Course title : WEB GIS

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course title:	WEB GIS
Level:	MA
Course Status:	Elective
Year of Study:	Year 2, Semester 3
Number of Classes per Week:	2+2
ECTS Credits:	6 ECTS
Time /Location:	According to the Timetable
Teacher:	Prof.Asoc.Dr. Bashkim Idrizi
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Course Description:	The aim of the course is to teach students the fundamental theories and technologies for disseminating and processing geographic information by means of Internet and World Wide Web. For this, two specific distributed GIS architectures are studied: the Web-based and the mobile GIS architectures. It is demonstrated through case studies, laboratory exercises, and group projects that these architectures and related technologies allow 1) the creation of dynamic web maps and Internet-based geographic analysis, and 2) the provision of GIS functionality in the field through mobile GIS solutions and in a commercial setting in the form of Location-Based Services (LBSes). Use of geospatial web services and "open geo-tools / services", web data editing, GIS online analysis, principles of online GIS design, Mobile GIS, 3D online schemes. Development of Earth and Land Information Systems. Geoportals: concept and application, Web GIS in e-government, e-business and e-science, interaction between data, basic principles of programming in Web GIS.
Course Goals:	Main goal of this course is to develop knowledge on basic principles of GIS and its functions in order to manage geospatial data through Web.
Expected Learning Outcomes:	At the end of the course, students should know how to: - design and implement web GIS, internet-based

	geographic analysis, - Basic computer networks, internet and WWW. - Server / client computer connection - Open source software and commercial software (ESRI) for online mapping. - Standardization and distribution of GIS services. - Design and implementation of dynamic maps and geographical analysis through the WWW, and - Mobile GIS and LBS solutions

Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	**Hours**	**Day/ Week**	**Total**
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work	1	10	10
Consultations with the teacher	5	1	5
Field Work	1	5	5
Test, seminar paper	1	15	15
Homework	1	15	15
Self-study (library or home)	1	10	10
Preparation for final exam	1	15	15
Assessment time (test, quiz, final exam)			
Projects, presentations, etc.	1	15	15
Total			**150**

Teaching Methods:	- *Lecture* - *Discussion during lectures* - *Exercises* - *Work in group*
Assessment Methods:	Prerequisite for assessment: more than 50% attendance in lectures and positive evaluation of seminar paper by the lecturer. First Evaluation: 10% Second Evaluation: 10% Homework or other engagement: 30% Attendance 20% Final Exam 30% Total 100%
Primary Literature:	1) Pinde Fu. 2020. Getting to know Web GIS, 4th edition. Esri press. 2) Fu P., Bun J. 2011. Web GIS principles and applications. Esri press. 3) Internet GIS: Distributed Geographic Information Services for the Internet and Wireless Networks, authored by Dr. Zhong-Ren Peng and Dr. Ming-Hsiang Tsou. Published by Wiley. 2003.

Additional Literature:	1) Menno Jan Kraak; Alllan Brown: Web Cartography, Taylor and Francis, New York, 2001. http://opengeo.org/products/consulting/cartography/

Designed teaching plan	
Week	**Title of the Lecture**
Week 1:	Basic principles of GIS
Week 2:	Geospatial data analysis
***Week 3*:**	Web Services and "open geo-tools/services",
Week 4:	Data editing through web
Week 5:	Online GIS analysis
***Week 6*:**	Online GIS principles
Week 7:	Mobile GIS
Week 8:	3D Online analysis
Week 9:	Development of land information systems
Week 10:	Geoportal, concept and application
***Week 11*:**	WEB GIS on e-government
***Week 12*:**	E business
***Week 13*:**	Data integration
***Week 14*:**	Basic principles of WEB GIS programming
***Week 15*:**	Study visit

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 assignements evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.