Reg No: 2011/2

Faculty of Economic Sciences, Communication and IT
Computer Science

Syllabus

Course Approval
The syllabus was approved by the Faculty Board of Economic Sciences, Communication and IT on 31 August 2011 , and is valid from the Autumn semester of 2011 at Karlstad University.

Course Code: DVGC15
Distributed systems and applications, 7.5 ECTS Credits
(Distribuerade system och tillämpningar, 7.5 Swedish credit points)
Degree Level: Bachelor
Progressive Specialisation: G2F (First cycle, has at least 60 credits in first-cycle course/s as entry requirements)

Language of Instruction
The language of instruction is English if so required by international students or teachers, otherwise in Swedish.

Prerequisites
Computer Science 60 ECTS Credits, including the course Programming Techniques, 7.5 ECTS Credits (DVGA01), Operating Systems, 7.5 ECTS Credits (DVGB01) and Computer Networking I, 7.5 ECTS Credits (DVGB02), or the equivalent.

Major Field of Study
DVA (Computer Science)

Learning Outcomes

The course aims to provide an orientation within the field of distributed systems, both in terms of theoretical aspects and how the theories are realized in different distributed systems such as peer-to-peer networks, distributed file systems, and grid computing. The course provides the opportunity for intensive study of a sub-area connected to distributed systems.

Upon completion of the course, students should be able to:
- describe the principles of distributed systems and comprehend the different problem areas in distributed systems
- give a general account of different distributed systems and their potential advantages and disadvantages
- describe the most common theoretical approaches in distributed systems
- independently compile and present information of a smaller sub-area of distributed systems.

Content and Form of Instruction

The course comprises a review of basic theory in distributed systems and provides examples of several fields of application for distributed systems. The fields of application that are covered in the course can be adapted and varied slightly between course moments. The principal course content is covered in the following points but, in order to keep in step with the technological development, some minor adjustments can be made.

- System models

- Time and global conditions
- Coordination and consensus
- Distributed objects
- Peer-to-Peer
- Grid computing

Instruction is in the form of lectures and literature studies with reading directions and study guides. The course also includes hand-in assignments and a presentations assignment.

Reading List

See separate document.

Examination

Examination is in the form of written exam and obligatory presentation assignment.

Grades

One of the grades Fail (U), 3 (Pass), 4 (Some Distinction), or 5 (Distinction) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University stipulate the obligations and rights of students and staff.

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