

Offered by
ICT Engineering

2.0

Software Development of Distributed Systems

ECTS

5

Prerequisites

Condition for following IT-SDJ3 is that you have followed the courses IT-SDJ1 and IT-SDJ2, or similar courses at your home institution. • IT-SDJ1 • IT-SDJ2 The course must be passed before graduation.

- IT-SDJ1
- IT-SDJ2

Main purpose

The students should be introduced to basic theory of distributed systems and be able to design and implement a distributed system.

Knowledge

The students will

- be introduced to various distributed system types (e.g. client/server, peer-to-peer)
- get knowledge of the 3-tier architecture
- get knowledge of various distributed communication methods
- be introduced to examples of distributed algorithms

Skills

The students will be able to:

- use various middleware (e.g. Web Services)
- choose middleware for a given distributed system

Competences

The students will be able to

- design the architecture of a distributed system using the 3-tier model
- design and implement a distributed and on different platforms using various middleware

Topics

- client/server systems
- peer-to-peer systems
- 3-tier architecture
- web services middleware
- object orientation in distributed system
- concrete middleware systems
- distributed synchronization and distributed transactions

Teaching methods and study activities

The semester has 56 classroom lessons. These lessons consist of exercises and teacher presentations. The total workload of the student is expected to be around 140 hours.

Referring to the Study Activity Model, the workload is distributed as follows:

CATEGORY 1

Participation of lecturer and students
Initiated by the lecturer
42 hours - 30%

10/9/2018

- Lessons, scheduled
- Exercises in class
- Project guidance
- Exam

CATEGORY 2

Participation of students
Initiated by the lecturer
42 hours - 30%

- Exercises
- Project and group work
- Homework

CATEGORY 3

Participation of students
Initiated by students
42 hours - 30 %

- Self-study
- Group work
- Literature search
- Preparation for exam

CATEGORY 4

Participation of lecturer and students
initiated by students
14 hours - 10 %

- Study guidance

Resources

Coulouris & Dollimore & Kindberg & Blair, Distributed Systems -- Concepts and Design, Fifth Edition, Addison-Wesley, 2012.
Notes

Evaluation

Permit criteria for attending examination:

- Group reports including student's name handed in before deadline.

Examination

Oral Examination

The examination is a joint exam with IT-SEP3 and IT-DNP1.

Group presentation followed by individual examination.

Group presentation of the IT-SEP3 project - 5 minutes per person.

Individual examination - 35 minutes including examination in IT-SEP3, IT-SDJ3 and IT-DNP1.

Allowed tools: All

Internal exam.

Grading criteria

IT-SEP3 accounts for 50% of final grade.
IT-SDJ3 accounts for 25% of final grade.
IT-DNP1 accounts for 25% of final grade.

Additional information

Responsible

10/9/2018

Ole Ildsgaard Hougaard (OIH)

Valid from
1.8.2018

Course type
ICT Engineering; Compulsory Course for all ICT Engineering; 3. semester;

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