

COURSE		SATELLITE GEODESY		
LECTURER		Ass. Prof. Medžida Mulić		
STUDY	STATUS	SEMESTER	NUMBER OF LESSONS L+E	ECTS
B – G	Compulsory	5	2+3	5
OBJECTIVES				
<ul style="list-style-type: none"> □ Basic knowledge of Celestial mechanics and GNSS. GNSS measurements, using of different software and methods for calculation of GNSS data. Appliance of broadcast, rapid and extra rapid ephemerides. Use of IGS and BiHPOS service data. Appliance of dynamical and continental coordinate systems. Transformation of coordinates between global geodetic systems and state's coordinate system. Calibration of antennas and usage of data from absolutely calibrate antennas. Appliance of different geoid models and height systems, and defining 				
LEARNING OUTCOMES				
<p>After that course students will:</p> <ul style="list-style-type: none"> □ have an understanding in GNSS signal structure and GNSS signal tracking □ systematize and understand the various influences and errors sources for GNSS observations □ become familiar with GNSS field observations and data processing. 				
COURSE CONTENT				
<ul style="list-style-type: none"> □ Modern satellite geodesy. Celestials coordinate systems (ICRS) and their realizations (ICRF). Terrestrial coordinate systems (ITRS) and their realizations (ITRF). Continental coordinate systems (ETRS89, SIRGAS), NNR NUVEL1A kinematic model of the Earth's plates. Time scales. □ Satellite orbital motion. Basic of Celestial mechanics, perturbed satellite motion, methods for defining satellite's orbits. Basic of geometrical and dynamical Satellite geodesy. GNSS-2, GPS modernization and calculation of common GNSS measurements (GPS, GLONASS and GALILEO). Specialty of calculations of long base GNSS measurements. Defining of phase centers of GNSS receiver's antennas and GNSS satellites. Modern GPS receivers and multipath effects. GNSS methods for measurements and calculation of data. Differential GNSS, permanent reference networks and DGNSS services. Basics of satellite laser measurements. Basics of satellite altimetry. 				
RECOMMENDED LITERATURE				
<ul style="list-style-type: none"> □ Mulić, M.:Satellite geodesy. Lecture note-in Bosnian. Faculty of Civil Engineering, 2012. □ Hofmann-Wellenhof, B., Lichtenegger, H., Collins J.: GPS Theory and Practice, 2001. □ Bilajbegović, A., Hofmann-Wellenhof, B., Lichtenegger, H.: Osnovni geodetski radovi-savremene metode. Tehnička knjiga Zagreb.1991 				
<p>Assesments: During semester students have to collect at least 50% of points, as folowing: - two teorethical tests in writing. Each test is scored as15 points (in total 30 points for bouth test). -homeworks and activities during lectures and practical excercises are scored as 20 points, What is in total 50 points during semester. There is final written exam on the end of semester. Students who got at least 55% (of 30 points) have to pass an oral exam (20 pints). Grading: 6 to 10, in accordance with Law of Higher Edugation.</p>				