COURSE SYLLABUS

Tillämpad Cloud Computing och Big Data
Applied Cloud Computing and Big Data
7,5 ECTS credit points (7,5 högskolepoäng)

1 Course title and credit points
The course is titled Applied Cloud Computing and Big Data/Tillämpad Cloud Computing och Big Data and awards 7,5 ECTS credits. One credit point (högskolepoäng) corresponds to one credit point in the European Credit Transfer System (ECTS).

2 Decision and approval
This course is established by 2015-10-23. The course syllabus is approved by Head of Department of Software Engineering and applies from 2017-08-28. Reg.no: BTH 4.1.1-0544-2015

3 Objectives
The mobile and connected world of today generates a large amount of data that needs to be managed, analysed, and linked. This is often done on the cloud. The development, deployment, and management of this is called Cloud Computing. The purpose of this course is to offer a wide background about designing, developing, deploying, testing, and monitoring a cloud solution, specifically with a focus on big data problems.

4 Content
The course offers an overview of popular cloud platforms and the design and deployment of cloud applications. The course also discuss solutions for Big Data Analysis. The course is divided in five modules:
- Course contents
  - Basics of Cloud Computing
  - Cloud Infrastructure
  - Big Data Analysis
  - Monitoring and Control of Cloud/Big Data solutions

5 Aims and learning outcomes
Knowledge and understanding
On completion of the course the student should be able to:
- In depth be able to describe challenges with Big Data Analysis
- In depth be able to describe different types of cloud platforms
- In depth be able to describe different reasons for adopting a cloud solution, and the challenges with these different reasons.
- In depth be able to reason about solutions to the common challenges with the cloud solutions.

Skills and abilities
On completion of the course the student should be able to:
- Independently be able to set up a development environment consisting of local machine configurations and cloud based servers.
- Independently be able to implement and configure a big data analysis, including configuring the cloud platform and (if applicable) database.
- Independently be able to set up a continuous monitoring and control of a big data/cloud solution.

Values and attitudes
On completion of the course the student should be able to:
- Be able to evaluate different reasons for choosing a cloud solution and select a suitable solution accordingly.
- Be able to evaluate a problem description for a big data analysis and evaluate the potential to create a scalable cloud solution.

6 Learning and teaching
The teaching is done in the form of online lectures, written material, literature, and research literature. Examination is done through written reports and computer based lab exercises.
The teaching language is English.

7 Assessment and grading
Examination of the course

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<th>Code</th>
<th>Module</th>
<th>Credit</th>
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The course will be graded G Pass, UX Insufficient, supplementation required, U Fail.

8 Course evaluation
The course coordinator is responsible for systematically gathering feedback from the students in course evaluations and making sure that the results of these feedback back into the development of the course.

9 Prerequisites
At least 120 credits in a technical subject and a minimum of 2 years professional experience in software development (shown by, for example, a work certificate from an employer).

10 Field of education and subject area
The course is part of the field of education and is included in the subject area Computer Science and the subject area Software Engineering.

11 Restrictions regarding degree
The course cannot form part of a degree with another course, the content of which completely or partly corresponds with the contents of this course.

12 Course literature and other teaching material
Kurslitteratur

Referenslitteratur