GE1318
Are We Safe?: Risks in Our Everyday Life.
安全嗎? 日常生活中的風險

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Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

- investigate hazard and risk perception based on technical, psychological and cultural context;
- discover the underlying driving forces through investigation of incidents and accidents;
- apply preventive measures to reduce or eliminate the adverse health and safety effects;
- provide solutions to mitigate accidents; and
- analyze consequences of mitigation in terms of economic, social and ethical issues.

Highlighted Topics

- Wind effect:
- offshore and onshore wind;
- built environment, i.e. residential, commercial, industrial and infrastructure.

Typhoon Vicente (23 July 2012) (HKO)

AFP Photo / Philippe Lopez

Highlighted Topics

- Fire disasters:
- natural and human-generated firestorms;
- hill fire.

Pat Sin Leng hill fire:
Source from Sing Tao Daily

Garley Building fire:
A TRIBUTE TO THE MILLENNIUM – FSD, HKSAR

Highlighted Topics

- Nuclear power:
- radiation;
- reactor accidents;
- radioactive waste.

Fukushima Nuclear Power plant in Futaba, Japan after a massive earthquake and subsequent tsunami.

(Photo by DigitalGlobe via Getty Images and source from Pro Publica Inc.)

Highlighted Topics

- Air pollution:
- natural environment;
- built environment;
- Infectious disease;
- pollutants;
- greenhouse gaseous.

Highlighted Topics

- Electrical and electromagnetic hazards:
- electrical shocks;
- electrocution;
- fire;
- explosion.

Source from Newlaunches.com

Source from aftershockcem.wordpress.com

Learning Activities

- Lecture: The lectures detail the underlying driving forces (nature or manmade) to take in the event of an incident, accident or when a hazard has been identified. The risk assessment is based on the past experience, length of reoccurrence interval, probability, etc.
- Guest seminar: experts in some specific fields in the society will conduct a relevant seminar to enrich students' learning experience.
- Tutorial: Students are divided into groups (4 to 5 students per group) and they can apply the knowledge presented in the lectures to solve scenario type events under guidance of tutors and teaching staff. At these sessions students are also encouraged to discuss any questions which arise from the lectures and to compare their own finding and perception of risk to reality.

Assessment Tasks

- **Self-study report** - The principles of discovery of unsafe situations, underlying forces of interactions creating the hazards and identification of the consequences and exposure of the risks will be reported (of about 10 pages with figures and references) by individual students from their own learning experiences in the course.
- **Discovery-based term project** – During the small group meetings in tutorials, students will be divided into a few groups (tentatively 4-5 students per group) to quantify the risks on specific tasks (related to health and technology, etc.) and their impact on economic, social and ethical issues. The final report (of about 30 pages with figures and references)will document the findings of the specific topic through class discussions (including identification of the hazards and risk assessment, suggestion of prevention, protection and containment and discussion of economic, social and ethical issues).
- **Individual oral presentation** – After submission of the term project report, each student will orally present his/her findings to other classmates at the end of the semester.

Keyword Syllabus

- Risk perception: voluntariness, controllability, familiarity and habituation, and social and culture setting; the psychometric paradigm.
- Four elements constituting risk: hazard, consequence, exposure and probability.
- Risk and policy: Regulatory process to protect citizens from social and environmental risks.
- Principles of mitigation: prevention, protection and containment; post incident or accident.
- Consequence analysis techniques for mitigation measures: economic, social and ethical issues.
- Wind effect: offshore and onshore wind; built environment, i.e. residential, commercial, industrial and infrastructure.
- Fire disasters: natural and human-generated firestorms; hill fire.
- Water pollution: surface water; oxygen depletion; microbiological; chemical.
- Nuclear power: radiation; reactor accidents; radioactive waste.
- Electrical and electromagnetic hazards: electrical shocks; electrocution; fire; explosion.
- Air pollution: natural environment; built environment; pollutants; greenhouse gaseous.
- Privacy risks: financial privacy; political privacy; identity theft; globe positioning systems.
- Networking risks: social networking; internet; network security.

Recommended Reading

- **Text(s)**:
- Ropeik, D. & Grey, G. (2002), *RISK – A Practical Guide for Deciding What's Really Safe and What's Really Dangerous in the World Around You*. Houghton Mifflin Company, Boston, New York. (Electronic Resource)
- Mambretti, S. (2012), *Flood Risk Assessment and Management,* WIT Press: Southampton; Boston. (TC530.F576 2012)
- Hancock, D.C. (2000), *Fire Risk Assessment: A Practical Guide*, Chubb Fire Ltd, Middlesex. (TH9145.H36 2000)
- Hughes, P, & Ferrett, E. (2010). Introduction to International Health and Safety at Work : The Handbook for the NEBOSH International General Certificate, Butterworth-Heinemann; Oxford, Burlington, MA. (T55.H85 2010)
- Hutter, B.M. (2011), *Managing Food Safety and Hygiene : Governance and Regulation as Risk Management,* Edward Elgar.
- Video Education Australasia. (2009), *Sports Injury Prevention and Assessment*, Video Education Australasia: Bendigo, Vic. (video-recording)
- Mansfield, K.C. & Antonakos, J.L. (2010), *Computer Networking from LANs to WANs: Hardware, Software, and Security*, Cengage Learning: Boston, MA. (TK5105.5.M35775 2010)

- **Online Resources**:
- Harvard Center for Risk Analysis, Harvard School of Public Health:
- http://www.hcra.harvard.edu/perspective.html