NAME OF THE COURSE		MAP PROJECTIONS		
LECTURER		Asst. Prof. Slobodanka Ključanin Ph.D.		
STUDY	STATUS	SEMESTER	HOURS OF CLASSES L+E	ECTS
B – G	Compulsory	5	2+2	5

GOALS

Knowledge graticule (net of meridians and parallels) in various map projections and the distribution of deformation lengths, angles and surfaces. Knowledge of the basic properties of map projections in Bosnia and Herzegovina, and Europe. Ability to solve tasks in the Gauss-Krüger projection, transverse and vertical Mercator projection and the Lambert conformal conic projection.

LEARNING OTUCOMES

Students are acquainted with basic methods of cartographic modelling of the real world. Students are acquainted with basic map projections and their characteristics and are trained to perform coordinate calculation and deformation parameters, as with special emphasis on the projection of the national coordinate system.

COURSE CONTENT

General theory of map projections. Basic concepts and equations. Map scales. Deformation length, size and angles. Strain ellipse and the main lines. Division of projections. The transition from vertical to horizontal and oblique projections. Basic equations for conical, cylindrical, azimuthal, pseudoconic, pseudocylindrical polyconic projections. The choice of projections. Geodetic projections. Conformal mapping using analytical functions. Isometric coordinates. Gauss-Krüger projection. Direct and inverse equations. The convergence of meridians. Map scale and deformation. The reduction of length and lines. Coordinate systems in Bosnia and Herzegovina. Transverse Mercator projection. UTM system. Transformation of coordinates between adjacent systems. The official map projection in Bosnia and Herzegovina.

RECOMMENDED LITERATURE

1. Frankić, K.: Matematička kartografija, Skripta, Građevinski fakultet, Sarajevo 2008.
2. Frančula, N.: Kartografske projekcije, Skripta, Geodetski fakultet, Zagreb 2000.
3. Borčić, B.: Matematička kartografija (Kartografske projekcije), Tehnička knjiga, Zagreb 1955.
4. Borčić, B.: Gauß-Krügerova projekcija meridijanskih zona, Sveučilišna naklada Liber, Zagreb 1976.
5. Hrvatsko kartografsko društvo http://www.kartografija.hr

Examination:
Scoring presence at the lecture - 5 points, exercises - 5 points. During the classes the exam is taken in three parts. Each section is scored as follows:
I test - 20 points, II test - 20 points, examination 50, a total of 90 points. Total: 100 points.
a) If a student realizes 55% of all three parts of the form his final score to a scale prescribed by the Law on Higher Education. Students who miss less than 5 points for grades 8, 9 and 10 were allowed to take the final exam orally to a higher rating.
b) Students who pass one part of exam, on the final exam take in writing the part that did not pass. The rating is formed as a) except that no oral option for a higher score.
c) Students who do not pass any part during the classes, take the exam in writing integral. The rating is formed as in a), except that no options oral examination for a higher score.

Cancelling exams: Students who have passed both parts, and are not satisfied with the results achieved in one area, it can be undone. The examination shall take the final exam.