CONCORDIA UNIVERSITY
FACULTY OF ENGINEERING AND COMPUTER SCIENCE

ENGR 201
PROFESSIONAL PRACTICE AND RESPONSIBILITY

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CHAPTER 01

AN INTRODUCTION : WHAT IS A PROFESSIONAL

TOPIC 1 : WHAT SETS A PROFESSIONAL APART

What are the attributes of a profession :

- Skills?
- Judgement?
- Discretion?
- Compensation?

In 1968-1969 in Ontario[1], during the debate about the Professional Engineers Act, a profession was defined as "a self-selected, self-disciplined group of individuals who hold themselves out to the public as possessing a special skill derived from training and education and are prepared to exercise that skill in the interests of others."

1 Hon. H.A. MacKenzie, Opening adress for the debate on the Professional Engineers Act, 1968-1969, Ontario, Legislature debates

There is a general consensus[2] that attributes of a profession include :

1. The work requires sophisticated skills, the use of judgement, and the exercise of discretion. Also, the work is not routine and is not capable of being mechanized.
2. Membership in the profession requires extensive formal education, not simply practical training or apprenticeship.
3. The public allows special societies or organizations that are controlled by members of the profession to set standards for admission to the profession, to set standards of conduct for members, and to enforce these standards
4. Significant public good results from the practice of the profession.

In Quebec's Professional Code[3], the legislator also considers :

- The degree of independence enjoyed by the practitioners
- The difficulty which persons not having the same training and qualifications would have in assessing the professional activities
- The personal nature of the relationships, by reason of the special trust involved

In the Canada Labour Code[4], "professional employee" means an employee who

> (*a*) is, 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
> (*b*) is, or is eligible to be, a member of a professional organization that is authorized by statute to establish the qualifications for membership in the organization;
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> [...]

2 Schinzinger, Roland & Mike W. Martin Introduction to Engineering Ethics, 1989, McGraw-Hill, New York

3 [R.S.Q., C-26] Factors for incorporation of a profession are in section 25, and in section 26 for granting exclusive rights to practice

4 [R.S., 1985, L-2] See the definition of a "professional employee" in section 3.(1)

TOPIC 2 : PROFESSIONALS IN SOCIETY

Depending on who you may ask, professionals may be described alternately as select group of "privileged few", ordinary people working for a living, or "trustworthy servants of the masses" ?

- Are professionals a privileged few?
    - Highly educated
    - Exclusive practice
    - Reserved title
    - Social status
    - Networks and societies
    - High income (???)
- Are professionals people working for a living?
    - Most are salaried employees, even those who are in so-called "private practice"
    - For some, it means running a business
    - Revenues are higher than average but so is the education level
    - Long studies are costly and, for many, a significant investment
    - Unemployment ?
- Are professionals "trustworthy servants of the masses", characterized mostly by their responsibilities ?
    - Moral responsibility :
        - "a responsible person" = possessing a capacity to know how to act in morally appropriate ways, a morally desirable feature
        - "professional responsibility" = implies conscientious efforts to meet the responsibilities in one's work
        - "responsible" = accountable or answerable for meeting particular obligations
        - "responsible" for success - or failure
    - Social responsibility :
        - engineering is directed toward providing technological solutions that concern the public's safety, well-being, health and prosperity

- engineers do things that have a great impact on society's evolution
- the work of engineers affects life on this planet in many ways, on a scale that is still being debated

- Legal responsibility :
  - the price of exclusivity; may be legislated
  - entering a regulated activity brings an obligation to research actively what its constraints are
  - it cannot be delegated

TOPIC 3 : THE VALUES OF THE ENGINEERING PROFESSION

The Canadian Council of Professional Engineers (CCPE) formed a Strategic Planning Task Force in 1996. The Task Force's report, entitled "A Vision for the Engineering Profession in Canada", was approved by the CCPE Board of Directors in April 1997[5]. It identifies a Vision for engineering as well as the values which are fundamental to the profession:

> We agree that the values of:
> • Ethics, integrity, accountability and openness;
> • Stewardship, pursuit of public safety, sustainable development and enhancement of the quality of life;
> • Entrepreneurship, innovation and creativity;
> • Continuing competence and lifelong learning;
> • Diversity and inclusiveness;
> are fundamental to the engineering profession.

The Ordre des ingénieurs du Québec, working with a sizable group of its members, has identified four values fundamental to the practice of engineering. They are laid out in the "Guidelines to professional practice", first published in 1990[6].

They are : Competence, Ethical conduct, Responsibility and Social commitment.

- Competence

[5] http://www.ccpe.ca/e/files/visiondoc_eng.pdf
[6] This document is available in French and English in OIQ's web page in the Documentation.

- Mastering the necessary knowledge
- Using knowledge effectively
- Remaining grounded in logical and proven concepts
- Strict and constant application of standards of good practice
- Practical judgement
- Respect for the human element

- Ethical conduct
  - Top priorities are the interests of society and of the clients
  - Personal interest and profitability are secondary
  - Dedication to integrity, availability, independence, discretion, legality
  - Solidarity with colleagues
  - Guided by professional conscience

- Responsibility
  - Necessary competence is a prerequisite to accepting an assignment
  - Professional status entails obligations towards clients who trustingly engage the services of the engineer
  - Must accept full responsibility for the consequences of professional actions
  - Being personally answerable to clients and society

- Social commitment
  - First and foremost, by maintaining a high level of quality in professional practice
  - Help society make the best choices for today and tomorrow
  - Explore avenues for economic, social, political and ecological development that promote the well-being of fellow citizens

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REQUIRED READING

- Sections 1 and 23 to 26 of Quebec Professional Code [R.S.Q., C-26] http://www.canlii.org/

- Section 3 of the Canada Labour Code [R.S., 1985, L-2] http://www.canlii.org/

SUGGESTED READING

- "Columbia accident investigation board" Report, Volume 1, August 2003
  http://www.nasa.gov/columbia/home/CAIB_Vol1.html

A FEW REFERENCES

- Web site of the Ordre des ingénieurs du Québec (OIQ) :
  http://www.oiq.qc.ca (bilingual)

- Web site of the Office des professions du Québec (OPQ) :
  http://www.opq.gouv.qc.ca/ (in French)

- Web site of the Canadian council of professional engineers / Conseil canadien des ingénieurs (CCPE/CCI) : http://www.ccpe.ca/ (bilingual)

- Dussault, René and Louis Borgeat "Reform of the professions in Quebec" Québec, Office des professions du Québec, June 1977 (The French original of this article was published as : Dussault, René et Louis Borgeat «La réforme des professions au Québec» Revue du Barreau, vol. 34, n°3, mai 1974, pp.1-44)