

Course title : Geodetic Reference Systems

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course title:	Geodetic Reference Systems		
Level:	MA		
Course Status:	Mandatory		
Year of Study:	Year 1, Semester 1		
Number of Classes per Week:	2+2		
ECTS Credits:	6 ECTS		
Time /Location:	According to the Timetable		
Teacher:	Prof.asoc.Dr. Perparim Ameti		
Contact Details:	perparim.ameti@uni-pr.edu		
Course Description:	This course begins with basic knowledge on geodetic reference systems, and it continues with determination and establishment of International Terrestrial Reference Systems and Frames, global coordinate systems and referent ellipsoid, coordinate transformation. The course will end with reference surfaces of heights and variations and geodynamic of geodetic reference frames.		
Course Goals:	To achieve theoretical and practical knowledge in definition of ITRS and ITRS.		
Expected Learning Outcomes:	After completing this module, a student should: <ul style="list-style-type: none"> - understand the definition and realization of geodetic reference systems and frames, in particular global systems realized by modern space methods - be familiar with existing geodetic reference frames used in Kosovo, Western Balkan and internationally - be able to transform between different types of geodetic reference frames 		
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	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:	<ul style="list-style-type: none"> - <i>Lecture</i> - <i>Discussion during lectures</i> - <i>Exercises</i> - <i>Work in group</i>
Assessment Methods:	<p>In evaluation, the percentage of the attendance of each partial evaluation in the final evaluation must be determined. One of the ways of evaluation would be:</p> <p>First Evaluation: 15% Second Evaluation: 15% Homework or other engagement: 10% Attendance 5% Final Exam 55% Total 100%</p>

Primary Literature:	<ol style="list-style-type: none"> 1) Skuka Q.: Gjeodezia e Larte, Libër Universitar, 2008, Tirane 2) Torge, W.: Geodesy, 3rd Edition, Walter de Gruyter, 2001. 3) Seber, G.: Satellite Geodesy, 2nd Edition, Walter de Gruyter, 2003
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Additional Literature:	www.wikipedia.com
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Designed teaching plan	
Week	Title of the Lecture
Week 1:	Introduction to geodetic reference frames. Definition and types of geodetic datum
Week 2:	Definition of ITRF
Week 3:	Definition of ITRS
Week 4:	Global and local geodetic datum
Week 5:	Global coordinate systems and reference ellipsoid (WGS, GRS)
Week 6:	Geodetic datum, ellipsoidal geodetic basis, basic equations, reductions and calculations on ellipsoid
Week 7:	Establishment of state coordinate systems and their maintenance
Week 8:	Transformation and conversion of coordinates
Week 9:	Height reference surfaces: Global, regional and state
Week 10:	Basic concepts of geophysics and gravimetry
Week 11:	Global models of geopotential
Week 12:	Impact of topography and gravimetric reductions
Week 13:	Geoid determination
Week 14:	Geometric level: establishment, surveying and adjustment
Week 15:	Variations and geodynamic of geodetic reference frames

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 %.