

Course Specifications

From the academic year 2017-2018 up to and including the

Project-based Systems Analysis and Design (F710330)

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

Credits 5.0 Study time 150 h Contact hrs 45.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 1)	Dutch	practicum	15.0 h
		seminar: practical PC room classes	15.0 h
		lecture	15.0 h

Lecturers in academic year 2018-2019

Van Looy, Amy EB24 lecturer-in-charge

Offered in the following programmes in 2018-2019

	crdts	offering
Master of Science in Business Administration (main subject Commercial Management)	5	A
Master of Science in Business Engineering (main subject Data Analytics)	5	A
Master of Science in Business Engineering (main subject Finance)	5	A
Master of Science in Business Administration (main subject Finance and Risk Management)	5	A
Master of Science in Business Administration (main subject HRM and Organizational Management)	5	A
Master of Science in Business Administration (main subject Management and IT)	5	A
Master of Science in Business Engineering (main subject Operations Management)	5	A
Master of Science in Business Administration (main subject Taxation)	5	A

Teaching languages

Dutch

Keywords

- (Software) development and implementation projects
- Software project management
- IT project management
- Object-oriented
- Requirements engineering
- Unified modeling language
- Graphical user interface
- Software testing
- Systems documentation
- Change management
- Systems maintenance
- Software entrepreneurship

Position of the course

Every commercial scientist specializing in IT management will be confronted with project work during his/her career. Some of them by being a project manager who should deliver a software system, others as a member of a project team (e.g. an analyst or change manager), or as a client of a specific IT project (e.g. a business manager or IT manager). Hence, it is paramount to understand the specific context of an IT project, and the methods and techniques typically applied in IT projects.

The purpose of this course is to gain insight into concepts and techniques that can be

applied throughout the development of information systems. Being able (1) to identify the needs of an organization on the one hand and (2) to design innovative information systems that meet these requirements on the other hand are both essential to create business value for an organization.

For this purpose, the course provides methods and techniques to manage and analyze IT projects in a professional way. Being structured around a project lifecycle, the course allows the students to grasp the important aspects of (1) project management and (2) systems analysis and design as from the start of an IT project until its end.

Contents

First, the students learn how an IT project can be initiated, planned and justified. Specific attention is given to the way business needs can be translated into IT solutions in order to create business value. Therefore, techniques are offered to identify and detail the systems requirements, and to clearly report on them.

Then, methods are clarified to analyze and design a new IT software system by means of various object-oriented diagrams, which eventually serve as a guide for developers. It primarily concerns the functional modeling, structural modeling and behavioural modeling of an IT software system in UML (Unified Modeling Language).

Afterwards, based on this input, the screen layout (or the graphical user interface) of the intended IT software system will be designed.

Further on, we discuss the systems documentation and the design of various tests to determine whether the new system actually meets the previously identified systems requirements.

The students also learn how such a project can be monitored and controlled, and how risks, quality and configuration can be managed.

The course concludes by discussing how the new system can be successfully installed, including change management efforts.

Throughout a series of workshops, the students will also have the opportunity to create business value by managing an IT project and translating a concrete business need into a real-life business software solution.

Initial competences

- The students must meet the admission requirements of the program in which this course is situated.
- Basic knowledge of IT (information) management and informatics is strongly recommended.

Final competences

- 1 Manage an IT project by applying project management concepts and methods.
- 2 Analyze and design an IT project by applying object-oriented concepts and methods.
- 3 Link IT project management to systems analysis and design, and the other phases of a software project.
- 4 Innovate with software in order to create a business value for an organization.
- 5 Define, plan and manage an IT project.
- 6 Investigate the extent to which a software idea is feasible and detect the systems requirements.
- 7 Facilitate the implementation of a software solution.
- 8 Deal with complex problems by proposing a feasible software system and finding solutions for the difficulties faced by IT projects.

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, practicum, seminar: practical PC room classes

Extra information on the teaching methods

It is required to attend the sessions.

The course consists of four blocks.

Each block contains:

- a theoretical session

- a session with exercises in class to apply the concepts and methods in complex practical problems
- a workshop regarding a specific IT project

Learning materials and price

Mandatory literature:

- Slides
- Tegarden, D., Dennis, A., & Wixom, B. H. (2013). Systems Analysis and Design with UML. International Student Version (4th edition). Singapore: John Wiley & Sons.

Optional literature:

- Cadle, J., & Yeates, D. (2008). Project Management for Information Systems (5th edition). Essex: Pearson Education - Prentice Hall. ISBN: 978-0-13-206858-1

References

- <http://www.uml.org/>
- <http://www.omg.org/spec/UML/>
- Prince2 project methodology
- PMI's Project Management Body of Knowledge (PMBOK)

Course content-related study coaching

Students have the opportunity to ask questions during the sessions, by e-mail, or during an individual appointment.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Written examination

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

Written examination

Examination methods in case of permanent evaluation

Assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

First examination period:

- Written exam: 20 multiple choice questions with 4 answer options each ('standard setting').
- Permanent evaluation: IT project in small groups.

Second examination period:

- Written exam: 20 multiple choice questions.
- Permanent evaluation: redo the IT project individually.

Calculation of the examination mark

- End-of-term evaluation: 50%
- Permanent evaluation: 50%