



HANYANG UNIVERSITY

Hanyang International Winter School

Engineer and Society

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Home Univ.: University of South Australia
Dept.: School of Natural and Built Environments

Description: Engineers are expected to deliver technologies to society considering the safety and welfare of humankind and the environment. Leadership and professionalism are also expected from engineers to provide considerate guidance on technologies. As technological advances created by engineers can be both positive and negative in its impacts on society, engineers have responsibility and obligation to make ethical decisions for these impacts. While most of decisions could be uncomplicated, there are some hard decisions creating internal and external ethical conflicts. Engineers could face conflicting ethics obligations to society, clients and colleagues, which makes ethical decisions more difficult and complicated. Therefore, engineers should be prepared to make difficult and complex ethical decisions, and this course focuses on developing knowledge to make ethical decisions and communication skills by utilizing real-world case study and exercises which is ethically challenging.

Objective: Students will become familiar with various discussions and practices for dealing with engineering ethics challenges. Students will learn about ethical decision-making, professional codes of ethics, intellectual property rights and sustainable development. In addition, engineering in global and multi-cultural contexts will be explored and understood as well. Through this course, students will understand the meaning of engineering and its impacts on society, and will be prepared to make ethically proper decisions in the context of science and engineering applications locally and globally.

- Objective:
- (1) Understand the history of engineering and its impact upon society
 - (2) Understand the engineer's responsibility for the safety of the public, work place safety and the protection of the environment.
 - (3) Understand the ethical issues faced by engineers in global and multi-cultural work environments and develop effective communication skills required for engineers through case studies and in-class discussions
 - (4) Understand a team dynamic and learn how to work individually and collaboratively

Preparations: Course materials will be provided by the instructor. Textbook, Pre-knowledge are not required.



Credits	3 credit	Contact Hours	45 hours
Schedule:	Introduction Class 1. What is Engineering? Class 2. Engineers in Organization Week 1 Class 3 a. Roles and Responsibilities of an Engineer b. Technical Competency Class 4. Creativity in Engineering Class 5. Mid-term Exam		
	Class 6. Management and Leadership Class 7 a. Ethics in Engineering b. Engineering and Sustainability Week 2 Class 8. Guest Lecture – Corporate Social Responsibility Class 9 a. Professionalism, Health, Safety and Welfare b. Engineering in a Global Environment Class 10. Final Exam		

Evaluation(%)	Midterm	Final	Attendance	Assignments	Participation	Etc.
	30	40	15	0	15	