

## Cloud Applications and Mobile (E736010)

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

**Credits 6.0**

**Study time 180 h**

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

A (semester 2)

Dutch

Gent

lecture

**Lecturers in academic year 2024-2025**

Sartor, Jennifer

TW06

staff member

Van Hoecke, Sofie

TW06

lecturer-in-charge

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

Master of Science in Electronics and ICT Engineering Technology(main subject Electronics Engineering)

**crdts**

6

**offering**

A

Master of Science in Electronics and ICT Engineering Technology(main subject Embedded Systems)

6

A

Master of Science in Electronics and ICT Engineering Technology(main subject ICT)

6

A

**Teaching languages**

Dutch

**Keywords**

cloud computing, cloud applications, mobile applications, SaaS, Web services, REST, web applications, IoT, IIoT, WoT, Semantic Web

**Position of the course**

The goal of this course is to learn students advanced knowledge on cloud computing and mobile applications. In particular, we focus on the principles, techniques and best practices that are relevant to the design and implementation of cloud applications on one hand and mobile applications on the other hand, as well as on hands-on experience with such applications.

**Contents**

- Introduction
- Cloud / PaaS / IaaS / CaaS
- Software as a Service
  - Web services
  - From IoT to WoT
  - Semantic Web
- Web-of-Things
- Mobile applications (more specifically Android app development)

**Initial competences**

Knowledge of object oriented programming, web development and security.  
Computer networks course of at least 6 credits followed.

**Final competences**

- 1 Able to make a basic design and implementation of a distributed application (web/rest/soap/semantics/...)
- 2 Knowledge of common technologies for the realization of distributed applications and able to explain the differences between them
- 3 Able to make a basic design and implementation of a mobile Android application
- 4 Adopt a critical attitude in the design and evaluation of cloud infrastructures, based on a thorough technical understanding of the subject
- 5 Has a critical mind, is independent and evaluates alternatives when designing

distributed applications

### **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, Practical

### **Study material**

Type: Slides

Name: Slides on Ufora

Indicative price: Free or paid by faculty

Optional: no

Language : English

Number of Slides : 2000

Oldest Usable Edition : Yearly update of slides

Available on Ufora : Yes

Online Available : Yes

Available in the Library : No

Available through Student Association : No

### **References**

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

### **Assessment moments**

end-of-term and continuous 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**

Participation, 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**

Exam is a written exam, open questions, theory questions are closed book, exercises are open book.

Permanent evaluation: graded on participation and assignments/projects. The evaluation of the according deliverables is based on the accuracy, completeness, efficiency and critical attitude of the source code and the reports submitted for assignments and projects.

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

PGE 60% + NPGE 40%

In order to pass the course, the student must obtain at least 8/20 for the PE (exam) and the NPE (handing in all assignments and at least average score of 8/20). If this condition is not met, the final score will deviate from the calculated score if 10 or more was obtained and the student will receive score 9/20.