

Bio-ethics (I001944)

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

Credits 3.0 **Study time 75 h**

Course offerings and teaching methods in academic year 2023-2024

A (semester 1)	English	Gent	seminar lecture independent work
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Lecturers in academic year 2023-2024

Focquaert, Farah	LW01	lecturer-in-charge
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Offered in the following programmes in 2023-2024

	crdts	offering
Master of Science in Bioscience Engineering: Agricultural Sciences	3	A
Master of Science in Bioscience Engineering: Cell and Gene Biotechnology	3	A
Master of Science in Bioscience Engineering: Chemistry and Bioprocess Technology	3	A
Master of Science in Bioscience Engineering: Environmental Technology	3	A
Master of Science in Bioscience Engineering: Food Science and Nutrition	3	A
Master of Science in Bioscience Engineering: Forest and Nature Management	3	A
Master of Science in Bioscience Engineering: Land, Water and Climate	3	A

Teaching languages

English

Keywords

Ethics, bioethics

Position of the course

The aim of this course is to introduce fundamental ethical approaches and common arguments in bioethical debate, and to encourage students to critically approach ethical questions related to bioscience engineering.

Contents

- Introduction to the main ethical theories.
- Introduction to critical thinking and ethical argumentation.
- Illustrative classes on the ethical aspects of different topics related to bioscience engineering:
 - stem cell research
 - synthetic biology and the dual use dilemma
 - genetically modified organisms
 - animal experimentation
 - clinical trials on human research subjects
 - food taxes and longevity
 - genomics
 - neuromodulation and bio-enhancement
 - deontological codes for engineers
 - responsibility of the engineer towards employer and society

Students will be encouraged to think critically about ethical issues and to develop well argued positions.

Part of the course will involve discussion on recent bioethical issues. The discussions provide an opportunity for the students to further develop a critical and in-depth understanding of the knowledge that is provided during the lectures.

Initial competences

- Good knowledge of English (the study materials and classes are in English)
- Analysing both abstract and concrete problems
- Taking a stance regarding a problem
- Reflecting critically about the engineering profession
- Analysing societal consequences of new developments within the field of engineering or related fields
- Being conscious about the role of engineers in society

Final competences

- 1 Constructing a coherent ethical argument regarding a theme that is related to bioscience engineering
- 2 Describing, recognizing and distinguishing the main theories in normative ethics
- 3 Understanding the specific ethical issues relating to the themes that are discussed
- 4 Articulating the main aspects incorporated in deontological codes for engineers
- 5 Understanding the responsibility of engineers towards their employers and society
- 6 Understand and reflect on ethical challenges that are relevant to the professional field of the bio-engineer
- 7 Integrating social responsibility and commitment in the practice of engineering

Conditions for credit contract

Access to this course unit via a credit contract is unrestricted: the student takes into consideration the conditions mentioned in 'Starting Competences'

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Seminar, Lecture, Independent work

Extra information on the teaching methods

Introduction of the different themes will be by traditional lecturing, but active participation of the students is expected in discussions about the different arguments, requiring individual preparation.

Learning materials and price

Texts and presentations to be made available by the lecturers (via Ufora)

References

Course content-related study coaching

By the responsible lecturers

Assessment moments

end-of-term assessment

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

Written assessment with open-ended questions

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

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Calculation of the examination mark

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.