

IENG409 OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT

Safety Concepts

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- *Occupational safety and health (OSH)*: a cross-disciplinary area concerned with protecting the safety, health, and welfare of people engaged in work.

SAFETY AND HEALTH ARE CLOSELY RELATED BUT NOT THE SAME

- Safety is related with injury causing situations
 - Health is concerned with disease causing conditions
- or another view states that
- Safety is concerned with hazard to humans that result from sudden severe conditions
 - Health deals with adverse reactions to prolonged exposure to dangerous, but less intensive hazards.
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- **Safety:** freedom from hazard. (is this really possible?)
- (“Safety is defined as the state for which the risks are judged to be acceptable” or “a matter of relative protection from exposure to hazards”)
- **Hazard:** something with the potential to cause harm (substance, machine, activity or process, etc.).
- **Health:** the avoidance of disease and injury from the hazards in the workplace.
- **Welfare:** the provision of facilities to maintain the health and well-being of individuals at the workplace.

RISK FUNDAMENTALLY IMPLIES UNCERTAINTY

- **Risk**: the probability or likelihood, high or low, that the harm from a particular hazard will be realized.
- (“Risk is defined as a measure of the probability of a hazards-related incident occurring, and the severity of harm or damage that could result”)
- **Risk assessment**: evaluating the significance of a risk, either quantitatively or qualitatively.
- **Risk management**: lowering the threats from known hazards whilst maximizing any related benefits.

- ***Accident***: an unplanned event which results in, or suggests the possibility of, personal injury, property damage, production interruption, diminished health, or environmental damage.

Generally accidents are: unforeseeable (to the accident victim), unplanned, unintended and unexpected.

- ***Workplace (occupational) accident***: an accidental injury to a person which occurs in the workplace. (“occupational” and “workplace” will be used interchangeably).
- ***Major industrial accident***: an event including, in particular, a major emission, fire or explosion which result from uncontrolled developments in the course of the operation of any establishment and lead to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances.

SAFETY ENGINEERING

- “Safety engineering is the application of engineering principles to the recognition and control of hazards”
 - Safety engineering is meant to be “proactive” in nature: to identify and control, to eliminate or reduce exposure and to reduce the severity potential of accidents.
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OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEMS

The risks for occupational accidents and diseases at work have to be managed by the employers and workers who are facing with them. In order to ensure effective action, it is essential to establish occupational safety and health (OSH) management systems at all workplaces for continual improvement of working environment and preventive measures. The ILO guidelines on occupational safety and health management systems provide guidance for action at the national and enterprise levels. (ILO-OSH guidelines at <https://www.ilo.org/safework/areasofwork/occupational-safety-and-health-management-systems/lang--en/index.htm>)

SOME USEFUL LINKS

- <http://www.osha.gov/> Occupational Safety and Health Administration
- <https://osha.europa.eu/en> European Agency of Safety and Health at Work
- <http://www.cdc.gov/niosh/> National Institute for Occupational Safety and Health
- <http://www.hse.gov.uk/> Health and Safety Executive UK
- <http://www.ilo.org/> International Labor Organization
- <http://www.isgum.gov.tr/> Istititute of Occupational Safety and Health Turkey