JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

DevOps Fundamentals, 7.5 credits

Grundläggande DevOps, 7,5 högskolepoäng

Course Code:	TDOK12	Education Cycle:	First-cycle level
Confirmed:	Mar 01, 2022	Disciplinary domain:	Technology
Valid From:	Aug 31, 2026	Subject group:	Computer Technology
		Specialised in:	G2F First cycle, has at least 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Computer Engineering

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and Understanding

- display knowledge of the purpose and benefits of DevOps in a software architecture
- display knowledge of constructing and designing software in a DevOps environment
- display knowledge of continuous integration, continuous delivery, continuous feedback, and continuous operations

Skills and Abilities

- demonstrate the ability to architect solutions for maintainability, scalability, security, usability, reliability, and flexibility
- demonstrate the ability to integrate and deliver continuously (automation, deployments, monitoring, tests)
- demonstrate the ability to implement a fully integrated DevOps pipeline in a software architecture

Judgement and Approach

- demonstrate the ability to assess and identify adequate DevOps solutions in an organizational (software) architecture
- demonstrate an understanding of which practices need to be implemented to successfully integrate DevOps in a company infrastructure.

Content

The course aims to convey the fundamentals of DevOps in software architecture. Teaching covers everything from the initial idea of DevOps, the need for DevOps and the benefits of DevOps in software solutions. The course focuses on how to identify potential DevOps solutions in software architectures, embracing the DevOps life cycle, planning with DevOps, developing for DevOps, and finally deployment in a DevOps pipeline. The course also gives the students the ability to implement their own DevOps pipelines in already existing solutions, utilizing skills and knowledge gained from previous courses in software development which DevOps builds on.

The course includes the following elements:

- Evolution of DevOps
- Benefits of DevOps
- Monoliths vs Microservices
- Identifying appropriate DevOps solutions
- Integrating DevOps solutions

- Establishing DevOps values
- DevOps Life Cycle
- Planning with DevOps
- Ensuring Maintainability, Scalability, Security, Usability, Reliability and Flexibility
- Deployment, CI/CD
- Documenting DevOps

Type of Instruction

Tuition will consist of lectures and project work.
All work is individual unless specified otherwise. No plagiarism allowed.

Language of instruction is English.

Entry Requirements

General entry requirements and completed courses 60 credits in first cycle, including Object Oriented Programming, 7,5 credits and Object-oriented Software Development with Design Patterns, 7,5 hp credits or Object-oriented Software Development 6 credits (or the equivalent).

Examination and Grades

The course is graded 5, 4, 3 or U.

Registration of examination:

Name of the Test	Value	Grading
Examination [1]	5 credits	5/4/3/U
Project	2.5 credits	G/U

[1]Determines the final grade of the course, which is issued only when all course units have been passed.

Course Literature

Please note that the course literature may be revised up to eight weeks before the start of the course.

Title: DevOps for dummies
Author: Emily Freeman
Pyblisher: Wiley
ISBN: 978-1-119-55222-2