



Module Title:
**Human safety, natural and
technogenic problems in the
21st century**

NTUU KPI

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6th PROJECT MEETING

05-07 February, 2014

National Technical University "Kharkiv Polytechnic Institute"

Workload & Studies data

- Level: ***Bachelor***
- Length (in Semesters): ***1***
- *ECTS Value: **1.5** (in Ukraine 1 ECTS equals to 36 hours of work load)*

Aims of the Module

- *to allow graduates to solve professional tasks in conditions of risk of internal and external hazards that may cause emergencies and their negative consequences and formation of their responsibility for personal and collective security*

Knowledge and Understanding

a student will be able to:

- Explain and use the *terms, definitions, theories and approaches* in the field of natural and man-made hazards to improve human vulnerability and provide human safety.
- Basic arrangements, directing to warning and minimization of adverse consequences of natural and man-made dangers.

Key Skills and other attributes

General cultural competence include:

- preservation of health in conditions of risk of internal and external hazards;
- **safety culture and risk-oriented thinking** in which human security and preservation of the environment are considered as the most important priorities of human activities; □
- knowledge of contemporary issues of human safety and ability to define reliable professional activities in conditions of risk of hazards; □
- ability to assess habitat criteria for personal and collective safety, to monitor hazardous situations and justify the main approaches and means of maintaining the personal and collective health during professional activities; □
- ability to make decisions on human safety within their responsibilities.

Key Skills and other attributes

Professional competence include:

- basic knowledge of the dangerous and harmful factors of the man-made environment and the ability to identify the type of dangerous situation and assess the level of danger;
- ability to orient oneself in **basic methods and systems to provide technological safety, to select necessary devices, systems and methods reasonably for protection of humans and the environment from these hazards;**
- ability to justify and provide a range of works on the subject for the prevention of emergencies, localization and liquidation of their consequences

Key Skills and other attributes

Organizational and managerial competence include:

- knowledge of the main legal acts in the field of human security;
- knowledge of **organizational and legal measures to ensure safety of life activities and the ability to justify/ensure full implementation of measures for collective and personal security**;
- the ability to coordinate the efforts of the team under subordination in the prevention of emergencies and their consequences.

Syllabus outline

- **Category and concepts of the human safety**, hazards' taxonomy.
- **Natural hazards**, their nature and exposure to humans (animals, plants, objects of economy).
- **Technological (man-made) hazards** and their consequences.
- **Social risks**. Social and psychological risk factors. Behavioural responses of the population in an emergency.
- Applying **risk-based approach** to construct probabilistic structural and logical models of disaster development.
- Fundamentals of **legal support and organizational/functional structure** to protect personnel in emergency.

Assessment components

Type of assessment	Weighting%	Duration (if exam)	Word count (if essay/dissertation):	Component pass required
Assessment of the degree of interaction and participation of the students (50% mark attributed to soft skills)	30%		n/a	Yes
Final assessment component Module test + Differentiated Test	70%	1,5 edu hour	n/a	Yes

Learning materials/resources

Core text:

Запорожець О.І., Заплатинський В.М., Халмурадов Б.Д., Применко В.І., Михайлюк В.О., Коніцула Т.Я. Підручник «Безпека життєдіяльності» К.-: «Центр учбової літератури», 2013.-448с.

Recommended text:

Zaporozhets O., Piatova A. **Topics on Human safety, natural and technogenic problems in the 21st century.** Text-book. 2014.

On-line resources:

Safety, Reliability and Risk Management - An Integrated Approach.

<http://app.knovel.com/web/toc.v>