COURSE		**THEORY OF ADJUSTMENT I**		
LECTURER		Asst. Prof. Esad Vrce Ph.D.		
STUDY	***STATUS***	***SEMESTER***	***NUMBER OF LESSONS L+E***	***ECTS***
B – G	Compulsory	3	2+2	5

OBJECTIVES

- ❑ Understand the fundamental concepts and problems of adjustment of geodetic measurements and simple statistical tests.

LEARNING OUTCOMES

- ❑ Understand the basic terms at the area of probability and statistics,
- ❑ Use the hypothesis in testing the geodetic data quality,
- ❑ Understand error propagation principle and solve some geodetic problems related.

COURSE CONTENT

- ❑ Geodetic measurements and their correlation with the theory of probability and statistics.
- ❑ Gaussian normal distribution.
- ❑ The samples and statistical tests.
- ❑ A random vector and variance-covariance matrix. Law expansion of the variance-covariance matrix.
- ❑ Measures of precision in one, two and three-dimensional spaces.
- ❑ Adjustment and the method of least squares.

RECOMMENDED LITERATURE

1. K. Frankić: Uvod u izjednačenje metodom najmanjih kvadrata, Skripta, Sarajevo, 2007
2. S. Pašalić: *Račun izravnanja*, Svjetlost, Sarajevo, 1989
3. L. Feil: Teorija pogrešaka i račun izjednačenja I, Udžbenik Geodetskog fakulteta Sveučilišta u Zagrebu, Zagreb 1990

Examination:

The two written partial examinations are organized during the semester (two tests related to solving practical issues). Each practical exam is scored out of a maximum of 25 score points (2*25=50 total points).

a) If the student's total scores (a sum of the scores from two practical tests) is 55%, student access the final theoretical exam. The minimum passing threshold for theoretical exam is 55%, and in that case the final grade is formed as the arithmetic mean value of the practical and theoretical exams.

b) If the student's total score (a sum of the scores from two practical tests) is less than 55%, it is possible to compensate the difference to 55% on the final practical exam. If the student has 55% of a maximum score, student can access the final theoretical exam. The minimum passing threshold for theoretical exam is 55%, and in that case the final grade is formed as the arithmetic mean value of the practical and theoretical exams.

c) Students who do not achieve the required scores on the previously described examinations, can access the final exam (practical part 50%, theoretical part 50%) in September. If student has 55 % of score points (practical part) can access the theoretical exam, and if the score is 55% the grade is formed as the arithmetic mean.

If a student is dissatisfied with an achieved score, the student can access the canceled exam (practical or theoretical).