MD-2045, CHIŞINĂU, Bvd. Dacia 41, corp 10, TEL: 022 32-39-73 | FAX: 022 32-39-71, www.utm.md

GEOINFORMATICS (PBL)

1. About Course unit/module data

Faculty	Construction, Geodesy and Cadastre				
Department	Civil Engineering and Geodesy				
Cycle of studies	License, cycle I.				
Studies programme	0731.2 Geodetic Engineering and Cadastre				
Year of study	**Semester**	**Type of evaluation**	**Formative category**	**Optionality category**	**ECTS credits**
I (full-time education) II (part-time education)	2 3	E	D.0.001 - specialized course unit	O - compulsory course unit	4

2. Estimated total time.

Total hours in the curriculum	From which				
	Auditorium hours		Individual work		
	course	Practice works/project exercise / seminars	Year project	Study of theoretical material	Application preparation
120	30	30	0	30	30

3. 3. Prerequisites for access to the course unit / module

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According to the competencies	Possess and apply knowledge on acquisitions, data collection specific to land sweepers, using calculation techniques

4. Conditions for carrying out the educational process for

course	For the presentation of the theoretical material in the classroom it must be equipped with multimedia techniques (projector, screen computer). Student delays, telephone conversations and other discussions during the course will not be tolerated.
Practice works/project exercise / seminar	The classes will take place in the Geoinformation Technologies laboratory, equipped with computer technology (specialized hardware and software). Deadline for submission of PBL work - one week after its completion.

5. Specific skills acquired

Professional skills	**CP 2**. Acquisition, systematization and interpretation of information needed to solve professional problems • Defining basic concepts, theories and methods in PBL. PBL application in the field of digital technologies, mainly in the field of geodetic engineering, cadaster and environment etc.

Professional skills	**CP 3.** Implementation PBL and technologies for solving the specific task of geodesy, cadastre and environment (measurement and data processing). • Defining basic concepts, theories and methods in the PBL applications. • Appropriate use of basic knowledge to explain and interpret the concepts, procedures, techniques and methods required the PBL concept.
Transversal skills	**CT2.** Carrying out activities and exercising the specific roles of teamwork on different hierarchical levels. Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect for others, diversity and multiculturalism and continuous improvement of one's activity

6. Course unit / module objectives

The general objective	To transmit conceptual knowledge about Geoinformatics and to develop the interest to study, know and manage the world, the society through the tools of Geoinformatics
Specific objectives	What is Geoinformatics, what is the it origin and significance. Everyday examples of Geoinformatics, their explanation, interpretation through geoinformatics tools. About the GEOINFORMATICS as a combination of introductory courses on field measurements and digitizing and scanning of maps (topography, GIS, Photogrammetry, GPS, Remote Sensing and Geoinformation Technique). Geoinformatics and maps. Innovational aspects. Brainstorms. The Problems in our environment. The method to approach the problems. The methods, solving steps.

7. Content of the course unit / module

The theme of teaching activities	Number of hours	
	full-time education	part-time education
The theme of the lectures		
T1. Introduction. Concept of GEOINFORMATICS. The role of Geoinformatics in the world, in society. Everyday examples	2	2
T2. Everyday examples (google maps; google earth; street maps; geoportal.md etc.)	4	2
T3. About information, data, spatial data, databases. Public data	4	2
T4. About models and modeling. The real world and the digital world. Mutual transformations.	4	2
T5. Problems and solutions. Methods and Steps. Examples in the field of terrestrial measurements.	4	2
T6. Today's challenges in the field of cadaster (technical, economical and juridical aspects) planning, solving them through the Geoinformatics tool.	4	1
T7. Today's challenges in the field of local (urban and rural) planning, solving them through the Geoinformatics tool.	4	1
T8. Today's challenges in the field of climate changes (ex. environmental, water, air pollution etc.), solving them through the Geoinformatics tool.	4	2
Total lectures:	**30**	**12**
The theme of teaching activities	Number of hours	
	full-time	part-time

	education	education
the themes of the practice works/project exercise / seminars		
LL1. Course structure. Rules of conduct. Settings for individual and teams work	2	2
LL2. Exploration of the everyday geoinformatics products/application (google maps; google earth; street maps; geoportal.md etc.).	4	2
LL3. Data, data base representations	2	2
LL4. Digital modeling, online navigation (example - google earth)	2	2
LL5. Problem identification. Her description. The idea of solving	2	1
LL6. Problem solving in the field of cadaster	6	1
LL7. Problem solving in the field of local (urban and rural) planning	6	1
LL8. Problem solving in the field of climate changes	6	1
Total laboratory works / seminars:	**30**	**12**

8. Bibliographic references

Main	1. Săvulescu C. Fundamente GIS. Bucureşti 2000; 2. Peter A. Burrough ... Principles of Geographical Information System Lzn Manole... Mapping our Word. 2002 ESRI 3. GeoBIZ platform: http://geobiz.eu/moodle/login/index.php ; http://geobiz.eu/moodle/; 4. Lexiconul Cadastral, Grama V., Nistor-Lopatenco L., Turculet M, UTM, 2010; 5. Cadastrul Bunurilor Imobile in RM, editura ~Stiinta~, 2009. 6. Sisteme Informationale Geografice, Bofu C., Chirila C., editura "Tehnopress", Iasi, 2007. 7. Geografie fizică generală, Donisă, I., Boboc, N., Donisă, A., Chişinău, 1998Raport Informativ: Schimbările Climatice în Republica Moldova. Programul Naţiunilor Unite pentru Dezvoltare (PNUD) în Republica Moldova Strada 31 august 1989, 131, Chişinău, MD-2012, Republica Moldova, file:///C:/Users/Grama/Downloads/2009_romanian_all.pd,
Additional	8. Peter A. Burrough ... Principles of Geographical Information System Lzn Manole... Mapping our Word. 2002 ESRI