

## History of Contemporary Construction: Capita Selecta (E080070)

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

**Credits 4.0**

**Study time 120 h**

**Course offerings in academic year 2024-2025**

A (semester 2)

Dutch

Gent

**Lecturers in academic year 2024-2025**

Devlieger, Lionel

TW01

lecturer-in-charge

**Offered in the following programmes in 2024-2025**

[Master of Science in Engineering: Architecture\(main subject Architectural Design and Construction Techniques\)](#)

**crdts**

4

**offering**

A

[Master of Science in Engineering: Architecture\(main subject Urban Design and Architecture\)](#)

4

A

**Teaching languages**

Dutch

**Keywords**

material economy, material culture, circular building, architectural heritage, industrial history, construction history, history of technology, economic history

**Position of the course**

This course unit is deliberately located within the curriculum at the intersection between the design subjects, the building technology subjects, and the architectural sciences. From a historical perspective on the materiality of building components and the technology used to process them, a cultural, a construction and design-technical, a social and an ecological perspective on building is addressed.

**Contents**

The course "Modern building material ecologies" deals with the history of building material production, and more specifically with the transformations brought about by the industrialisation of building material production from the 18th and especially the 19th century to the present. The impact of these changes is examined from various angles, with an emphasis on the ecological, social and cultural impact. The background story against which this history is told is that of the Anthropocene. Industrialised and globalised building material production indeed has far-reaching consequences in terms of depletion of non-renewable resources, destruction of natural habitats, CO2 emissions, soil, water and air pollution and socio-economic impacts. The course starts with three introductory sessions, and then covers the relevant history thematically, material group by material group.

**Initial competences**

This course unit builds on certain final competences of the following course units: History of Architecture 1 and 2, Introduction to Philosophy and the History of Ideas, Theory of Architecture 1, Constructive Aspects of Buildings, Materials, History of Urban Planning, Concrete Technology.

**Final competences**

- 1 1. Recognise and name important historical building materials
- 2 2. List the main production steps of these materials
- 3 3. Understand the circularity potential (or otherwise) of the main historic building material families
- 4 4. Know the important milestones in the gradual industrialisation of the

production processes of building materials and the impact this has had on the environment

5 5. Outline the origins and controversy surrounding the notion of anthropocene

6 6. Give examples of historical circular and linear building material ecologies

7 7. The ability to apply the knowledge of building materials and their origin to a concrete example (historical building - topic paper)

#### **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, Independent work

#### **Extra information on the teaching methods**

The students follow the lectures and take note of the accompanying didactic material (reference texts, online films, ...).

For the exercise, they independently make a material analysis of an existing, self-selected building. This study, based on independent fieldwork, interviews, archive and library work, will result in a paper that is evaluated at the end of the semester.

#### **Study material**

None

#### **References**

Reference texts will be shared that relate to various disciplines: archaeology, architectural history, construction history, history of technology, etc. However, the following texts play a central role: Allwood, Julian, and Jonathan Cullen. *Sustainable Materials - with Both Eyes Open: Future Buildings, Vehicles, Products and Equipment - Made Efficiently and Made with Less New Material*. Cambridge, England: UIT Cambridge, 2011.

- Berge, Bjørn. *The Ecology of Building Materials*. 2nd ed. Amsterdam; Oxford: Elsevier/Architectural Press, 2009.
- Bonneuil, Christophe, Jean-Baptiste Fressoz, and David Fernbach. *The Shock of the Anthropocene: The Earth, History and Us*. Translated by David Fernbach. Verso Books, 2017.
- Hoskins, H.G. *The Making of the English Landscape*. London: Hodder & Stoughton, 1960.
- Moe, Kiel. *Empire, State & Building*. English edition. New York: Actar, 2017.

#### **Course content-related study coaching**

The electronic learning environment and organised feedback sessions in preparation of the paper.

#### **Assessment moments**

end-of-term and continuous assessment

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

Oral assessment

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

Oral assessment

#### **Examination methods in case of permanent assessment**

Assignment

#### **Possibilities of retake in case of permanent assessment**

examination during the second examination period is possible in modified form

#### **Extra information on the examination methods**

oral examination

#### **Calculation of the examination mark**

- End-of-term evaluation, presentation: 30% of final score
- model construction and analysis: 70% of final score

