



Blekinge Institute of Technology
Department of Computer Science

COURSE SYLLABUS

UNIX och Linux, en översikt och introduktion

UNIX and Linux, an Overview and Introduction

7,5 ECTS credit points (7,5 högskolepoäng)

Course code: DV1466

Educational level: First cycle

Course level: G1N

Field of education: Technology

Subject group: Computer Technology

Subject area: Computer Science

Version: 9

Applies from: 2013-09-02

Approved: 2013-06-17

1 Course title and credit points

The course is titled UNIX and Linux, an Overview and Introduction/UNIX och Linux, en översikt och introduktion 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 School of Computing 2013-06-17. The course syllabus was revised by School of Computing and applies from 2013-09-02. Reg.no: BTH 4.1.1-0425-2013

3 Objectives

An operating system implements some kind of interaction philosophy between user and machine. UNIX-like systems emphasise programmatic interfaces for easy automation of repetitive tasks. This design makes UNIX the dominant operating system for large-scale servers and small mobile devices.

The aim of this course is to introduce students to the command prompt, basic tools and commands, their areas of application, and ways to combine them into larger workflows. The course also addresses incremental methods for solving problems by breaking them down into partial problems, and how the solutions of these can be integrated into larger solutions. The course provides an introduction to the subject, and its methods of technology create a sufficient basis for further independent studies. The course also familiarises students with UNIX for daily use, and the problem-solving skills that students will develop will primarily be useful in other training in software development.

4 Content

The key components of the course are:

- comparison between dialogue based on the command line interface and graphical user interface

(GUI) with predefined menu selections

- use of pipelines as a method for incremental development based on problem specifications and partial solutions for advanced testing
- operating systems based on files: introduction to hierarchical filing systems, the taxonomy problem and its solution through hard and soft links, streams, authorisation and ownership
- text as a general format for semi-structured data: creation, extraction, processing and output of multi-level delimiters (e.g. fields and posts). Operations of filtering and limiting, and how they can be constructed from standard commands such as head, tail, awk, grep and sed (POSIX standard)
- methods to combine different tools: string escaping, embedded commands and expansions, regular expressions, pipelines and redirection

5 Aims and learning outcomes

Knowledge and understanding

On completion of the course, the students shall be able to:

- demonstrate an understanding of the functionality of the POSIX core tools

Competence and skills

On completion of the course, the students shall be able to:

- break down problems into smaller parts with well-defined inputs and outputs
- analyse the usefulness of tools in different problem-solving phases
- create suitable test data for both partial and holistic solutions, and identify test cases
- integrate partial solutions into holistic solutions to solve problems.

6 Generic skills

7 Learning and teaching

The course is held on campus and is laboratory based with integrated lectures. These lectures give

the necessary starting point for the remainder of the course which is self-directed learning with supervision from the teacher.
The students acquired skills are measured through a series of laboratory assignments.
Assignments can be handed in either individually or in groups. The purpose of these assignments are to make the students familiar with the skills needed to locate reference material and use these for solving a specific problem.
English

8 Assessment and grading

Examination of the course

Code	Module	Credit	Grade
1310	Assignment 1	1.5 ECTS	A-F
1320	Assignment 2	2 ECTS	A-F
1330	Assignment 3	2 ECTS	A-F
1340	Assignment 4	2 ECTS	A-F

The course will be graded A Excellent, B Very good, C Good, D Satisfactory, E Sufficient, FX Fail, supplementation required, F Fail. The final grade is based on a weighted average. Rounding occurs downwards.

9 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 feed back into the development of the course.

10 Prerequisites

General requirements for university studies.

11 Field of education and subject area

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

12 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.

13 Additional information

Replaces DV1402 and DV14442.

14 Course literature and other teaching material

Title: A Practical Guide to Ubuntu Linux (3rd edition)

Author: Mark G. Sobell

Publisher: Prentice Hall (2010)

Number of pages: 1320

ISBN-13: 978-0132542487

