COURSE DESCRIPTION CARD - SYLLABUS

Course name
Geographic information system

Course

Field of study
Safety Engineering
Area of study (specialization)
Security and Crisis Management
Level of study
Second-cycle studies
Form of study
full-time

Year/Semester
2/1
Profile of study
general academic
Course offered in
english
Requirements
elective

Number of hours

Lecture
0
Laboratory classes
15
Other (e.g. online)
0
Tutorials
0
Projects/seminars
0

Number of credit points

1

Lecturers

Responsible for the course/lecturer:
dr hab. inż. Małgorzata Sławińska, prof. PP

malgorzata.slawinska@put.poznan.pl

Responsible for the course/lecturer:
dr inż. Tomasz Ewertowski

Prerequisites

The student has basic knowledge about the characteristic of emergency management, organisation of the rescue system and logistic management principles. The student is able to prepare presentation of elements safety system with use of engineering graphics.

Course objective

Use and practise of engineering graphics for creation and modification electronic documentation used in safety and crisis management.

Course-related learning outcomes

Knowledge

- know the issues concerning risk analysis, dangers and its efects in work environment,

- knows trends in the development and best practises concerning safety ingeneering;

Skills

- is able to appropriately select source and information derived from them, makes evaluation of critical analysis and information synthesis, form requests and comprehensively justify an opinion,

- is able to recognize and form in engineering tasks system aspects and non-technical skills, as well as social and technical, organizational, and economic,

- is able to present, using properly selected means, a problem within ergonomics and occupational safety,

- is able to plan and carry out experiments, including measurment and simulations, interpret the results and draw the conclusions.

Social competences

- is able to recognize correlations and cause-and-effect dependencies during realization of implementation the objective and rank significance alternative or competitive tasks,

- is aware of the understanding of non-technical aspects and results of ingeneering activities including environmental impact and associated with it decisions-making,

- is able to plan and manage business activity.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:
evaluation:

- laboratory sessions: evaluation of completed tasks

summative evaluation:

- laboratory sessions: average of all grades for prepared report.

Programme content

Definitions of Spatial Information Systems (SIP). Functions and application SIP. Main tasks of DBMS (Database Management System). Spatial data models. Domestic infrastructure of spatial data. Examples SIP application. Areas of knowledge use in SIP. Process models of extraction of information in

emergency management and safety. Thematic layers. Recommended map projection for Poland. Documentation scope analysis of a spatial character.

Teaching methods

- laboratory sessions: leading text method.

Bibliography

Basic

1. Kępka P. (2015), Projektowanie systemów bezpieczeństwa, BELL Studio, Warszawa.

2. Biniak-Pieróg M., Zamiar Z. (2013), Organizacja systemów ratownictwa, Wydawnictwo Uniwersytetu Przyrodniczego we Wrocławiu, Wrocław.

3. Sławińska M., Mrugalska B., (2015), Information quality for health and safety management systems: A case study, p. 29-32, [in]: Occupationnal Safety and Hygiene III, Edited by Pedro M. Arezes et al. (eds), Taylor & Francis Group, London, ISBN 978-1-138-02765-7.

4. Izdebski W., (2017), Informacja przestrzenna w Polsce ? teoria i praktyka, Polskie Towarzystwo Informacji Przestrzennej, Roczniki Geomatyki, Tom XV, Zeszyt 2(77): 175-186.

5. Bielecka E., Izdebski T., (2014), Od danych do informacji ? teoretyczne i praktyczne aspekty funkcjonowania mapy zasadniczej, Polskie Towarzystwo Informacji Przestrzennej, Roczniki Geomatyki, Tom XII, Zeszyt 2(64): 175-184.

6. Prussak W., Mrugalska B., (2011), Projektowanie systemów bezpieczeństwa, Wydawnictwo Politechniki Poznańskiej, Poznań.

Additional

1. Sławińska M. Więcek-Janka E., (2018), Improvement of Interactive Products Based on an Algorithm Minimizing Information Gap, Advances in Social & Occupational Ergonomics, Editors: Richard H.M. Goossens, Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 605), Proceedings of the AHFE 2017 International Conference on Social & Occupational Ergonomics, July 17-21, DOI: 10.1007/978-3-319-60828-0.

2. Dobrzański T., (2017), Rysunek techniczny maszynowy, Wydawnictwo Naukowo PWN, Warszawa.

3. 3D Laser Models for the Ergonomic Assessment of the Working Environment / MButlewski M., Sławińska M., Niedźwiecki M., (2017), 3D Laser Models for the Ergonomic Assessment of the Working Environment // W: Advances in Social & Occupational Ergonomics : Proceedings of the AHFE 2016 International Conference on Social and Occupational Ergonomics, July 27?31, 2016, Walt Disney World?, Florida, USA / red. Richards H.M. Goossens: Springer, pp. 15-23

Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,0
Classes requiring direct contact with the teacher	15	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	15	0,5

[1] delete or add other activities as appropriate