

Course title : Virtual Cartographic Modeling

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course title:	Virtual Cartographic Modeling		
Level:	Master		
Course Status:	Mandatory		
Year of Study:	Year 1; Semester 2.		
Number of Classes per Week:	2+2		
ECTS Credits:	6 ECTS		
Time /Location:	According to the timetable		
Teacher:	Assoc.Prof.Dr. Bashkim Idrizi		
Contact Details:	bashkim.idrizi@uni-pr.edu bashkim.idrizi@yahoo.com +383 45 341098 +389 75 712998 (viber)		
Course Description:	<p>The course Cartographic Virtual modeling offers knowledge about cartographic modeling and images, its specifics, their changes, and dynamic characteristics. Systematization of knowledge from cartography, computer graphics, psychology of perception and their summary aimed to achieve professional cartographic modeling. It also offers knowledge about cartographic models and modern technology in the cartography for virtual cartographic models processing. Having clear vision on technical skills for developing models for different needs and users. Introduction to 3D cartographic environment, 3D cartographic models and their main, secondary and complementary content.</p>		
Course Goals:	This course aims the high levels of learning about the virtual modeling science and the techniques of this field.		
Expected Learning Outcomes:	<ul style="list-style-type: none"> - Definitions and concepts and virtual modeling - Cartographic models design by using computer technology - Developing models for different users and usages - 3D cartographic models - Advantages and disadvantages comparing with traditional techniques - Data base developing, processing, compiling 3D maps, visual interpretation and animation of map models. 		
Student Workload (should be in compliance with student's Learning Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30

Practical Work			
Consultations with the teacher	2	5	10
Field Work			
Test, seminar paper	5	4	20
Homework	1	10	10
Self-study (library or home)	2	10	20
Preparation for final exam	7	2	14
Assessment time (test, quiz, final exam)	2	3	6
Projects, presentations, etc.	2	5	10
Total			150

Teaching Methods:	<ul style="list-style-type: none"> - Lecture - Discussion during lectures - Exercises - Work in group
Assessment Methods:	<p>Prerequisite for assessment: more than 50% attendance in lectures and positive evaluation of seminar paper by the lecturer.</p> <p>Homework and other commitments: 30%</p> <p>Regular attendance: 10%</p> <p>First colloquium: 15%</p> <p>Second Colloquium: 15%</p> <p>Final exam: 30%</p> <p>Total: 100%</p>

Primary Literature:	<ol style="list-style-type: none"> 1) Dollner J., Sester M., Gartner G. Multi-scale representations of virtual 3D city models. 2013 2) Axel Hildebrand (1996) A Homogenous Approach from Image Processing in Virtual Reality, Eurographics'96 Tutorial, Fraunhofer IGD, Germany 3) Bandrova T., 3D Cartographic Modeling in Educational Process, 26th International Cartographic Conference, 25-30 August 2013, Dresden, Germany, On-line
Additional Literature:	<ol style="list-style-type: none"> 1) Bandrova T., Bonchev St., 3D maps – scale, accuracy, level of details, 26th International Cartographic Conference, 25-30 August 2013, Dresden, Germany, On-line 2) https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-2-W2/73/2013/isprsarchives-XL-2-W2-73-2013.pdf 3) https://www.scirp.org/pdf/ijg20110400009_81009234.pdf 4) https://www.ajol.info/index.php/just/article/view/33086

Designed teaching plan	
Week	Title of the Lecture
Week 1:	Definitions and concepts of virtual modelling

Week 2:	Cartographic model design
Week 3:	Modern technology in virtual modelling
Week 4:	Multi-purpose model developing
Week 5:	Development of advanced virtual models
Week 6:	3D cartographic models
Week 7:	Advantages comparing with traditional techniques
Week 8:	First students valuation
Week 9:	Development of databases for virtual modelling
Week 10:	3D maps and virtual globe
Week 11:	BIM – Building Information Modelling
Week 12:	Graphical presentation and animation in virtual modelling
Week 13:	Virtual modeling application in natural disaster analysis
Week 14:	Practical demonstration
Week 15:	Second Students Valuation

Academic Policies and Code of Conduct

We start and finish class on time.

Tools used during class must be cleaned and stored away at the end of class.

Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.

Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.

Note | If a student has more than 3 class assignments evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.