

WL2200

Ethics and Responsibility in Engineering

Professor: Jean-Marc Camelin

Language of instruction: French – **Number of hours:** 36 – **ECTS:** 3

Prerequisites: Be aware of these issues individually, through associations, hobbies, or a related innovation project

Period: S8 Elective 13, One-week module 15-19 May IN28IS1, SEP8IS1

Course Objectives

High level engineers have a key role in the evolution of our society. This course is designed for students intending to pursue a career either in management, potentially as very high-level decision makers (decision making in conscience), or in research, including fundamental research (representation of future uses of their research). The objectives are to:

- ✧ expose each student to the ethical, social, societal, economical and political consequences of their actions as an engineer, in an increasingly multicultural environment
- ✧ help students develop an awareness of ethical and societal issues in their future professional career
- ✧ educate students on what influences their decision making, beginning with their choices of curriculum and job

On completion of the course, students should be able to

- ✧ know how to take the necessary distance from the professional context to consider the ethics of action
- ✧ understand the constraints arising from the socio-economic system in order to question them
- ✧ demonstrate critical thinking and discernment about the system
- ✧ transform challenges and constraints into opportunities to conduct his career in accordance with his personal ethics

Course Contents

- ✧ Introduction to ethics: responsibility, concept, history, reference texts, tangible actions involved, meaning.
- ✧ Illustration of the problem: labor and work (concept, role, suffering at work, empowerment), environment (sustainable development, decisions, impact), world global issues.
- ✧ Understanding the System: the current system (capitalism, economic regulation, impact on the actions of decision makers, measures, GDP), alternatives (how to think the world differently, microcredit, virtual economy), science and the engineer of the 21st century (role of the engineer within the system, his/her influence on ethical issues, research and its impact).
- ✧ Ethics as an action: individual issues (I decide and act in conscience), political decision (provide guidance to the whole society), broadening the issue (global-international-national-local levels, time representations in the short-medium-long term, the CEO decision-making process: strategy, innovation), you as a student (how I understand my environment and how I project myself into the future as an engineer, my gap year, my professional dreams).

Course Organization

The introductory seminar brushes up on the concepts covered by the terms ethics and responsibility and is used to define, as a group, the directions of the week of seminar, based on students's expectations and context. In particular, some S8 student projects may interact with the course.

Conferences during the week will illustrate practical examples on the importance of the problem, devote time to work on understanding the overall system within which the issue arises, and finally lead the students to concrete action and potential projections for their professional career.

Each conference includes a theoretical part, an illustrative part (case study, documentary analysis, talk by an expert), and a discernment part.

Teaching Material and Textbooks

Bibliography:

- ✧ L'économie est une science morale, Amartya Sen
- ✧ Mort de la globalisation, John Saul
- ✧ Souffrance en France, Christophe Dejours
- ✧ Extension du domaine de la manipulation, Michela Marzano
- ✧ Responsable porteur de sens, Lenhardt
- ✧ The Necessary Revolution: How Individuals and Organizations are Working Together to Create a Sustainable World, Peter Senge
- ✧ Le capitalisme est-il moral, Comte-Sponville
- ✧ Responsabilité et jugement, Hannah Arendt
- ✧ L'Ethique, Spinoza
- ✧ Alcibiade, Platon
- ✧ L'esprit des lois, Montesquieu
- ✧ Ethique et Responsabilité, Paul Ricoeur
- ✧ Ethique comme philosophie première, Emmanuel Lévinas
- ✧ La génération future a-t-elle un avenir ? Développement durable et mondialisation, Christian de Perthuis
- ✧ Bioéthique et liberté, Axel Kahn Dominique Lecourt
- ✧ La Méthode - tome 6 : Ethique, Edgar Morin
- ✧ Ethique et ordre économique, Anne Salmon, CNRS

Resources

- Fabienne Bergé - enseignante ADPL - coach indépendante - Anne Tricault - enseignante en Master - coach PRH - Patricia Midy - enseignante ADPL - coach indépendante - Bruno Lefèbvre - Associé Fondateur Alteralliance - spécialiste psycho-dynamique du travail - + témoignages d'Anciens et autres conférenciers

Evaluation

- ✧ Oral presentation of group project conducted throughout the seminar
- ✧ Production of a group paper
- ✧ Active participation during conferences.