



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Basics of rescue systems organization and pre-medical aid [N1IBez2>POSR]

Course

Field of study

Safety Engineering

Year/Semester

2/3

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

polish

Form of study

part-time

Requirements

compulsory

Number of hours

Lecture

10

Laboratory classes

8

Other (e.g. online)

0

Tutorials

10

Projects/seminars

0

Number of credit points

3,00

Coordinators

dr inż. Tomasz Ewertowski

tomasz.ewertowski@put.poznan.pl

Lecturers

Prerequisites

The student has a basic knowledge of the issues related to institutions operating within the rescue systems and the role of rescue in safety. The student has the ability to obtain information from the indicated sources and is ready to actively search, systematize and present knowledge in the field of rescue. The student is aware of the need to provide first aid to the injured in accidents, before the arrival of specialized emergency services.

Course objective

Transfer and systematization of basic theoretical knowledge related to the structures and institutions that operate within the rescue systems. Presentation of the legal and organizational dependencies between institutions supporting each other within the rescue systems. Developing the ability to solve problems occurring during preparation for emergency situations and management of selected rescue systems. Transfer of knowledge and practical skills in the field of first aid in situations that threaten human life and health and the development of correct social attitudes in the field of first aid. Preparation for the correct interpretation and understanding of knowledge concerning the essence of first aid, health and life threatening conditions, as well as the principles and standards of its provision.

Course-related learning outcomes

Knowledge:

1. The student knows in depth the issues of technical safety, safety systems, occupational health and safety as well as threats and their effects [K1_W02].
2. The student has advanced knowledge of threats and their effects, risk assessment in the work environment as well as occupational accidents and diseases [K1_W03]
3. The student knows the fundamental dilemmas of modern civilization and trends in sustainable development as well as the best practices in the field of safety engineering, in ensuring the highest possible level of safety in plants that use hazardous substances in their operations [K1_W10].

Skills:

1. The student is able to use various techniques to communicate in a professional environment and in other environments [K1_U02].
2. The student is able to see system and non-technical aspects in engineering tasks, as well as socio-technical, organizational and economic [K1_U03].
3. The student is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks, also with the use of information and communication methods and tools [K1_U04].
4. The student is able to make a critical analysis of the operation of plants with high risk of industrial failure and assess, in connection with Safety Engineering, the existing technical solutions, in particular machines, devices, objects, systems, processes and services [K1_U06].
5. The student is able to apply standards and norms in solving practical engineering tasks in the field of Safety Engineering, in the context of the operation of plants with a high risk of industrial failure [K1_U08].

Social competences:

1. The student is able to see the cause-and-effect relationships in the implementation of the set goals and use the ranks in relation to the significance of alternative or competitive tasks [K1_K01].
2. The student is aware of the understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions [K1_K03].
3. The student is able to initiate activities related to the formulation and transfer of information and cooperation in the society in the area of security engineering [K1_K05].
4. The student is aware of behavior in a professional manner, adherence to the principles of professional ethics and respect for the diversity of views and cultures [K1_K06].
5. The student is aware of the responsibility for their own work and readiness to submit to the rules of working in a team and bearing responsibility for jointly performed tasks [K1_K07].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

- a) tutorials: current assessment (on a scale of 2 to 5) of the assigned tasks. Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.
- b) lectures: short test after the second didactic unit - single / multiple-choice test consisting of several questions. Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.
- c) laboratory classes: ongoing assessment (on a scale of 2 to 5) of the tasks performed. Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.

Summary assessment:

- a) tutorials: average of grades of partial tasks; pass after obtaining at least a grade of 3.0. Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.
- b) lectures: final exam in the form of a test carried out during the last lecture. The 45-minute test consists of 15 to 20 questions (single / multiple choice and / or open-ended) with different scores. Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.
- c) laboratory classes: the average of the grades for partial tasks and passing a final test to check the acquired knowledge after obtaining at least a grade of 3.0 (Credit after passing at least 3.0. 1st and 2nd approach passing: 56% of the points available.)

Programme content

Lecture:

Rescue in the security system. National Fire and Rescue System (KSRG). State Emergency Medical Services (PRM). Organization of selected types of specialist rescue. Directing and conducting rescue

operations. The role and tasks of public administration, services and guards and inspections in the rescue system. Requirements for the creation and operation of a rescue system in an enterprise that poses a threat to the environment. Collaboration between institutions. The role of voluntary and non-governmental organizations in rescue operations. Organization of humanitarian aid.

Tutorials:

Hazard analysis. Rules of conduct in the case of rescue actions and tasks of individual entities. Methods of assessing preparation for emergency situations. Analysis of the scene of the incident and the rules of segregation at the scene of the incident. Directing and conducting rescue operations. Fire protection elements. Requirements for the creation and operation of a rescue system in an enterprise that poses a threat to the environment. Collaboration between institutions.

Laboratory classes:

Legal aspects of providing first aid. Rules for the use of Automated External Defibrillators (AEDs). Chain of survival. System in Case of Emergency (I.C.E.). Using protective barriers. Checking the safety and approach to the victim. Checking the consciousness of the injured person. Call for help. Unblocking the respiratory tract. Check the victim's breathing. Calling professional medical services. Algorithm for dealing with the unconscious and not breathing a victim (performing Cardiovascular Resistance (CPR) for adults, children and infants). Algorithm for dealing with an unconscious and breathing injured (traumatic and non-traumatic). Treatment of choking. Dressing up hemorrhages and wounds. Procedure in case of injuries (immobilization of upper and lower limbs). Evacuation of the injured from the scene (Rautek's maneuver). Taking the casualty out of the vehicle. Emergency procedures: burns, shock, convulsions, myocardial infarction, fainting, intoxication, diabetes, stroke and others. First aid kit service.

Teaching methods

Lecture: information lecture, seminar lecture, multimedia presentation.

Tutorials: multimedia presentation. The class uses the classic problem method, as well as the method of cases and exercises.

Laboratory classes: Programmed text, case study, problem and activating method. During the classes, an exercise-practical method is used.

Bibliography

Basic:

1. Biniak-Pieróg M.,Zamiar Z. (2013), Organizacja Systemów Ratownictwa, Wtdawnictwo Uniwersytetu Przyrodniczego, Wrocław.
2. Regulacje prawne dotyczące omawianych zagadnień.
3. Skoczylas J. (2011), Prawo ratownicze, Lexis Nexis, Warszawa.
4. Kęпка P. (2015), Projektowanie systemów bezpieczeństwa. Bel. Studio Sp. z.o.o , Warszawa.
5. Pabiś A. (2018), Bezpieczeństwo procesowe cz.1, Wydawnictwo Politechniki Krakowskiej, Kraków.
6. Witt M., Dąbrowska A., Dąbrowski M. (red.). (2014), Ratownictwo medyczne. Kwalifikowana pierwsza pomoc. Wydawnictwo naukowe Uniwersytetu Medycznego im. Karola Marcinkowskiego w Poznaniu.
7. Wytyczne resuscytacji z 2021 roku, ILCOR.

Additional:

1. Bienias M., Czerniak K., Ewertowski T. (2019), Preparation of an enterprise for emergency situations, Informatyka Ekonomiczna, nr 3(53), s. 9- 22.
2. Ewertowski T., Lewandowska M., (2021), Wybrane aspekty dydaktyki i szkoleń z zakresu kwalifikowanej pierwszej pomocy w Państwowej Straży Pożarnej wraz z propozycjami podniesienia ich atrakcyjności, Bezpieczeństwo osób starszych w przestrzeni miejskiej. Analiza doświadczeń, wnioski i rekomendacje z uwzględnieniem okresu pandemii SARS-CoV-2, red. Mikołaj Tomaszuk: FNCE, Poznań, s. 517-537.
3. Ewertowski T., Kasprzycka M., Lewandowska M., (2019), Analiza oceny zagrożeń prowadzonych na potrzeby opracowania planu ratowniczego na podstawie wybranych przykładów, Bezpieczeństwo zdrowotne : postępy monitorowania i obrazowania stanu środowiska / red. Jerzy Konieczny, Leonard Dajerling , Uniwersytet im. Adama Mickiewicza w Poznaniu, Poznań, s. 337-353.
4. Ewertowski T., Jacygrad N., Jakowicz A., (2020), Analiza porównawcza elementów planów ratowniczych wybranych powiatów, Zarządzanie kryzysowe wobec wyzwań i zagrożeń dla bezpieczeństwa wewnętrznego państwa red. Katarzyna Śmiałek , Wojskowa Akademia Techniczna, Warszawa, s. 349-366.
5. Andres J. (red.), (2011), Pierwsza Pomoc i resuscytacja krążeniowo-oddechowa. Podręcznik dla

studentów (wyd. III), Wydawnictwo Polskiej Rady Resuscytacji, Kraków.
6. Goniewicz M. (2012, Pierwsza Pomoc. Podręcznik dla studentów. Wydawnictwo Lekarskie PZWL, Warszawa.

Breakdown of average student's workload

	Hours	ECTS
Total workload	80	3,00
Classes requiring direct contact with the teacher	28	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	52	2,00