

## Enterprise Architecture (F000897)

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

**Credits 4.0**

**Study time 120 h**

**Course offerings and teaching methods in academic year 2024-2025**

A (semester 1)

English

Gent

lecture

independent work

group work

**Lecturers in academic year 2024-2025**

Hron, Michal

EB24

lecturer-in-charge

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

**crdts**

**offering**

Master of Science in Complementary Studies in Business Economics(main subject Business Economics)

4

A

Master of Science in Business Engineering(main subject Data Analytics)

4

A

Master of Science in Business Engineering (Double Degree)(main subject Data Analytics)

4

A

Master of Science in Business Engineering (Double Degree)(main subject Finance)

4

A

Master of Science in Business Engineering(main subject Finance)

4

A

Master of Science in Business Engineering (Double Degree)(main subject Operations Management)

4

A

Master of Science in Business Engineering(main subject Operations Management)

4

A

Exchange programme in Economics and Business Administration

4

A

Exchange Programme Information Engineering Technology

4

A

**Teaching languages**

English

**Keywords**

Business/IT Alignment, Digital Transformation, Enterprise Coherence, Strategic Fit, Value Creation, Strategic Planning, Strategy Implementation, Enterprise Architecture, Enterprise Architecture Modelling, Enterprise Architecture Management, Enterprise Architecture Analysis, Architecture Viewpoint, Architecture View, Business Process Management, Business Process Architecture, TOGAF, ArchiMate, Archi

**Position of the course**

A specialized Master-level course in Business Informatics focusing on the discipline of Enterprise Architecture and its application for solving problems of enterprise coherence, strategic fit, and business/IT alignment, in particular in the context of strategic planning and implementation of digital transformation in organizations. The course also links Enterprise Architecture to Business Process Management (i.e., another specialized Master-level course in Business Informatics) through a specific focus on the modelling and analysis of business process architectures.

**Contents**

- Enterprise Architecture - Conceptual and Theoretical Framework
- Business Architecture - The basics of the ArchiMate language and introduction to the Archi tool
- Data, Application and Technology Architecture - The ArchiSurance case-study and further exploration of Archi
- Architecture Vision - Motivation and Strategy - ArchiMate extended
- Architecture Implementation and Migration - The ArchiMetal case-study

- Architecture Analysis - The Viewpoint Mechanism of ArchiMate
- A focus on Business Process Architecture - linking Enterprise Architecture to Business Process Management
- Enterprise Architecture in practice - guest lectures by speakers from highly recognized consultancy firms (or their clients) on the application of Enterprise Architecture in practice

#### **Initial competences**

- Knowledge of principles and practices of business and management
- Knowledge of the fundamental concepts and techniques of Computer Science and Information and Communication Technologies (ICT)
- Knowledge of the development of information systems and the role that information systems play in the operation and management of organisations
- Knowledge of and being able to work with UML as language for conceptual modeling
- Knowledge of and being able to work with BPMN as modeling language for business processes

#### **Final competences**

- 1 Understanding concepts and theories of Enterprise Architecture
- 2 Developing faithful enterprise architecture descriptions in ArchiMate
- 3 Mastering the use of the Archi tool for enterprise architecture modelling
- 4 Analysing enterprise architecture models
- 5 Conceiving and developing solution approaches to enterprise architecture related problems in case study settings and implementing them using ArchiMate and Archi

#### **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**

Group work, Lecture, Independent work

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

- Topics are introduced in lectures
- Reading (and other) assignments guide students in their study of the course materials
- Response colleges are scheduled for discussion of the assignments, Q&A, synthesis, exam preparation, etc.
- The practice of Enterprise Architecture is illustrated in guest lectures
- The group assignment involves a research project to be executed independently by teams of students - tutoring per group

#### **Study material**

Type: Slides

Name: Powerpoint presentations of the lecturers and possibly the guest speakers

Indicative price: Free or paid by faculty

Optional: no

Language : English

Available on Ufora : Yes

Type: Reader

Name: Learning materials as documents

Indicative price: Free or paid by faculty

Optional: no

Language : English

Additional information: A part of the learning material may be brought to the exam. Students are responsible for printing it and bear the cost thereof.

Type: Software

Name: Arch

Indicative price: Free or paid by faculty

Optional: no

Online Available : Yes

Additional information: Software tool for enterprise architecture modelling using the ArchiMate modelling language

## References

A reader with papers and references to relevant literature and research (including the research of the UGent Business Informatics research group) is made available via Ufora

The main course reference is:

- The Open Group (2022) ArchiMate 3.2 Specification.

Recommended optional materials include:

- Lankhorst, M. (2013) Enterprise Architecture at Work: Modelling, Communication and Analysis. Springer.
- Wierda, G. (2017) Mastering ArchiMate III.

## Course content-related study coaching

Via Ufora

## Assessment moments

end-of-term and continuous assessment

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

Written assessment

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

Written 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

End-of-term assessment: Written exam with multiple choice questions and one essay type of open question about the guest lectures that can be prepared beforehand. The multiple-choice questions assess the understanding of the learning materials, the ability to apply the learning materials and to analyse situations using the learning materials. The multiple-choice questions are graded according to the UGent standard setting for multiple-choice exams. The exam is a limited open-book exam using an exhaustive list of allowed learning materials.

Continuous assessment: Evaluation of the results of the group assignment for assessing the ability to create and evaluate solutions using the learning materials.

## Calculation of the examination mark

end-of-term evaluation: 1/2 of the final grade

continuous assessment: 1/2 of the final grade

Students need to pass both components. In case of failure for one of the components, the final grade cannot be more than 9.

## Facilities for Working Students

None