Information Security
Course description sheet

Basic information

Field of study
Geospatial Computer Science

Major
Remote Sensing and GIS

Organisational unit
Faculty of Geo-Data Science, Geodesy, and
Environmental Engineering

Study level
Second-cycle (engineer) programme

Form of study
Full-time studies

Profile
General academic

Didactic cycle
2024/2025

Course code
DGEITGS.IIi2.07203.24

Lecture languages
English

Mandatoriness
Obligatory

Block
Core Modules

Course related to scientific research
Yes

Course coordinator	Agnieszka Malinowska

Lecturer	Agnieszka Malinowska

Period	Method of verification of the learning outcomes	Number of ECTS credits
Semester 2	Completing the classes **Activities and hours** Lectures: 15 Project classes: 30	3

Course's learning outcomes

Code	Outcomes in terms of	Learning outcomes prescribed to a field of study	Methods of verification
Knowledge – Student knows and understands:			

Code	Outcomes in terms of	Learning outcomes prescribed to a field of study	Methods of verification
W1	the techniques that allow for the estimation and management of information security related to the acquisition and processing of data.	GEI2A_W01, GEI2A_W07, GEI2A_W09	Test
W2	manage information risk. It uses methods to monitor and regularly review risks and methods of managing them.	GEI2A_W01, GEI2A_W07, GEI2A_W09	Project
Skills – Student can:			
U1	identify threats in the area of information processing and assess the risks associated with it.	GEI2A_U01, GEI2A_U09	Test
Social competences – Student is ready to:			
K1	work in a team, he is open to discussion in the group and team problem solving.	GEI2A_K01, GEI2A_K04	Participation in a discussion

Program content ensuring the achievement of the learning outcomes prescribed to the module

The aim of the course is to present a wide range of concepts and techniques allowing for the estimation and management of information security related to the acquisition and processing of data.

Student workload

Activity form	Average amount of hours* needed to complete each activity form
Lectures	15
Project classes	30
Preparation for classes	10
Preparation of project, presentation, essay, report	20
Student workload	**Hours** 75
Workload involving teacher	**Hours** 45

* hour means 45 minutes

Program content

No.	Program content	Course's learning outcomes	Activities
1.	Information security risk management will be based on the following assumptions (breakdown by further topics discussed in the course): 1. Hazard identification and information processing; 2. Assessment of information risks in terms of consequences for the functioning of the IT system 3. Methods for estimating the probability and consequences of information risks; 4. Estimating the priorities for dealing with risk; 5. Reduction of risks; 6. Methods for monitoring and regular review of risks and methods for managing them; 7. Implementation of information security management system	U1, K1	Project classes
2.	The main issues that will be presented during the lectures will be: - information security management, - basic methods of information risk control, - building a plan to reduce risk in IT, - classification scaffolds in information management. Also IT systems will be presented that will allow for the estimation and management of information security.	W1, W2	Lectures

Extended information/Additional elements

Teaching methods and techniques :

Discussion, Lectures

Activities	Methods of verification	Credit conditions
Lectures	Test, Project	
Project classes	Participation in a discussion, Test	

Method of determining the final grade

The final grade is calculated as average of the mark from passing the project classes (the average mark from all dates of the test, but not less than 3.0). The condition for obtaining a positive mark from passing the project classes is to obtain a positive grade from the final test, as well as the implementation and delivery of the project.

Prerequisites and additional requirements

In the absence of a positive assessment of the completion of the project classes, the student is entitled to two additional deadlines on the dates set individually with the teacher.

Rules of participation in given classes, indicating whether student presence at the lecture is obligatory

Lectures: Studenci uczestniczą w zajęciach poznając kolejne treści nauczania zgodnie z syllabusem przedmiotu. Studenci winni na bieżąco zadawać pytania i wyjaśniać wątpliwości. Rejestracja audiowizualna wykładu wymaga zgody prowadzącego. Project classes: Studenci wykonują prace praktyczne mające na celu uzyskanie kompetencji zakładanych przez syllabus. Ocenie podlega sposób wykonania projektu oraz efekt końcowy.

Literature

Obligatory

1. Basin, David, Schaller, Patrick, Schläpfer, Michael: Applied Information Security. Springer, 2011
2. Kizza, Joseph Migga: Computer Network Security, 2005
3. Salomon, D.: Elements of Computer Security, Springer, 2010
4. Normy ISO 27000, PN–I-07799-2:2005

Scientific research and publications

Publications

1. A fuzzy based-approach to building damage risk assessment / Agnieszka MALINOWSKA // W: Land subsidence, associated hazards and the role of natural resources development [Dokument elektroniczny] : proceedings of EISOLS Eight International Symposium on Land Subsidence : Queretaro, Mexico 2010 / eds. Dora Carreón-Freyre, Mariano Cerca, Devin I. Galloway. — Wersja do Windows. — Dane tekstowe. — [Mexico : IAHS], 2010. — Tryb dostępu: url\{http://iahs.info/redbooks/339.htm} [2010-12-20]. — (IHAS Publication ; 339). — e-ISBN: 978-1-907161-12-4. — S. 443–448. — Wymagania systemowe: Adobe Acrobat Reader
2. A novel approach to gas pipeline risk management under influence of horizontal strains / Agnieszka A. MALINOWSKA, Ryszard HEJMANOWSKI // W: WMCAUS 2016 [Dokument elektroniczny] : World Multidisciplinary Civil engineering – Architecture – Urban planning Symposium : 13–17 June, 2016, Prague, Czech Republic : abstract collection book. — Wersja do Windows. — Dane tekstowe. — [Czech Republic : s.n.], [2016]. — 1 dysk optyczny. — e-ISBN: 978-80-260-9947-5. — S. 505. — Wymagania systemowe: Adobe Reader ; napęd CD-ROM
3. A fuzzy inference-based approach for building damage risk assessment on mining terrains / A. MALINOWSKA // Engineering Structures ; ISSN 0141-0296. — 2011 vol. 33 iss. 1, s. 163–170. — Bibliogr. s. 170, Abstr.. — tekst: http://www.sciencedirect.com/science/article/pii/S0141029610003792/pdfft?md5=5f547d93abc666c81abb375f303a78a5&pid=1-s2.0-S0141029610003792-main.pdf
4. Rock-mass stability in salt mines – risk factors / Ryszard HEJMANOWSKI, Agnieszka MALINOWSKA, Andrzej Kwinta, Paweł Ulmaniec // W: 12. Geokinematischer Tag des Institutes für Markscheidewesen und Geodäsie : am 5. und 6. Mai 2011, Freiberg. — Essen : VGE Verlag GmbH, cop. 2011

Learning outcomes prescribed to a field of study

Code	Content
GEI2A_K01	samodoskonalenia, a także postępowania profesjonalnego, odpowiedzialnego i zgodnego z zasadami etyki zawodowej.
GEI2A_K04	aktywnego i kreatywnego współdziałania w zespole oraz efektywnego kierowania nim.
GEI2A_U01	stosować zaawansowane metody pozyskiwania, integracji i przetwarzania informacji pochodzących z różnych źródeł danych.
GEI2A_U09	pracować indywidualnie i kierować zespołem; szacować czas potrzebny na realizację zleconego zadania; potrafi opracować i zrealizować harmonogram prac zapewniający dotrzymanie terminów; przygotować i przedstawiać wyniki przeprowadzonych analiz oraz opracować specjalistyczne raporty z realizacji powierzonego zadania.
GEI2A_W01	złożone zasady pozyskiwania z różnych źródeł danych przestrzennych oraz środowiskowych.
GEI2A_W07	zasady zarządzania ryzykiem i prowadzenia polityki bezpieczeństwa w zakresie geoinformacji wraz z raportowaniem.
GEI2A_W09	podstawowe pojęcia i zasady z zakresu ochrony własności intelektualnej, prawa autorskiego oraz zasobów informacji patentowej.