Course Specifications
Valid as from the academic year 2019-2020

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course offerings and teaching methods in academic year 2020-2021

A (semester 2)  English  Gent  lecture  15.0 h  group work  45.0 h

Lecturers in academic year 2020-2021
De Pauw, Bart  TW15  lecturer-in-charge

Offered in the following programmes in 2020-2021 crdts offering
Master of Science in Civil Engineering  5  A

Teaching languages
English

Keywords
construction concept, requirements programme, holistic view

Position of the course
Experiencing the evolution from an analytical design to the development of a holistic concept, with the integration of form, function and meaning of a structure. The followed method is based on the passing of conceptuel methods, mathematical and physical modelling and their experimental evaluation. This method is founded on "see and feel" and "touch and feel".

Contents
- Analytical concept development: Involvement of a concept, Analytical method for concept development
- Towards the holistic concept: Sources of concepts, Horizontal and linear structures, Making schemes for numerical models and resources, Vertical structures, Experimenting with numerical and physical models
- Generating concepts: Coverings, Developing an integrated concept
- assessment of the behaviour of a structure, designed oneself: testing of a physical model

Initial competences
Mechanics of materials; Structural analysis I, II and II; Reinforced and prestressed concrete.

Final competences
1. Determine the list of requirements for a structure; develop basic concepts; assess experimentally physical model
2. Derive requirements for a concept, developed one-self; design a numerical model; use advanced software for structural analysis; build a physical model of an advanced concept; develop original concepts for structures
3. Give sufficient attention to generate alternatives for structures; persuing originality and additional value in basic concepts

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

(Approved)
Teaching methods
  Group work, lecture, PDE tutorial

Learning materials and price
  Conceptual Design: Text and slides - on the electronic learning platform

References

Course content-related study coaching
  The teacher is available before and after courses.

Evaluation methods
  end-of-term evaluation and continuous assessment

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

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

Examination methods in case of permanent evaluation
  Assignment, 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
  During examination period: oral open-book exam, written preparation. During semester:
  graded workshop results. Frequency: 4 guided workshops.

Calculation of the examination mark
  Special conditions: 80% non-periodic evaluation and 20% periodic evaluation.