GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2020-2021

Bachelor Thesis (I002447)

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

Credits 6.0 **Study time 180 h** **Contact hrs** 45.0 h

Course offerings and teaching methods in academic year 2020-2021

A (year)	Dutch	Gent	self-reliant study activities	32.5 h
			seminar	2.5 h
			guided self-study	5.0 h
			lecture	5.0 h

Lecturers in academic year 2020-2021

Verhoest, Niko	LA20	lecturer-in-charge
Asselman, Jana	LA22	co-lecturer
Baeten, Lander	LA20	co-lecturer
De Mey, Marjan	LA25	co-lecturer
De Neve, Stefaan	LA20	co-lecturer
Höfte, Monica	LA21	co-lecturer
Ragaert, Peter	LA23	co-lecturer

Offered in the following programmes in 2020-2021	**crdts**	**offering**
Bachelor of Science in Bioscience Engineering (main subject Agricultural Sciences)	6	A
Bachelor of Science in Bioscience Engineering (main subject Cell and Gene Biotechnology)	6	A
Bachelor of Science in Bioscience Engineering (main subject Chemistry and Food Technology)	6	A
Bachelor of Science in Bioscience Engineering (main subject Environmental Technology)	6	A
Bachelor of Science in Bioscience Engineering (main subject Forest and Nature Management)	6	A
Bachelor of Science in Bioscience Engineering (main subject Land and Water Management)	6	A
Joint Section Bachelor of Science in Bio-Engineering	6	A

Teaching languages

Dutch

Keywords

Multidisciplinary literature search and case study with critical interpretation, group work, techniques for literature retrieval, written and oral reporting.

Position of the course

The bachelor thesis aims to assure that the student acquires a number of competences in an integrated manner. The bachelor thesis consists of a case study based on literature or practice. Therefore, the student makes use of previously taught techniques for literature search and annotation and for writing a scientific publication. In this course, specific attention is given to oral presenting scientific results.
During the development of the case study, students learn, in groups of 4, to work on a central, multidisciplinary theme through literature search and through a practical application that can help to gain insight into the topic that is studied. Activities that can be included as part of the project work are:

- develop a project proposal for future research: translate scientific problem statements into testable hypotheses, elaborate experimental design

- a quantitative computation
- a simulation
- a questionnaire: drawing up and practical execution of the questionnaire, processing of the results
- a case study: study of a practical application and quantitative audit
- a small lab experiment

The objective of the practical part of the project is to go through a certain learning process. The students have to gain insight in the organization of the execution of a project, learn how to formulate and answer a specific question and address a problem, both independently and as a team. They have to learn how to adapt the work flow, planning and group dynamics according to unexpected issues they may be confronted with in the process. The description of the project process can be part of the report, next to results and solutions. Both the literature review and the practical component comprise at least one third of the project. The topic can be broad, and make it possible to blend knowledge from different main subjects, or be more focused on a limited number of course units, from one or more main subjects. Where relevant, due attention is given to ethical, technical-economical, social and sustainability aspects. The results are compiled in a report (max. 30 p.). This report has to include a critical final consideration. The results are to be presented to a jury and to fellow students. Information about the organization and regulations of the bachelor thesis can be found at the website of the faculty.

Contents

In the frame of the Bachelor thesis, students get a training in oral presentations. The students are invited propose a subject of their own. These proposals have to be screened and accepted by a promotor who has to be searched and contacted for this purpose and a group of four students has to be found prepared to work on the proposed topic. Specific themes are also proposed by the TAS member of the Faculty of Bioscience Engineering at the start of the academic year. The promoters are responsible for the direct guidance of the group work throughout the academic year, though also tutors may be appointed for this purpose. More information related to the offer of bachelor thesis topics, including examples for each of the allowed practical components, can be found at the faculty website and/or is advertised through the learning platform.

Initial competences

The bachelor thesis builds on several of the competences from all other courses that are part of the bachelor programme in bioscience engineering.

Final competences

1 Collection, processing and reporting on relevant scientific information, independently and via team teamwork, development of team spirit
2 Working as a team and create a team spirit
3 Insight in the organization of the execution, planning and task assignments between team members of a project
4 Insight into relationships between different areas of knowledge
5 Apprehension of how to adjust planning and group dynamics in case of difficulties
6 Critical and creative approach of a problem, from an engineering approach, and with due attention for ethical, social and sustainability aspects
7 Essence of project work: Literature (literature search and processing, annotation); Practice oriented application (reporting of material and methods, results and findings); synoptic synthesizing, both in writing (report) as orally (presentation and discussion)

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

Guided self-study, lecture, seminar, self-reliant study activities

Extra information on the teaching methods

Students and promotors/tutors schedule regular contact moments. The practical part of the project comprises minimum one and maximum two work weeks per student of a

group of four students. The language of this course unit (report, presentation) is Dutch. In exceptional cases, the Programme Commission can allow deviations from this rule.
A training on oral presentating is given through a separate workshop.

Learning materials and price

1 Information for the methodological part will be made available through the learning platform.

References

Course content-related study coaching

The students are personally guided by the promoter/tutor for working out of the practical part, the redaction of the report and the oral presentation of the case study.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Oral examination, assignment, peer assessment

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

Oral examination, assignment, peer assessment

Examination methods in case of permanent evaluation

Participation

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

Theory: End-of-term assessment: by a jury; based on the report and prior to the defense of the project, the practical implementation of the theory is evaluated
Practical part: Continuous assessment: project work (planning, task assignment, commitment and cooperation, flexibility), evaluation by the promoter of the project

Details of the end-of-term assessment:
- Assignment (report):
In total max. 30 pages, of which literature review and practical part each at least 10 pages
o Structure, lay out, style, language
o Contents (literature research and processing, annotation, material and methods, results and findings of the practical part)
o Integrated, critical, creative and engineering approach of the problem
- Presentation: maximum 10 minutes
- Peer review: Each group will receive the report of another group for review and formulation of a few questions to ask at the defense
- Jury:
o The members of the reading commission each ask a few questions, the promoter in principle does not ask questions
o One jury member assesses the report with respect to the used methodology for scientific communication
o The report and oral presentation and defense are evaluated by all the members of the jury
o The students have ask their questions to the peer group first, before the jury members

Calculation of the examination mark

In principle, students within one group receive the same quotation. Deviation from this rule is only possible if motivated by the jury. The report and oral presentation respectively count for 2/3 and 1/3 of the total.
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.