

COURSE SYLLABUS

Network Design - Wireless Networks, 7.5 credits

Nätverksdesign - Trådlösa nätverk, 7.5 högskolepoäng

Course Code: TNNK13	Education Cycle: First-cycle level
Confirmed: Mar 01, 2023	Disciplinary domain: Technology
Valid From: Aug 31, 2026	Subject group: Other Subjects within Technology
	Specialised in: G1F First cycle, has less than 60 credits in first-cycle course/s as entry requirements
	Main field of study: Informatics

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and Understanding

- demonstrate comprehension of the physical characteristics of radio waves and their impact on data communication
- demonstrate comprehension of wireless network fundamentals regarding protocols and standards

Skills and Abilities

- demonstrate the ability to plan and operate network environments with wireless networks
- demonstrate the ability to build wireless networks for professional use

Judgement and Approach

- demonstrate the ability to evaluate existing wireless solutions and propose improvements.

Content

The course includes the configuration of wireless networks, how radio waves can be used for communication and how their physical properties influence the planning of wireless networks. The course also addresses how clients are used in wireless networks, how they can be physically moved without losing contact with the network, and how to secure and troubleshoot wireless networks.

The course includes the following topics:

- Introduction to wireless networks
- Installation of wireless access points and controller units
- Wireless clients
- Basic wireless network security
- Planning and troubleshooting of wireless networks

Type of Instruction

Lectures and laboratory work.

Language of instruction is Swedish but English may occur.

Entry Requirements

General entry requirements and completed course Network Security, 7,5 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	4.5 credits	5/4/3/U
Laboratory	3 credits	G/U

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

Other Information

The prerequisites require that you:

- are competent in using and administering Cisco routers and switches
- have a solid knowledge of DHCP, 802.1q trunks and VLANs, and subnetting

Course Literature

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

Title: CWNA Certified Wireless Network Administrator Study Guide: Exam CWNA-108, 6th Edition (2021)

Author: David D. Coleman, David A. Westcott.

Publisher:

ISBN: 978-1-119-73450-5