

Course title: Engineering Survey (mines included)

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course title:	Engineering Survey (mines included)		
Level:	Master		
Course Status:	Mandatory		
Year of Study:	Year 2, Semester 3		
Number of Classes per Week:	2+2		
ECTS Credits:	6 ECTS		
Time /Location:	According to the Timetable		
Teacher:	Prof. Dr. Ismail Kabashi		
Contact Details:	Email: ismail.kabashi@uni-pr.edu		
Course Description:	Course Engineering Survey (mines including) is one of the most important courses of Geodesy. It offers knowledge about: implementation and quality control of geodetic networks, determining surface elements of referent systems, movements of referent geodetic networks, it gives the basis for underground measurements and it includes all the tasks for infrastructure object supervising.		
Course Goals:	The aim of this course is to inform students with all responsibilities and tasks of engineering geodesy.		
Expected Learning Outcomes:	<p>After completing the course, students should be familiar with:</p> <ul style="list-style-type: none"> - Surveying instruments (theodolites, levels, total stations): principles, testing and adjusting. - Methods of precise distance and angular measurements - Horizontal geodetic networks: design, observation and computation - Height determination: levelling, trigonometric and barometric methods - Precise setting-out and alignment methods and instruments - Mine surveying: connecting surveys and orientation with gyro theodolite. <p>Deformation measurements: methods and analysis</p>		
Student Workload (should be in compliance with student's Learning Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises			
Practical Work			
Consultations with the teacher	2	15	30
Field Work			
Test, seminar paper	3	4	12
Homework	1	10	10

Self-study (library or home)	2	15	30
Preparation for final exam	8	2	16
Assessment time (test, quiz, final exam)	3	2	6
Projects, presentations, etc.	8	2	16
Total			150

Teaching Methods:

- Lecture
- Discussion during lectures
- Exercises
- Work in group

Assessment Methods:

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:

First valuation: 25%
Second Valuation: 25%
Homework: 10%
Attendance: 10%
Final Exam: 30%
Total: 100%

Primary Literature:

- 1) Kolonja, Y., Hamzai J. Gjeodezia inxhinierike, Libri 2 dhe 3. Tiranë
- 2) Kavanagh B.F. (2010) Surveying with Construction Applications.

Additional Literature:

- 1) Schofield W., Breach M. (2007) Engineering Surveying. Elsevier Ltd
- 2) J. Apolinar Munoz Rodriguez (2012) Laser scanner technology

Designed teaching plan

Week	Title of the Lecture
Week 1:	Use of precision geodetic instruments during the engineering survey
Week 2:	Engineering Geodesy in Construction
Week 3:	Geodetic survey during the construction of bridges
Week 4:	Geodetic survey during the construction of tunnels
Week 5:	Geodetic Monitoring or Geo-Monitoring and Online Monitoring, Geodetic Monitoring Systems
Week 6:	Geodetic Monitoring Methods
Week 7:	Geotechnical monitoring methods
Week 8:	Laser scanning technology
Week 9:	LiDAR 3D scanning
Week 10:	LiDAR 3D application in monitoring
Week 11:	Analysis of deformations and survey processing models, analysis of results and accuracy
Week 12:	Geodetic surveys in mines, overhead and groundwater network of base and heights
Week 13:	Connection between overhead and underground networks, precise orientation with gyroscope
Week 14:	Practical work - Monitoring high buildings or bridges

Week 15:	Practical work – Monitoring tunnels or mines
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Academic Policies and Code of Conduct

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 %.