Course Specifications
Valid in the academic year 2019-2020

Lecturers in academic year 2019-2020
Ongenae, Veerle TW05 lecturer-in-charge

Offered in the following programmes in 2019-2020
Bachelor of Science in Engineering Technology (main subject Information Engineering Technology) 3 A
Preparatory Course Master of Science in Information Engineering Technology 3 A

Teaching languages
Dutch

Keywords
XML technologies, Database Access, XML, DTD, XML Schema, SAX, DOM, JAXP, JAXB, ADO.NET, JDBC, ORM, JPA, Entity

Position of the course
The purpose of this course is to teach different options to save, load, exchange, ... data in application.

Contents
- XML
- DTD
- XML Schema
- ADO.NET
- JDBC
- ORM
- JPA
- Entity Framework
- DOM
- SAX
- JAXB

Initial competences
- Being able to program and design in an object oriented way on an advanced level in Java.
- Basic knowledge about databases (might be followed at the same time).
- Programming in C# (might be followed at the same time).

Final competences
1. To have insight in the basic principles of data access an to be able to design a database access layer and to implement it in Java and C# using the JDBC and ADO.NET libraries.

2. To have insight in the basic principles of ORM and to be able to design a database access layer and to implement it using the ORM principles, both with JPA Hibernate.
as with the Entity Framework.
3 To be able to make an XML Schema and a DTD and to decide which XML
technology is most appropriate in the given situation.
4 To have insight in the basic principles of SAX, DOM, XML binding and to be able to
develop a Java application using XML documents.

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, seminar: practical PC room classes

Extra information on the teaching methods
- Lectures (12 hrs)
- Labs (12 hrs): individual work on PC; presence required
- Task (6 hrs): computer lab; presence required

Learning materials and price
Lecture notes, slides, tutorials on the Internet, examples of programming.

References
"Professional ADO.NET 3.5 with LINQ and the Entity Framework", Roger Jennings, Wrox, 2009
"XML in a Nutshell - A Desktop Quick Reference", Harold Elliotte Rusty, Means W Scott, O'Reilly, 2001
Programming Entity Framework, Code First, Julia Lerman & Rowan Miller, O'Reilly, 2012
The Java EE Tutorial, Eric Jendrock, Ricardo Cervera-Navarro, Ian Evans, Kim Haase, William Markito, Oracle, 2014

Course content-related study coaching
The student can always make an appointment with the teachers.

Evaluation methods
end-of-term evaluation and continuous assessment

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

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

Examination methods in case of permanent evaluation
Skills test

Possibilities of retake in case of permanent evaluation
Examination during the second examination period is possible in modified form

Extra information on the examination methods
The score on the NPE is the combination of a test on the labs (2/3) and the group
assignment (1/3).
If you do not pass the course and the NPE, you will complete one test on all
assignments (labs and tasks) in the second exam period. These points replace the
quotation for the NPE.

Calculation of the examination mark
Lectures: 50% (oral examination)
Exercises: 50% (test and group assignment)