

Basic knowledge of chemistry, mathematics and physics

Final competences

- 1 Identify the short- and long-term future consequences of plans and decisions along the entire value chain from an integrated scientific, economical, ethical and intergenerational perspective, and merge this into a solution-focused approach, moving towards a sustainable society
- 2 Have awareness regarding global and long-term dimensions of sustainability and a capacity to identify sustainability issues at local, regional and global scales, involving different stakeholder perspectives
- 3 Assess risks related to different approaches that can be used to increase resource sustainability in the value chain, develop scenarios and mitigation strategies, and assess environmental and social impacts, as well as technical and economic feasibility of these approaches and strategies.
- 4 Think beyond the boundaries of a single (research) domain or economic sector, and systematically explore and generate new ideas to evolve towards a more sustainable society.
- 5 Use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs.
- 6 Express openness to innovative scientific developments and their applications in a broad scientific, economic and social context.
- 7 Have the ability to make decisions and show leadership, based on a holistic understanding of the contributions of higher education, research, and business to value creation, in limited sized teams and contexts
- 8 Have intercultural competences, social and communicative skills which are essential to work in an international team and communicate with stakeholders, take leadership positions in the academic as well as non-academic sector, and to collaborate with a variety of stakeholders involved in the raw materials supply chain.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Excursion, group work, lecture, seminar, peer teaching, independent work

Extra information on the teaching methods

The course combines an online trajectory with an on campus week in Ghent. It consists of a series of online lectures and workshops given by experts in the field related to a variety of aspects of the circular economy, and a field visit, workshops and a tournament in the on campus week. In the tournament, multidisciplinary groups of 4-6 students are challenged to design a new city district, meanwhile working towards sustainable development goals, and dealing with scenario's and challenges with respect to food, energy, materials, water, urban planning and mobility. They should develop a masterplan and visualize their design.

Learning materials and price

English lecture slides will be distributed to students. All course material, including background reading material, is distributed electronically by means of Ufora.

References

Course content-related study coaching

The lecturers are available during and directly after lectures and workshops for questioning, feedback and guidance.

Evaluation methods

continuous assessment

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

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

Examination methods in case of permanent evaluation

Written assessment with open-ended questions, written assessment with multiple-choice questions, participation, assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Calculation of the examination mark