

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Monitoring of hazards for safety		Code 1011101131011149823
Field of study Safety Engineering - Full-time studies - First-	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: - Laboratory: - Project/seminars: -		No. of credits 4
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art		ECTS distribution (number and %)
Responsible for subject / lecturer: Krzysztof Kubiak email: krzysztof.kubiak@put.poznan.pl tel. 61 665 34 05 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	basic knowledge of techniques
2	Skills	can obtain information from the literature can communicate using various techniques
3	Social competencies	understands the need for learning throughout life
Assumptions and objectives of the course: - practical introduction to the implementation of the work, - the transfer of knowledge of building safety hazards, monitoring these risks, methods and techniques to detect, identify and measure risks		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. depending advanced familiar force in the discipline - [-K1A_W07] 2. familiar with the concept of discipline - [-K1A_W08] 3. familiar with the phenomenon characteristic of the discipline - [-K1A_W09] 4. know the details according to the applicable within a given discipline - [-K1A_W10] 5. interpretations of familiar characteristic of the discipline - [-K1A_W11]		
Skills:		
1. able to acquire and interpret information from the literature on safety in construction - [-K1A_U01] 2. able to draw conclusions and formulate and justify opinions in this regard - [-K1A_U08] 3. has preparation required for use in industrial environments and are knowledgeable about the security associated with this work and is able to enforce their use in practice - [-K1A_U11] 4. . can make a critical analysis of the methods of operation and assess - in conjunction with safety engineering - the existing facilities - [-K1A_U13]		
Social competencies:		

1. understands the need and knows the possibilities of lifelong learning on track - [-K1A_K01]
2. is aware of and understands the importance and impact of non-technical aspects of engineering, including its impact on the environment and the associated responsibility for decisions - [-K1A_K02]
3. able to see the cause-and-effect relationships in achieving the goals set - [-K1A_K04]
4. . understands the need to provide information on developments in engineering activities - [-K1A_K07]

Assessment methods of study outcomes
- Evaluation of results of test on the topic of classes - Individual discussions during the course - Rating report of build

Course description
1. Issues to be covered: Detect, identify and evaluate the risks to the safety of fixed (concentrated or distributed), large industrial facilities, public buildings, airports, sea ports. Specific issues: the concept of a building, object classification, types of hazards buildings, the concept of building disaster, the proposed solutions to reduce disaster risk monitoring - the concept, objectives, types. The bodies responsible for the safety of the construction and operation of buildings.
2. Practical knowledge of building structures: the construction of a large building structure, output common, individual outputs in groups of two-seater for smaller construction.
3. Getting to know the latest trends in these issues - taking part in the International Fair BUDMA.
4. Meeting with the control unit in the building sector (PIP)

Basic bibliography:
1. Ustawa z dnia 7 lipca 1994 r. Prawo budowlane
2. Dyrektywa Rady 92/57/EWG z dnia 24 czerwca 1992 r. w sprawie wprowadzenia w życie minimalnych wymagań w zakresie bezpieczeństwa i ochrony zdrowia w miejscach tymczasowych lub ruchomych budów
3. Diagnostyka, monitoring i modernizacja eksploatowanych obiektów budowlanych, Materiały Konferencyjne 56 Konferencji Naukowej KILiW PAN oraz KN PZITB, Kielce ? Krynica 2010, Trąmpczyński W. [red.], Wydawnictwo Politechniki Świętokrzyskiej, Kielce, 2010

Additional bibliography:
1. Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 7 czerwca 2010 r. w sprawie ochrony przeciwpożarowej budynków, innych obiektów budowlanych i terenów
2. Andziak J.; Kobus J.; Flis J., Nowoczesne systemy monitorowania zagrożeń korozyjnych, Ochrona przed Korozją, 2000r., nr 12
3. Karsznia K., Geodezyjny i geotechniczny monitoring obiektów inżynierskich w ujęciu dynamicznym. Wykrywanie słabych punktów, Geotechnika, Nowoczesne Budownictwo Inżynieryjne nr 4(19), VII-VIII 2008
4. Witakowski P, Zdalne monitorowanie obiektów budowlanych podczas budowy i realizacji, Czasopismo techniczne z.1-Ś/2007r., Wyd.Politechniki Krakowskiej, s.179-189, Biblioteka cyfrowa Politechniki Krakowskiej,

Result of average student's workload

Activity	Time (working hours)
1. Participation in activities	15
2. Literature studies	8
3. Independent practical activities (watching the selected site)	7
4. Consultation	10
5. Prepare a report from the output of the construction	5
6. Preparation for the test	5

Student's workload		
Source of workload	hours	ECTS
Total workload	50	4
Contact hours	25	2
Practical activities	15	2