

**GED 507 Geodetic Linear Estimation Theory (3+0+0) 3 ECTS 10**  
**Autumn 2018-2019**

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**COURSE DESCRIPTION**

Probability, determinism, random variables and sampling in geodesy. General procedure of geodetic methodology. Concepts of, and relations between observation, model and solution spaces. Linear mean square estimation of parameters of observation, model and solution spaces. Generalized inverse.

**COURSE CONTENT**

Concepts of Observation and the Model  
Statistical Concepts  
Error Properties  
Principle and Techniques of Propagation  
Introduction to Least Squares Adjustment  
Adjustment with Conditions Only  
Examples and General Discussion on Adjustment with Conditions Only  
Least Squares Adjustment with Conditions and Constraints  
Adjustment with Derived Observations and Adjustment in Steps  
Numerical and Statistical Consideration in Adjustment

**COURSE OBJECTIVES**

To introduce how to obtain the best possible model parameters using observational data

**GRADING**

Homework	30%
Midterm exam	30%
Final exam	40%