

# Course Specifications

From the academic year 2017-2018 up to and including the

## Metal Constructions (E044700)

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

Credits 3.0 Study time 90 h Contact hrs 30.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 2)	Dutch	lecture	15.0 h
		seminar: coached	15.0 h
		exercises	

Lecturers in academic year 2018-2019

Van Tittelboom, Kim TW14 lecturer-in-charge

Offered in the following programmes in 2018-2019

	crdts	offering
<a href="#">Master of Science in Engineering: Architecture (main subject Architectural Design and Construction Techniques)</a>	3	A
<a href="#">Master of Science in Engineering: Architecture (main subject Urban Design and Architecture)</a>	3	A

Teaching languages

Dutch

Keywords

beam, weld, bolt, rivet, connections

Position of the course

The aim of the course "Structural steelwork analysis" is to teach the students how to design a simple steel construction according to the principles of elasticity and plasticity. The students are aware that choice between elastic or plastic design is dictated by the classification of the cross-sections defined in the Eurocode 3. The phenomena of instability are not treated in this course but in the course "Structural Analysis III"

Contents

- Calculation of steel constructions: Principles of the calculations of steel constructions, Welded joints, Prestressed bolted joints, Connections with fitting bolts and rivet studs, Solid-webbed beams

Initial competences

Statics, Strength of materials

Final competences

- 1 To be able to design simple connections with welds or bolts.
- 2 Being able to design an ordinary steel construction so that the strength conditions in the cross-sections are fulfilled (except for instability phenomena that are taught in the course "Structural Analysis III").

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, seminar: coached exercises

## Learning materials and price

### Syllabus

## References

- Berekening van Constructies II, D. Vandepitte, E Story-Scientia Gent, ISBN 90 6439 247 1
- [www.berekeningvanconstructies.be](http://www.berekeningvanconstructies.be)

## Course content-related study coaching

The lecturer and assistants can be contacted before or after the lectures or exercise sessions, through e-mail or after making an appointment.

## Evaluation methods

end-of-term evaluation

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

Written examination, open book examination

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

Written examination, open book examination

## Examination methods in case of permanent evaluation

## Possibilities of retake in case of permanent evaluation

not applicable

## Extra information on the examination methods

During examination period: theory = written closed-book exam (25%), exercises = written open-book exam (75%).

## Calculation of the examination mark

Weighting factor theory: 25%, exercises: 75%.