

Introduction to Surveying Engineering (C003148)

Course size (nominal values; actual values may depend on programme)

Credits 5.0 Study time 150 h Contact hrs 55.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 2)	Dutch	practicum	30.0 h
		lecture	25.0 h

Lecturers in academic year 2018-2019

De Wulf, Alain	WE12	lecturer-in-charge
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Offered in the following programmes in 2018-2019

	crdts	offering
Bachelor of Science in Geography and Geomatics (main subject Geography)	5	A
Bachelor of Science in Geography and Geomatics (main subject Surveying)	5	A
Joint Section Bachelor of Science in Geography and Geomatics	5	A
Linking Course Master of Science in Geomatics and Surveying	5	A
Preparatory Course Master of Science in Geomatics and Surveying	5	A

Teaching languages

Dutch

Keywords

surveying engineering, topography, topometry, geomatics, laserscanning

Position of the course

Introduction to definitions and basic principles for the surveyor.
Understanding what kind of precision can be achieved with different topographical equipment and methods for measuring.

Contents

- Topographical units
- Introduction to geodesy and cartography
- Parts of topographical instruments
- Measurements of angles with total station
- Measurements of distances
- GPS and other global navigation satellite systems
- Laserscanning

Initial competences

Basic knowledge of physics.

Final competences

- 1 Concepts: water level, theodolite, total station, GPS, GNSS, gauging, accuracy, precision, reliability, quality, centering, compensator, coordinate systems, projection systems, electromagnetic distance measurement.
- 2 Insights: to know what topographical devices are available, and what advantages and disadvantages they have, to know what measuring methods are available, and what advantages and disadvantages identify these measurement types.
- 3 Skills: handling different methods and equipment to perform measurements.
- 4 Writing a scientific topographic report.
- 5 Attitudes: performing and interpreting measurements, learning to see all possible parameters that can influence the measurement.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, practicum

Extra information on the teaching methods

4 practical terrain exercises: levelling, measurement of angles, polygonation, GNSS

Learning materials and price

Schofield & Breach (2007) Engineering Surveying - 6th edition. (ISBN-13: 978 0 7506 6949 8)

Cost: about 20 EUR

References

An extended list of important books in Dutch, English, French and German available in the department's library.

Course content-related study coaching

Students can appeal to the lecturer and exercise assistants, and to the study guides foreseen by the geography department every year.

Evaluation methods

end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Written examination

Examination methods in case of periodic evaluation during the second examination period

Written examination

Examination methods in case of permanent evaluation

Report

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible in modified form

Extra information on the examination methods

Written examination about the theory.

Exercises: Written report on each exercise (possibility of feedback and oral review at the end of the semester).

Calculation of the examination mark

Theory: periodical (for 2/3 of the total score)

Exercises: non-periodical (for 1/3 of the total score)