

<b>COURSE DESCRIPTION CARD</b>			
The name of the course/module <b>FUNDAMENTALS OF GEOGRAPHIC INFORMATION SYSTEM</b>			Code <b>A_U_1.1_008</b>
Main field of study <b>ARCHITECTURE</b>		Educational profile (general academic, practical) <b>general academic</b>	Year / term <b>I/1</b>
Specjalization <b>-</b>		Language of course: <b>Polish</b>	Course (core, elective) <b>core</b>
Hours Lectures: <b>15</b> Classes: <b>30</b> Laboratory - Projects / seminars: - classes:			Number of points <b>3</b>
Level of qualification: <b>I</b>	Form of studies (full-time studies/part-time studies) <b>Full-time studies and part-time studies</b>	Education area(s) <b>Earth Sciences</b>	ECTS division (number and %) <b>1+1=100%</b>
Course status in the studies' program (basic, directional, other) <b>supplementary</b>		(general academic, from a different major) <b>-</b>	
<b>Lecturer responsible for the course:</b> <b>dr Lech Kaczmarek</b> e-mail: lesio@amu.edu.pl Adam Mickiewicz University in Poznań Ecological station in Jeziory Skr. poczt. 40, 62-050 Mosina Tel. 61 8132 711		<b>Lecturer:</b> <b>dr Lech Kaczmarek</b> e-mail: lesio@amu.edu.pl Adam Mickiewicz University in Poznań Ecological station in Jeziory Skr. poczt. 40, 62-050 Mosina Tel. 61 8132 711	
<b>Prerequisites defined in terms of knowledge, skills, social competences:</b>			
1	<b>Knowledge:</b>	Basic knowledge of maps (types, scales, conventional signs) and geographical space on secondary school level	
2	<b>Skills:</b>	Reading map, basic computer skills (MS Windows), individual use of Internet sources	
3	<b>Social Competences</b>	The ability to creative solving problems, individual preparation of computer stand with software installation	
<b>Objectives of the course:</b>  Becomes familiar students with basic concepts related to spatial information, learning differences between traditional and digital map, learning and evaluation of sources of spatial information as well as application them in architecture, urban planning and spatial planning. Becomes familiar students with tools for spatial data service and them application in architect and urban planner works – basics of preparation of own workshop with using digital map.			
<b>Learning outcomes</b>			
<b>Knowledge:</b>			
W01	Student has basic knowledge in the understanding of natural and other determinants outside the engineering activity.		AU1_W03
<b>Skills:</b>			
U01	Student can acquire information from publications, data bases and other Polish and English sources, can interpret the said information and draw conclusions as well as voice and justify opinions.		AU1_U01
<b>Social competences:</b>			

K01	Student is aware of the importance of non-technical aspects and effects of engineering activities, in this impact upon the environment and liability for environment affecting decisions;	AU1_K05
K02	Student can think and act in an entrepreneurial, creative and innovative manner.	AU1_K07
<b>The evaluation methods</b>		
<p>Evaluation:</p> <p><b>Classes credit: attendance at classes, correct implementation of 7 classes tasks and eventually four extra classes tasks (student must correctly provide results of classes tasks with using e-learning platform); there is from 1 to 100 points for each classes task; punctuation to evaluation:</b></p> <ul style="list-style-type: none"> <li>- very good – 851-1000 points, including minimum 600 points for obligatory classes,</li> <li>- good plus – 701-850 points, including minimum 600 points for obligatory classes,</li> <li>- good – 551-700 points, including minimum 500 points for obligatory classes,</li> <li>- satisfactory plus – 401-550 points, including minimum 400 points for obligatory classes,</li> <li>- satisfactory – 301-400 points, including minimum 301 points for obligatory classes'</li> <li>- unsatisfactory – obtaining 300 points or less points.</li> </ul> <p><b>Lectures credit: written credit 10 open questions in scope of studies' program presented by teacher, student can get from 0 to 3 points for each question, in the case of one question from 0 to 4 points; punctuation to evaluation:</b></p> <ul style="list-style-type: none"> <li>- <b>very good</b> – obtaining 30-31 points,</li> <li>- <b>good plus</b> – obtaining 27-29 points,</li> <li>- <b>good</b> – obtaining 23-26 points</li> <li>- <b>satisfactory plus</b> – obtaining 20-22 points,</li> <li>- <b>satisfactory</b> – obtaining 16-19 points,</li> <li>- <b>unsatisfactory</b> – obtaining 15 points or less points</li> </ul> <p>Final grading scale: 2,0; 3,0; 3,5; 4,0; 4,5; 5,0</p> <p><b>Positive grade for module depends on achieved by student all learning outcomes specified in the syllabus.</b></p>		
<b>Course contents</b>		
<p><b>Lectures:</b> Issues:</p> <ol style="list-style-type: none"> <li>1. Map as a source of information of geographical space</li> <li>2. Basic properties of map</li> <li>3. Analog map vs. digital map</li> <li>4. Definition of Spatial Information System and application</li> <li>5. Modeling spatial data</li> <li>6. Forms of making data accessible and formats of exchange spatial data</li> <li>7. Sources of spatial data</li> <li>8. Characteristics of digital spatial databases</li> <li>9. Network services</li> <li>10 Attribute data</li> <li>11. Management of geographical space with using data - examples</li> </ol> <p><b>Classes:</b> Assumptions:</p> <ol style="list-style-type: none"> <li>1. Classes take place in computer lab</li> <li>2. Every student has access to classes materials on e-learning platform (address: <a href="https://www.elearning.amu.edu.pl/gis-jeziory">https://www.elearning.amu.edu.pl/gis-jeziory</a>)</li> <li>3. All classes works are submitted by students on e-learning platform</li> <li>4. Classes comprise work during classes and individual preparation of works in time between following classes (teacher assumes that every student has computer with access to the Internet)</li> </ol> <p>Classes:</p> <p>Classes 1. Map as a basic source of environment information</p> <p>Classes 2. Georeference of topographic map</p> <p>Classes 3. Vectorization</p> <p>Classes 4. Using network services</p> <p>Classes 5. Support databases comprising all the aspects of geography</p> <p>Classes 6. Completing spatial data for planning works</p> <p>Classes 7. Visualization of spatial data</p>		
<p><b>Basic bibliography:</b> Bielecka E., 2006: Systemy informacji geograficznej. Teoria i zastosowania. Wyd. PJWSTK Warszawa, ss. 230</p>		

Gotlib D., Iwaniak A., Olszewski R. 2007: GIS Obszary zastosowań. Wyd. Naukowe PWN, Warszawa, ss. 250  
 Kaczmarek L. 2013: Potencjał informacyjny krajowych baz danych przestrzennych w kartograficznych badaniach środowiska przyrodniczego. Wyd. Stacja Ekologiczna UAM w Jeziorach, ss. 152

**Supplementary bibliography:**

Longley P. A. i in, 2006: GIS Teoria i praktyka. Wyd. Naukowe PWN, ss. 520.

<b>The student workload</b>		
<b>Form of activity</b>	<b>Hours</b>	<b>ECTS</b>
Overall expenditure	56	2
Classes requiring an individual contact with teacher	39	2
Practical classes	15	-

**Balance the workload of the average student**

<b>Form of activity</b>	<b>Number of hours</b>
participation in lectures	15 h
participation in classes/ laboratory classes (projects)	30 h
preparation for classes/ laboratory classes	7 x 1 h = 7 h
preparation to colloquium/final review	10 h
participation in consultation related to realization of learning process	6 x 1,5 h = 9 h
preparation to the exam	0 h
attendance at exam	0 h

Overall expenditure of student:                      **2 ECTS credits**    **56 h**

As part of this specified student workload:

- activities that require direct participation of teachers:

$$15 \text{ h} + 15 \text{ h} + 9 \text{ h} = 39 \text{ h}$$

**2 ECTS credits**