UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN

Faculty of Geoengineering

Course title: INFORMATION TECHNOLOGIES

ECTS credit allocation (and other scores): 3

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Social sciences

Language: English

Number of hours per semester: 30

Course coordinator/ Department and e-mail: mgr inż. Mateusz Ciski/ Institute of Geography and Land Management; mateusz.ciski@uwm.edu.pl

Type of classes: classes

Substantive content

CLASSES: Ability to work in the cloud, editing text in Microsoft Word, working in a Microsoft Excel spreadsheet, creating a website, and a multimedia presentation in Microsoft PowerPoint. Creation of spatial databases, management of map layers and descriptive data tables, use of external data sets, searching of data using SQL, database import, use of Visual Basic for Applications in GIS environment, editing of vector objects, ability to create maps (elaboration map layout and editing of the cartographic presentation) in the ArcGis program using various spatial data symbolization and modelling techniques. Conversion of models and formats of vector and raster data, work in various spatial reference systems; methods of transformation and its accuracy, database design, spatial analysis using spatial and classical statistics methods in the Statistica program.

LECTURES: none

Learning purpose: The purpose of the classes is to familiarize the student with selected technologies and tools used in information management. The main purpose of this part of the course is to develop the ability to properly use computer program options to solve specific tasks and problems.

On completion of the study programme the graduate will gain:

Knowledge: student has knowledge of general computer science, basics of geoinformatics and office computer science, including the use of computers and software, network information transmission systems. (K1A_W03)

Skills: student consciously uses computer software at the level of the operating system and applications in engineering applications. (K1A_U03)

Social Competencies: student understads the need for continuous training in information technology. (K1A_K01)

Basic literature: 1) Janowski J., Technologia informacyjna, wyd. Difin, 2009; 2) Ogryzek M. i inni, , Technologia GIS w gospodarowaniu i analizach przestrzennych , wyd. Texter, Warszawa, 2015; 3) Urbański J, Zrozumieć GIS. Analiza informacji przestrzennej , wyd. PWN, Warszawa, 1997; 4) Litwin L., Myrda G., Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT , wyd. Helion, 2008.

Supplementary literature: 1) Longley P. A., Goodchild M. F., Maguire D. J., Rhind D. W., GIS. Teoria i praktyka , wyd. PWN, Warszawa, 2006; 2) M. Lewandowski, Tworzenie makr w VBA dla Excela 2002/XP PL. Ćwiczenia zaawansowane, wyd. Helion, 2003; 3) Czyżowski B, Praktyczny przewodnik po GIS. ArcView 3.3, wyd. PWN, Warszawa, 2006.

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1

Student's independent work: 2