



# IO2654 Optical Networking 7.5 credits

## Optiska nätverk

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for IO2654 valid from Spring 2019

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

Information Technology, Information and Communication Technology

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

After the course a student should be able to:

- define the main possibilities and limitations of optical network technologies
- identify and illustrate the main differences between optical networking and traditional networking
- solve simple WDM network design and optimization problems
- analyze the concept and compare and assess the benefits of optical layer survivability
- identify, illustrate, and compare the main issues in management and control of optical networks

## Course contents

- Basics on communication networks
- Layered network models
- The optical layer
- Optical Networks static design
- Dynamic provisioning in optical networks
- Optical network survivability
- Control and management for optical networks
- Optical access networks

## Specific prerequisites

Bachelor's degree in physics, electrical engineering or equivalent degree

## Course literature

Optical WDM Networks, B. Mukherjee Upplaga: 1 Förlag: Springer År: 2006 ISBN: 0-387-29188-1

## Examination

- ANN1 - Assignments, 2.5 credits, grading scale: P, F
- TEN1 - Examination, 5.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

**To pass the course one needs to pass a written exam (3 credits) and a homeassignments (4.5 credits).**

**The final grade will be based on the results from the exam and project work. To pass the course the students shall meet all goals of the course. For higher grade the students shall be able to show that they understand WDM network optimization issues and survivability mechanisms as well as have deeper knowledge about optical network management and control.**

**From 2007-07-01 the grades will include seven levels (A, B, C, D, E, Fx, F).**

## **Ethical approach**

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.