently about moral issues.
  + Moral imagination: ability to discern alternative solutions to moral dilemmas.
  + Moral communication: ability to communicate ethical issues in a precise and reasonable manner.

Code of ethics:

* National assembly requires engineers to adopt a code that would establish rules of conduct for professional practice.
* The code of ethics is a mandatory regulation for engineers.
* Engineers have duties towards:
  + Public
  + Clients (employers)
  + Profession

**What Are Ethics?**

We have all encountered the word ethics or ethical in newspapers or on the news, and most of us associate the word with morals. But the word ethics has a very specific meaning. Ethics is a branch of the discipline of philosophy. Philosophy as we all know is a discipline that is concerned with the study of fundamental truths of human existence. The discipline of philosophy has several branches, such as logic, epistemology, metaphysics and ethics. It is the method and theory of this branch of ethics that we rely on in order to think about the choices humans and societies face. How can we define ethics? Ethics is the systematic analysis of behavioral choices that humans or societies face. The key point is that it is a way of analyzing and thinking about choices. Now you may think that ethics is a form of decision analysis that one finds in modern project management. But ethics differs from decision tools, because it helps humans to reflect on questions of right or wrong, of obligations and rights, or whether social and political goals are being met. Now these kinds of decisions tend to be very subjective and dependent on the values or world view of the person making the decision. For example, if someone asks you whether euthanasia or the choice for an individual to die a good thing or not. This is a very difficult question to answer, because it is related to the values you as an individual believe in or on the values society holds dear. You require a means of evaluating a decision that is influenced by values. Ethics provides a means of doing exactly that. Ethics thus is closely related to values. But what are values? Values are beliefs or worldviews that define individuals. It defines them because it governs the choices we make, or the behavior we display.

**Needs for Ethics**

Why do we need something like ethics? A simple answer is that ethics are needed to help humans make choices. Humans are constantly making choices in their lives. Being personal or professional lives, a human cannot run away from making choices in everyday of their life. In fact, a decision to not make choices is also a choice that a person can make. Given that we need to make choices in our lives, it helps to have a mechanism that can guide how we think, reflect and then justify the choice we make. Why do we need a mechanism to think about choices? This is because choices provide alternative courses of action that lead to different consequences and to different personalities that individuals have. For example, if I make a decision that I will not write any quizzes or examinations because I do not believe in evaluating the knowledge I have, that choice can lead to far-reaching consequences for the person making such a choice. The person making such a choice will either not have a current system of education or find an educational environment that supports their choices. Either case can have important consequences for the kind of life the person will live in the future. Now for many everyday decisions like the kind of breakfast you are going to eat or the clothes you are going to wear, you do not need a system to guide your decisions. But if you are facing an important professional decision that can have important consequences on your career, the future of your company and your family life, you need a systematic method to help you think about the choice and then justify your decision. This is where ethics comes in. Ethics provides a means to rationally reason your choices. This is just as true if our society is facing an important question, such as abolishing death penalty. How can we evaluate such a decision? Ethics provides a reliable and impersonal way of thinking about larger societal choices like this. There is another important reason for relying on ethics to make vital decisions because it allows us to avoid two pitfalls that many of us find ourselves in when making a decision. One pitfall is the belief in absolutism that means the irrespective of circumstances, my decision never changes because my morals are absolute and always true. A good example of absolutism is when we make the decision to punish a person because they lied since it is always wrong to tell a lie, irrespective of whether the lie was told for self-interest or to protect someone else. A second pitfall is the belief in relativism that suggests that one can never make a decision that is ok for everyone because all decisions are subjective and so no one guideline is valid for everyone. A good example of relativism is when you suggest that it is ok to hurt animals because in my community we believe it is an accepted thing to do. Ethical thinking and reasoning provides a way of thinking that can avoid these pitfalls.

**Differentiate between Ethics And Morals**

Ethics are similar to morals and often in general conversation they are used interchangeably to mean one and the same thing. However, there are important differences between the two that we need to bear in mind. This is especially true in the professional context where it is important to be an ethical engineer and not a moral engineer. The difference between the two stems from how ethics and morals are derived. Broadly ethics is an understanding of the philosophical basis for making moral choices. The key point is that the individual arrives at an understanding of what is an ethical action through a process of philosophically structured thinking and reflection. This process allows an individual to make choices in an objective fashion. Objective means something that is separate from personal experience. But objectivity of ethical analysis is always qualified by the relevant circumstances that influence the decision. For example, in thinking about whether it is ok to take a life, the decision needs to consider circumstances like self-defense. It is this process of reflection that makes ethical thinking different from personal opinion. Morals, on the other hand, are closely related to personal opinion. Why are morals personal opinion? This is because morals are arrived not through a process of reflection, but through a process of classification of right and wrong acts that are dependent on cultural, religious or customary norms. Thus, if a religion believes that it is wrong to eat meat of any kind, then the irrespective of circumstances if you believe in that religion and you eat meat, your action is considered immoral. Another aspect of about morals is that they vary from place to place, and from region to community. Thus, while in one place it maybe immoral to eat meat, in another place there may not be such a restriction. So comparing ethics and morals, we can say the following things when differentiating between the two. While ethics are the systematic analysis of human behavior, morals are customary norms of behavior. While morals vary with time and geography, ethical frameworks are not specific to cultural or geographic contexts. Similarly, while ethics are products of rational examination, morals are acquired through socialization or being a member of a particular community. As a result, while morals could be considered as personal opinion, ethics are impersonal in nature.

**What Are Engineering Ethics?**

Ethics, as we have found out, provide a means to think through the choices we face in our lives. Now ethics can inform our decisions in both personal and professional life. While personal ethics is concerned with relationships between individuals in daily life, professional ethics are concerned with how the individual interacts with others in a company or organizational setting. These relationships often are quite different from the ones in personal life. Engineering ethics is a form of professional ethics. Engineering ethics can be defined as the analysis of decisions, choices and policies that are morally desirable in engineering practice and research. It is a body of philosophy that indicates how engineers should conduct themselves in their professional capacity. The goal of engineering ethics is to sensitize students to key ethical issues before you confront them in your workplace. By doing so, you will be in a position to respond in a more ethical fashion to professional challenges.

**Why Are Engineering Ethics Important?**

Engineering ethics have become important in modern engineering practice for several reasons. One key reason is because the media has highlighted several cases where unethical practice on the part of engineers resulted in decisions that had disastrous consequences for the welfare of the public. In famous cases like the Ford Pinto car, the space shuttle challenger disaster or in the famous walkway collapse in a hotel, engineers were held responsible for their actions. These cases have enhanced the sense of professional responsibility that engineers should have over their work. Furthermore, offices of major industries now consider ethics an important aspect of professional work. The combination of these factors have created an awareness that engineering ethics provides a means to avoid making poor decisions.

**Main Goals of the Study of Engineering Ethics**

The study of engineering ethics has some main goals. Through these goals, students can expect to learn how to respond to ethical dilemmas in their professional work as engineers. Four goals are important. First, at a basic level, is to develop moral awareness. Moral awareness provides an awareness of value conflicts that underlie choices engineers face in their professional context. Second is to have moral autonomy. Moral autonomy can be defined as the ability to think critically and independently about moral issues in professional work. Third is to have moral imagination. Moral imagination is an essential quality to have and can be defined as the ability to discern alternative solutions to moral dilemmas. Fourth is to develop the ability for moral communication. Moral communication is the ability to communicate ethical issues in a precise and reasonable manner. By accomplishing these four goals, a practicing engineer possesses the ability to think and communicate ethical issues to others in the professional setting.

Moral absolutism suggests that morals are not subjective and therefore do not offer a common guideline for everyone.

**Lesson 4:**

Ethical Theories:

3 major analyse choices based on human behaviour:

* Agent (Virtue theory):
  + Aristotle theory suggests that a better guide to ethical action is the character of the person performing it.
    - Person performing it
    - Character and virtue are more immediate guides.
    - What guides are available to judge character? Does it match a model of a virtuous person you know?
* Action (Action-Deontological theory)
  + Actions are only as ethical as the nature of the action chosen.
    - The ends do not justify the means chosen to accomplish them.
  + No matter the good consequences may be, if the actions are wrong, they do not justify the action.
  + Morality is created by following rules. (Immanual Kant’s Duty Ethics)
    - “Do A, no matter what” – categorial imperative or the command of our conscience.
    - Doing those actions that follow universal principles.
    - Doing those actions that increase respect from humanity.
    - Problems:
      * An individual’s conscience may conflict with group interests.
      * No notion of good of society.
* Result (Consequentialism)
  + The ethical content of an action depends on the consequences produced.
  + “if you want result B, then do A.” Problems:
    - Good/bad consequences may not be immediately knowable.
    - Difficulty in characterizing the good and bad.
    - Mils Utilitarianism: Right actions are those that produce the maximum benefit for the greatest number.
      * Number of people affected.
      * Intensity of benefit nature of benefit (trivial vs. serious)
      * Duration of benefit – time period to see benefit.
      * Example: Cost-benefit analysis

**Ethical Analysis Case Study**

Step 1: Moral Clarity

What are the relevant moral values connected with this case?

OIQ’s professional values – Competence, Ethical conduct, responsibility & social commitment

* Competence – to be objective and truthful.
* Responsibility to the organization – act as loyal agents
* Social commitment – commitment to society’s welfare

Step 2: Conceptual clarity – Examine the code

* Responsibility to the company:
  + Does that mean obeying everything your supervisor tells you?
  + Should you think of the long-term benefits or short-term benefits to the company?
* Social commitment
  + Does it mean to all threats that society faces?
  + What level of threat is considered serious enough to warrant the disclosure?
  + Should your reveal all facts or only what you think is important?

Step 3: Obtain relevant information:

Is there uncertainty about the facts?

* Have the findings been re-evaluated by someone else?
* Is there any margin of error?
* What is the possibility of harm coming about to inhabitants?
* Have there been instances in the literature that suggests anything?
* Be through in research and documentation!

Step 4: Consider all options:

What are the options for actions that you take?

* Is more research required?
* Can the supervisor be convinced?
* Are the regulations too strict?

Do nothing, and have faith in the company 🡨----------------------------🡪 Expose company’s actions to the media

Step 5: Reach a reasonable decision:

* Decision should be based on previous steps.
* Look for a “golden mean”.
* May not be optimal decision or the decision you want but under these conditions, it is the most reasonable and defendable one.

**Ethical Reasoning**

In this class, in order to reason in an ethical fashion, students will be expected to become familiar with three dimensions. First, ethical reasoning requires individuals to reflect on the nature of the choice one has to make. Second, after reflection one is ready to analyze the nature of the choice that the person faces. Third, after analysis the person is ready to make the choice. We will now examine each of these steps in detail.

**Reflecting on Choices**

In order to decide on the ethical nature of the choice we have to make, we need to first reflect on the nature of the choice we face. In reflecting on choices, a key point to bear in mind is that ethics provides a means to justify in a rational manner, the actions we take in a professional (or personal) context. Each action is thus justified as ethical, if it is made on the basis of some ethical rule. A good example of an ethical action could be — “be fair in your dealings with others.” Now we can justify this ethical action through the ethical rule of “treat yourself the same way as others”. Now this ethical rule becomes valid, because it is based on a general ethical theory. For example, the ethical rule to “treat yourself the same way as others” is itself based on the general ethical theory called Deontological Theory. We will talk about Deontological Theory more in this same module, but this theory basically suggests that an action is only as valid as the means adopted to accomplish the action. If the means are not good, then the action that comes about is not ethically good.

**Analyzing Choices**

As we have mentioned earlier, in the professional setting, an individual has to make multiple choices. Each choice comes with different courses of action. Some of these choices have major consequences for your career or the company you work for. Therefore, it is important to take the time to analyze the choice carefully. From this analysis, you should be able to present a clear reason to support the decision you make. It is this clear justification that demonstrates to your colleagues, your company, and your clients that you have thought through the decision very carefully and then arrived at the choice. As we will describe later in this module, we will present some steps to help you analyze the nature of the choice we face.

**Making the choice**

Once you have analyzed the nature of the choice that you have to make, you are ready to take the most optimal decision. At this point, it may be appropriate to think about the action that you are about to take. Are you going to do something heroic? Would you be committing a crime? Are you ready for the consequences? If you are a bit uneasy, this might be the time to re-analyze the choice that you face. Now you must be wondering why it is important to spend so much time on thinking about professional choices. The answer is that the reputation that you have built up in your career is very fragile. You want to create a reputation for yourself that is favorable. Any unethical actions could undermine your reputation and severely damage your career and your personal life. Thus, it is important to take professional decisions very seriously. Ethical reasoning provides a means to do just that.

**Analyzing Choices**

As we have mentioned earlier, in the professional setting, an individual has to make multiple choices. Each choice comes with different courses of action. Some of these choices have major consequences for your career or the company you work for. Therefore, it is important to take the time to analyze the choice carefully. From this analysis, you should be able to present a clear reason to support the decision you make. It is this clear justification that demonstrates to your colleagues, your company, and your clients that you have thought through the decision very carefully and then arrived at the choice. Analyzing a decision requires five steps: Identify the relevant moral values, clarify key concepts, obtain relevant information, consider a spectrum of possible actions, and finally make a reasonable decision. We will describe each of these steps here.

* Step 1: **Identify relevant moral values First**, identify the moral values that are connected to the dilemma that you face. Values, such as honesty, social commitment, and responsibility, are common to many professional dilemmas. Identifying the moral values is the first step to thinking about what decision is most appropriate in the circumstances.
* Step 2: **Clarify values for the circumstances** The second step is to clarify the relevant values so that they fit the circumstances of your decision. For example, if you decide that responsibility to your company is a key value, you need to clarify what aspect of responsibility is relevant here. Does responsibility mean thinking of the Page 2 of 3 short-term benefits or of long-term benefits to your company? Does responsibility mean listening to everything that your immediate supervisor tells you or does it mean thinking about the benefit to the organization? This kind of clarification is very useful, because it makes it clear in your mind what kind of value you feel is most important in your decision.
* Step 3: **Obtain relevant information** In this step, it is important to identify the facts associated with the choice you have to make. It is important to understand how much information you have, what information needs to collected through research, and what is the nature of uncertainty about the information you currently have. Once you have thought about these aspects, you can develop a strategy regarding what information you need to make each decision. If there is a lot of uncertainty in all the choices you face, then your decision could be to say that after examining the information, we need to do more research before we can arrive at a conclusive judgment.
* Step 4: **Consider all options** After clarifying relevant values and gathering relevant information, we are now ready to consider the nature of options we face in our decision. Here it is important to consider all possible options that we can take. It is important to realize that we face an action spectrum where there are not just two extreme options but many, many possible actions that a person can make. Some of these actions could be something as simple as more research is required, or that the provincial regulations need to be changed, or something as extreme as exposing company’s actions to the media (an action called whistleblowing). We will discuss whistleblowing later in the semester, but for now we should bear in mind that multiple actions are possible.
* Step 5: **Reach a reasonable decision** Finally, after considering all the steps above, we should arrive at a reasonable decision. The first thing for a decision to be considered reasonable is that the decision should follow directly from the findings of the previous steps. Another aspect of a reasonable decision is to adopt a decision that, although not your favorite, is under the conditions most defendable and justifiable. Page 3 of 3 At the conclusion of the five steps of analysis, you should be ready with a preferred decision for action. In addition, you should also have a developed a rationale for defending the decision in your professional context. Without a proper defense of your decision, your colleagues are not aware of the ethical reasoning that you undertook to reach the decision.

Duty theory does not consider the agent in order to evaluate the ethical content of an action.

**Lesson 5:**

Types of professional relationships: The relation of a professional with a client.

* Ideal type model
  + A model of professional relationship where the professional provides their skills and judgment **directly** to the client. It is common in these situations:
    - The client approaches the professional directly to identify and solve their problems. In this model the client interacts with the profession alone therefor the need for professional ethics and competence is very high. The professional is highly autonomous. Quality control is only exercised by the professional associations.
* Invisible client model
  + A model of professional relationship that is common when professionals are employed to provide service within an **organizational setting** like a company. In this model the employer acts in place of the client. A Professional has to follow the direction of the employer to satisfy the client.
    - Worker is far less autonomous.
    - Creates pressure to fit in the organization.

**Organizational behaviour:**

Is defined as the study of what people feel, think and do around an organization.

Is defined as “… the study of individual, team (including interpersonal and organizational-level) characteristics that influence behaviour within work settings.” – McShane & Von Glinow (2009)

* Individual influences:
  + Motivation: force within a person that affects their direction, intensity, persistence. Motivation drives behaviour.
  + Role perception: roles are the position people occupy within organizations. These positions come with specific tasks associated with duties and consequences for which we are accountable.
    - Define behaviours that we should exhibit.
    - Help communicate responsibilities.
    - Set expectations.

This role shapes how we behave at an organization.

* + Ability: defined as the natural aptitude and learned capabilities an individual possesses to accomplish assigned tasks. Those with natural abilities to accomplish as task have higher comfort level. This affects how they response and behave with others.
  + Situational factors: affects how individuals behave within that organization.
    - Internal:
      * Time
      * Budget
      * Work facitiles
    - External
      * Economic situation
      * Consumer prefrences
* Group influences
  + Leadership: Is the process of guiding and directing behaviour of people in the work environment
    - Leader: advocate for change and new approaches to problems
    - Manager: advocate for stability and the status quo

Leadership has 2 kinds:

* + - Formal leadership: Clear authority
    - Informal leadership: unofficial power granted by the group.
  + Power & influence: The ability to influence someone else’s behaviours. Influence is the process of effecting the thoughts and behaviours of another person.
    - Authority: the right granted by an organization to influence another person
    - Politics: the use of power and influence to further (personal) interest – some are acceptable, others are not
  + Team dynamics: a group of people of complementary skills committed to a common mission, performance goals and approach. Structure is important (Goals, Objectives, Operational guidelines, Assessment measures, role distribution)
* Organizational influences:
  + Organizational structure: the division of labour and patterns of coordination, communication, workflow and formal power. Elements of structures:
    - Span of control (number of people reporting)
    - Degree of centralization/decentralization (number of people with decision making)
    - Degree of formalization (standardization of rules and procedures)

Types of organizational structures:

* + - Line
      * The most hierarchical structure
      * Only direct, vertical relationships
      * Little horizontal communication
    - Line & staff
      * Creates a parallel chain of line and staff.
      * The staff provides an advisory role to the line departments ( accounting office).
    - Functional
      * Departmentalization that organizes employees around specific knowledge or resources
      * Projects are divided into segments.
      * Disadvantages: employees develop narrow understanding of the business, and this results in a poorer coordination.
    - Divisional
      * Grouped according to the primary sources of environment uncertainty, such as geographic areas, productions, or clients.
      * Problems: duplication of structures, personnel, and resources.
    - Matrix: Tries to combine the qualities of functional and divisional structures. Employees are assigned to cross-functional teams working on different projects. They also belong to permanent functional unit from where they are distributed to projects. This allows for optimum use of resources and expertise.
    - Disadvantages: employees follow 2 managers, and this can create conflicts
  + Organizational culture: set of:
    - Values: reflect the belief about what should be or should not be
    - Assumptions: deeply help beliefs and mental models that guide behaviour and tell members how to think about things.

Practices, symbols and physical structures. E.g. wishing a good morning to the boss. Office space and decorations reveal the culture.

**Leadership Style**

Leadership, as we have noted, is related to guiding and directing the behavior of people in the workplace. The objective of this guiding behavior is to deliberately shape the outcomes of how co-workers perform at tasks and duties with the intention of achieving organizational goals. Different leaders and managers possess different styles for managing their subordinates. Leadership styles can be of the following types: 1. Autocratic style – leaders adopt directive or controlling actions to enforce rules and activities. This style is particularly effective for tasks that need to be finished urgently. However, long-term reliance on this style can affect the judgment and autonomy of professionals.

2. Democratic style – leaders take collaborative, responsive, and interactive actions with followers. This democratic style allows for the evolution of mutual respect between Page 2 of 2 professionals and co-workers. There is far less pressure to be influenced by organizational priorities.

3. Laissez-faire style – leader who fails to take responsibility of position. As a result, subordinates may have greater freedom, but there is little evolution of a coherent mission in the organization. In the short-term, professionals may face less pressures, but in the long-run will feel under-valued and frustrated.

**Organizational Structure**

Organizational structure of an organization also plays a vital role in shaping the behavior of professionals. This is because the nature of the structure shapes different facets of how individuals are managed, how communication flows in the organization, and how decisions are made. Some pressures that an organizational structure exerts on the individual professional are the following:

1. Success within an organization arises from not just professional success, but also from knowledge of how the organization is structured. The knowledge of how the organization is structured is crucial for a professional to understand how information and commands flow in an organization.

2. Another important aspect of organizational structure that influences a professional is the decision-making process. Who makes decisions, and how formalized decision-making is in the organization affects how professionals can contribute to decisions.

**Lesson 6:**

4 values key to develop ethical professional relationship

* Trust
  + It is a key value underlying a professional relationship
  + It is the ability to rely confidently on people, objects and circumstances
  + Reliance induces risk
* Loyalty
  + It is an attitude or character that is demonstrated by person through their actions.
  + A clear demonstration of loyalty is that a person puts the interest of a person or institution before personal interest, even when such an action exposes the person to risk.
  + 2 kinds of loyalty
    - Attitude loyalty
      * Considered an attitude or sentiment of a person.
      * An emotional or identity response that arises from group affiliation.
      * Considered a desirable quality but not an obligation.
    - Agency loyalty
      * Arises from fulfilling contractual duties.
      * A mandatory obligation that is fulfilled by obeying legitimate authority of colleagues and supervisor, and by following all policies and norms of the organization you work for
* Dignity
  + It is a feeling of respect or esteem that individuals hold themselves in.
  + It is a positive sense of esteem that the profession has collectively acquired as result of the positive contributions the procession makes to society.
  + In Quebec, it is a mandatory duty of each individual engineer to safeguard to dignity of the profession. This duty is prescribed in the province’s professional code and in the code of ethics for engineers.
* Honesty
  + It is a moral virtue that is widely accepted but not very well understood primarily, because it is a practice relevant to many different facets of our existence in society.
  + In the personal sphere, it is truth-telling.
  + In the professional context, it also implies representing oneself, our actions, and our views openly and truthfully.

Trust-building Obligations For an engineer practicing in Québec, the Code of Ethics for Engineers directs engineers to create a bond of trust between the professional and the client (or employer). A bond of trust suggests that the professional relationship between a professional engineer and the client or employer should be based on trust. According to the code of ethics, it is a binding obligation for all engineers to create a bond of trust. In order to build the bond of trust, the engineer is expected to take several measures. These measures include – disclosure of limits, integrity and transparency, availability and diligence, independence and impartiality, confidentiality and fees. While these measures are mandated for all engineers, they are more relevant for the independent engineer who practices alone primarily because many of these measures are inculcated by organizational policies for engineers employed in an organization. Each of these aspects of trustbuilding is described in detail below: Disclosure of Limits Full disclosure to the client of the abilities and limitations of an engineer is a basic building block for trust. By responsibly disclosing the ability of the engineer, in terms of material resources (equipment, finances, space) or intellectual resources (people, skills) or time resources, the engineer is sending a clear message to the client about their abilities. Thus, the client does not overestimate the ability of the engineer to deliver. While disclosing resources, it is important for the engineer to do so in a responsible fashion, so that the engineer is not seen to be reckless (over estimates their abilities) or a nay-sayer (under estimates their abilities). Page 2 of 4 Integrity and Transparency An engineer must act in a fashion that demonstrates integrity and transparency in their professional work. One means of demonstrating integrity and transparency is to inform the client, at the beginning, of the terms of agreement in writing. Subsequently, the engineer should ensure a document trail in all interactions between engineer and client. By documenting all interactions, the engineer sends a clear message that they are acting in a transparent manner. Integrity and transparency can also be fostered by furnishing explanations as and when requested by the client. When these explanations are provided, it is important to ensure that contradictory explanations are not provided. Furthermore, when the client ignores the engineer’s advice, the engineer must inform the client in writing the nature of consequences for ignoring their advice. Availability and Diligence The engineer must demonstrate reasonable availability and diligence in professional practice. A good way of demonstrating this is by making known the engineer’s working hours and contacts, and then ensuring the client can reach the engineer during these hours. Similarly, the engineer must give advance notice, if for some reason they wish to cease working for the client. The engineer can only cease to work for the client for some clearly defined grounds. These grounds are if the work involves illegal or fraudulent acts, if the client ignores the engineer’s advice, and if there is a conflict of interest. We will describe what is meant by conflict of interest later in this podcast. Independence and Impartiality It is of utmost importance that the engineer ensure that their professional independence and impartiality is maintained at all costs. In order to do so, the engineer is required to take precautions to safeguard their independence and impartiality. One key fashion to do so is to avoid situations of conflict of interest. Another measure is to subordinate one’s personal interest to the interest of the client. Another means of ensuring impartiality is to ensure that the engineer does not receive fees for services provided from anyone else other than the client or the client’s representative. These measures may seem minor but are important to ensure that the engineer is not just impartial and independent in actions but is also perceived to be so. Page 3 of 4 Confidentiality It is of utmost importance that the engineer safeguard the confidentiality of the information provided by the client. In doing so, the engineer needs to remember that they are not authorized to share any of the client’s information, unless explicitly released from secrecy by the client or requested to do so by a court of law. In addition to not releasing the information, the engineer is expected not to use the client’s information in a way that will prejudice the client or accept another mandate that will involve disclosing a previous client’s information. Fees An engineer is expected to charge fair and reasonable fees that correspond to the services rendered. The expectation is that neither will an engineer overcharge the client, nor will the engineer provide services for free. In fact, the engineer is forbidden from providing services for free. Accordingly, the client should be given a written explanation for the fees that were charged. Conflict of Interest As we had mentioned earlier, a professional relationship with a client or employer is considered a fiduciary relationship. Such a relationship creates a legal obligation for the professional to always act in the positive interests of the client. One of the factors that can compromise the fiduciary nature of this relationship is conflict of interest. Conflict of interest can be defined as the existence of a parallel interest that could threaten or appear to threaten the exercise of good judgment of the typical professional. A key point is that conflicts of interest affect the professional interest and judgment of a professional. Another vital aspect of a conflict of interest is that perception is very important. As a professional, you may be confident that in a particular situation you have not acted in conflict of interest or that your judgment has not been compromised. But if popular perception is that a typical professional’s judgment could be affected in these circumstances, then you are in conflict of interest irrespective of your convictions. Conflicts of interest come in several types. • The most common type is when the professional receives gifts, bribes, or kickbacks in order to influence their decision. Page 4 of 4 • Another type of conflict of interest is insider information for friends or relatives. For example, if you are hiring someone for the company, and your brother has applied for the job. This situation exposes you to conflict of interest. • A third type of conflict of interest is the existence of interests in other companies. An example of this would be when you, as a professional, are working as a designer for one firm, while you have investment interests in a competing firm. As a professional, avoid putting yourself in conflict of interest situations. If it is unavoidable, a professional’s only safeguard is full disclosure of conflict, so that the conflict of interest stands revealed

Loyalty Loyalty is usually described as an attitude or character that is demonstrated by a person through their actions. A clear demonstration of loyalty is when a person puts the interests of a person or institution (such as family, community, or nation) before personal interests, even when such an action exposes the person to risk. In thinking about loyalty in the professional sphere, it is important to distinguish between two kinds of loyalty – attitude loyalty and agency loyalty. • Attitude loyalty is loyalty that is considered an attitude or sentiment of a person. It is an emotional or identity response that arises from group affiliation. A display of attitude loyalty is considered a desirable quality (but usually not an obligation) for members. • Another type of loyalty is agency loyalty that arises from fulfilling contractual duties. For example, if you are hired to perform a task in an organization, you are required to be a loyal agent as long as you work for the organization. Agency loyalty is a mandatory obligation that is fulfilled by obeying legitimate authority of colleagues and superiors and by following all policies and norms of the organization you work for. Assessing the moral status of loyalty While loyalty is usually considered a positive sentiment in personal lives, the requirement of loyalty in professional lives needs careful evaluation. A sentimental consideration is unsuitable in the professional context. This is because an emotional form of loyalty requires unquestioned Page 2 of 2 or absolute loyalty. Such an absolute response towards superiors or the organization would limit the possibility for an individual to develop an appropriate ethical response to forms of immoral action by the organization, superiors or colleagues. Instead, loyalty in the professional context requires use of judgment to develop and practice loyalty. It requires individuals to think carefully about what loyalty means and how much is owed in the professional context. A good strategy is to critically evaluate the organization and how it treats employees in order to assess the nature of loyalty that is owed by an employee. It is important to think through questions like: • Do I feel a sense of gratitude towards my employer? • Is there a sense of fairness in the workplace? • Is this organization responsive to the needs and concerns of its employees? • Does this organization offer rewards and acknowledgements? • Am I proud of this organization?

**Lesson 7:**

Dignity is a feeling of respect or esteem that an individual holds themselves in. Certain actions can cause damage to the positive sense of esteem about the person. Causing damage to the positive feeling of esteem of a person could cause grievous psychological harm to the individual. In a similar fashion, professional dignity is considered a positive sense of esteem that the profession has collectively acquired as result of the positive contributions the profession makes to society. But this dignity or honourable reputation of the profession is fragile and can easily be compromised. Any member of the profession, through their irresponsible actions can cause damage to the dignity of the profession. In Québec, it is a mandatory duty of each individual engineer to safeguard the dignity of the profession. This duty is prescribed in the province’s Professional Code and in the Code of Ethics for Engineers. The duty to maintain the dignity of the profession is understood through four aspects – Derogatory acts, relations with colleagues, contributing to advancing the profession, and relations with the OIQ.

**Derogatory Acts**

Derogatory acts are specific actions that are considered so wrong that when an engineer does any of these actions, its effect is to lower the dignity of the profession as a whole. Three actions are proscribed for all professionals practicing in Québec. These are:

1. Discrimination to provide services on the basis of race, colour, sex, age, religion, nationality, ethnicity or any other social attribute

2. Claiming to be a specialist when you are not

3. Sexual misconduct

In addition to these derogatory acts that are applicable to all professionals in Québec, there are some derogatory acts mentioned in the Code of Ethics for Engineers that apply only to engineers practicing in the province. These include:

1. Participating in the illegal practice of the profession. This happens, for example, when you place your seal on a plan even though it has not been prepared by an engineer.

2. If you use inducements (also called bribes) to “market” ones professional services

3. Seeking legal action against a colleague on a professional matter without first applying to the OIQ for permission to do so

4. Refusing to comply with the directions of the OIQ

5. Refusing to present yourself to the OIQ when requested to do so

As we will talk about in the next podcast, the last two points above show that the OIQ takes the relations between itself and the professional engineer very seriously. Refusing to follow their directions can result in disciplinary action. Relations with Colleagues In maintaining the dignity of the profession, nature of relations with colleagues is an important aspect. The code of ethics for engineers specifies several aspects on the relations with colleagues including:

1. No engineer shall dis to collaborate with a colleague on the basis of race, colour, sex, religion, ethnic or national origin.

2. An engineer shall not abuse a colleague’s good faith by wilfully damaging his/her reputation or induce him/her to commit an offence against laws that govern the practice of the profession.

3. Proper notice must be given when replacing a colleague.

4. It is forbidden to take advantage of one’s position as employer to limit the professional independence of another.

**Contributing to the Advancement of the Profession**

An engineer is expected to contribute to the development of their profession by sharing their knowledge and expertise with colleagues and students and by their participation as tutor for training courses.

Maintaining professional dignity requires the individual professional to demonstrate adequate respect for the Order, and for the role the Order plays in ensuring engineers are accountable to society. As a result, it is very important for the individual engineer to take his or her relations with the Order very seriously. These relations are scrutinized very strictly by the Order. One important requirement is for an engineer to comply with any request from the Order to participate in the self-governance of the profession. The engineer does not have a choice and must agree to contribute voluntarily to the Order. Similarly, the engineer must reply to any correspondence or letter from the Order as soon as possible. Delayed replies could form the basis for a ipiplinary investigation. Another vital point is that individuals are forbidden to interfere, or otherwise, obstruct a professional inspection or investigation conducted by the Order. During such an inspection or investigation, an engineer is required to submit all their professional records (including their computers) for scrutiny. Not complying with such an order can result in a disciplinary investigation.

The Order of Engineers Quebec (OIQ) exercises considerable control over its members to ensure that the association as a whole is meeting its legislative mandate of developing engineers, who remain accountable to society and who contribute positively to public welfare. In order to do so, OIQ exerts control on key aspects – membership, nature of practice, and social accountability. We will examine each of these aspects in detail.

**Membership**

For an engineer, to be a member of the OIQ is crucial to practice the profession. This is so because in Quebec a person can be designated an engineer in the workplace only if they are a registered member of OIQ. A member of OIQ is required to hold a permit issued by OIQ and their name be entered on OIQ’s roll. Thus, if for some reason they lose their membership, it is not possible for the person to continue practicing the engineering profession legally. Thus, it becomes vital for a member to constantly meet membership conditions. Important membership conditions are as follows:

1. Ensure registration on the roll every year on April 1st.

2. Not be temporarily or permanently stricken off the roll of OIQ.

3. Ensure that your permit is not revoked by the disciplinary council.

4. Meet important membership conditions for member renewal. These conditions include not having a criminal record outside the profession in Canada or in another country. Another condition is to have completely paid any disciplinary penalties or assessment during the year.

It may also be required to meet physical/mental competencies to continue active professional life.

**Nature of practice**

A major function of OIQ is to ensure continuous monitoring of the practice of engineers registered with it. OIQ employs different methods to monitor the professional practice. A vital and ongoing responsibility is exercised through the process of professional inspection. Professional inspection is conducted at OIQ by the Professional Inspection Committee. The primary mission of the inspection committee is to ensure that their membership meets minimum required standards for proper professional practice. In order to evaluate standards of professional practice, inspectors can examine any material aspect of practice, including records, books, registers, chemicals, products, substances, apparatus, and equipment entrusted to the professional by a client or employer. The Committee conducts general inspection according to a program published in the PLAN (the professional magazine published by the OIQ). In addition to the general inspection, the committee also conducts specialized inspection of a member, if it is explicitly asked to do so as part of an investigation. If during the inspection, the committee believes that the member is engaging in unethical practice, it cannot take disciplinary action but it can inform the Syndic if there are reasonable grounds that an offence has been committed. Another major aspect of professional practice that is controlled by OIQ is discipline and penalty. All members of OIQ (including retired members or junior engineers) can have their professional practice investigated. Investigation is an internal process that aims to examine if unethical or offending practice was undertaken by a member. Once the process of investigation concludes that unethical practice was indeed conducted, the member is liable for disciplinary actions or penalties. In Québec, the OIQ has exclusive jurisdiction over any such investigations or disciplinary processes. In other words, these investigations or disciplinary processes cannot be challenged in a regular civil or criminal court. Investigations of malpractice are investigated by the Syndic. After concluding the investigation, the Syndic makes their recommendation to the OIQ’s disciplinary council. It is the disciplinary council that judges the complaint, hears the member and makes a decision to award penalties. According to the gravity of the offense committed by the engineer, the disciplinary council can recommend the following penalties – an oral reprimand; removing the member temporarily or permanently from the roll; a fine of $1,000-$12,500 with fines doubled for repeat offences; an obligation to remit a sum of money to the entitled person; or restriction or suspension to engage in professional activities.

**Social Accountability**

A key means of ensuring that members remain accountable to society is through the conciliation or arbitration process. The conciliation or arbitration process is a means adopted by OIQ to serve society. Any resident of Québec, who is unhappy over the fees they provided to an engineer and feels they were over-charged, can utilize OIQ’s arbitration process to determine if they were actually over-charged. This procedure applies only when the member is engaged in private practice and not employed by a company. As part of the arbitration process, the OIQ can examine the quality of service provided by the engineer to verify if the client was overcharged or not. If the investigation reveals that the engineer did over-charge the client for their services, OIQ’s council of arbitration will determine the amount of reimbursement the engineer has to pay to the client.