

# Computer Networks I

## Introduction

Malin Bornhager

Halmstad University



# Malin Bornhager



- **Instructor: CCNA, CCNP, Wireless LANs and Fundamentals of Unix**
- **Teaching courses in Computer Networks**
- **Office: F309**
- **E-mail: Malin.Bornhager@hh.se**
- **<http://www.hh.se/staff/maol>**

# Computer Networks I



- **Instructors**
- **What is Cisco Networking Academy (CNAP)?**
- **Cisco Certified Network Associate (CCNA) 1-4**
- **Academy Connection**

# Instructors



- **Malin Bornhager (course responsible, lectures, laborations, exercises)**
- **Philip Heimer (lectures)**
- **Patrik Persson (laborations)**

# What is Cisco Networking Academy

- **Cisco Networking Academy (CNAP)**
- **E-learning program**
- **Cisco Systems**
- **Cisco Academy Training Center (CATC)**
- **Regional Academies (RA), *Halmstad University***
- **Local Academies (LA)**
- **Students**

# Curriculum

- **CCNA 1 through 4**
- **CCNP 1 through 4 (new CCNP 1-3, released 2010)**
- **Fundamentals of UNIX**
- **Wireless LANs**
- **Network Security (I and II) / CCNA Security**
- **Java Programming**
- **IT Essentials I and II (PC Hardware and Software, Network Operating Systems)**
- **IP Telephony**

# CCNA – Cisco Certified Networking Associate



- **Discovery**
- **Exploration**
  - **Network Fundamentals (Computer Networks 1)**
  - **Routing Protocols and Concepts (Computer Networks 1)**
  - **LAN Switching and Wireless (Computer Networks 2)**
  - **Accessing the WAN (Computer Networks 2)**

# CCNA 1: Network Fundamentals



- **Introduction to fundamental networking concepts and technologies**
- **OSI Model**
- **TCP/IP**
- **Network devices**
- **Addressing**
- **Cabling**



# CCNA 2: Routing Protocols and Concepts

- **Understand how a router learns about remote networks**
- **Best path to networks**
- **Static routes and Routing protocols**
- **Configuration, verification and troubleshooting**
- **Routing table**

# Course Litterature

- **Online Curriculum**
  - <http://cisco.netacad.net>
- **Textbook:**
  - “Network Fundamentals, CCNA Exploration Companion Guide”, ISBN 1587132087
  - ”Routing Protocols and Concepts, CCNA Exploration Companion Guide”, ISBN 1587132060
  - <http://www.pearsoned.co.uk/bookshop/>
- **Laborations and Additional Course material**
  - **Course web page:**  
<http://www.hh.se/computernetworks1>

# Academy Connection



- **<http://cisco.netacad.net>**
- **User account**
  - **E-mail with username and password**
  - **Log in and change the password**
- **Use your University e-mail**

# Academy Connection – Log In

**Academy Connection - Cisco Systems - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Mail Print

Address <http://www.cisco.com/en/US/learning/netacad/index.html> Go Links

**CISCO SYSTEMS**

Log In | Register | Contacts & Feedback | Help | Site Map | Select a Location / Language

Products & Services | Ordering | Technical Support & Documentation | Learning & Events | Partners & Resellers | About Cisco

**Academy Connection**

Academy Connection

Program Overview  
Digital Divide  
Career Connection  
Course Catalog  
Success Stories  
Get Involved

Click here for IT SKILLS

Welcome to the Cisco Networking Academy Program web site. Our global e-learning program offers students an opportunity to pursue IT curricula through online instructor-led training and hands-on lab exercises to prepare them for the future.

**Cisco Networking Academy Program**

[Networking Academy Program Overview](#)  
The Cisco Networking Academy Program is a comprehensive program designed to teach students Internet technology skills.

[Digital Divide](#)  
The Academy program helps bridge the gap by offering programs in key countries and to underserved populations.

[Career Connection](#)  
Through Career Connection, participating employers have access to a global pool of trained IT professionals.

[Course Catalog](#)  
Review Networking Academy course offerings.

[Success Stories](#)  
Read the latest success stories about the Cisco Networking Academy Program.

[Get Involved](#)  
Participate in the Cisco Networking Academy Program - become an Academy, an instructor, a student or a sponsor.

**Academy Users Log In**

Username:   
Password:

- New User? [Learn more.](#)  
- Forgot your [Password?](#)

**Academy Locator**

[Find](#) an Academy near you.

**International Related Sites**

[Asia Pacific](#) | [Canada](#) | [EMEA](#) | [Japan](#)  
| [Latin America Spanish](#) | [Latin America Portuguese](#)

**CISCO SOLUTIONS AT WORK IN THE REAL WORLD**

Products & Services | Ordering | Technical Support & Documentation | Learning & Events | Partners & Resellers | About Cisco

© 1992-2005 Cisco Systems, Inc. All rights reserved. [Terms and Conditions](#), [Privacy Statement](#), [Cookie Policy](#) and [Trademarks](#) of Cisco Systems, Inc.

start | Inboxes - Microsoft Out... | My Computer | Datakomm1 | Datakomm1 - Notepad | Academy Connection... | SV | Links | Desktop | 11:39

# Academy Connection – Student Home

**Academy Connection - Microsoft Internet Explorer**  
File Edit View Favorites Tools Help  
Back Forward Stop Home Search Favorites Media Print Mail News RSS Feeds  
Address http://cisco.netacad.net/cnams/dispatch

**CISCO SYSTEMS NETWORKING ACADEMY** My Profile | Contacts & Feedback | Help | Logout

**ACADEMY CONNECTION**  
STUDENT HOME

**Headlines** View Recent Headlines | View Headlines Archive  
**Networking Academy Program Headlines**  
[New Look for Cisco Networking Academy Program Resources](#) (08/18/2005)  
[CCIA 2 Students: We Need Your Input!](#) (06/29/2005)  
[Academy Connection Enhancements Planned mid-March](#) (03/10/2005)

**Learn** View Historical Class List  
**My Classes**  
**Halmstad University** (View Information)  

Class Name	Start Date
CCNP3_v105	02/21/2005

  
[Benefits Available to You](#)

**Career Development**  
[Become an Instructor](#) | [Industry Certifications](#)  
[Career Path Mapping](#) | [Career Connection](#)  
[Education Resources](#)

**VIEW REPORTS**


**Forums & Chat**  
**Join the discussions**  
If you have successfully completed at least one course (previously called semester) of a curriculum, you are eligible to participate in the Alumni Connection forums and chats. Simply click the "Alumni Home" link on the left and proceed with the Alumni registration process if you have not already done so. Be sure to select "Yes" in your profile to participate in Forum & Chat "Community" features. Your Alumni Home Page will provide you with Forums & Chat links.

**Search**  
Academy & Class Locator  
Search by Keyword  
 **GO**

**Resources**  
Tools  
Course Materials  
Library  
Glossary  
Academy Marketplace

**Alumni Membership**  
You may soon be eligible to register as an Alumni. Watch for a link to the Alumni registration process to appear on the left navigation bar when you successfully complete your current course.

**Course Catalog**  
Learn more about the Networking Academy courses. [Read More](#)

**Success Stories**  
  
Hamid Swaps Cleaning For Technology [Read More](#)  
[Submit your success story](#)

**Academy Marketplace**  
Special discounts for Academies on products and services. [Read More](#)

# Academy Connection – Student Class

The screenshot shows a web browser window titled "Academy Connection - Microsoft Internet Explorer". The address bar contains the URL: [http://cisco.netacad.net/cnams/home/StudentClass.jsp;jsessionid=1E2F1E00588B59660CC749D62BC0D565.tc\\_4\\_2?pageName=Student&classID=3226](http://cisco.netacad.net/cnams/home/StudentClass.jsp;jsessionid=1E2F1E00588B59660CC749D62BC0D565.tc_4_2?pageName=Student&classID=3226). The page features the Cisco Systems Networking Academy logo and navigation links: "My Profile", "Contacts & Feedback", "Help", and "Logout".

The main content area is titled "Student Class" and displays details for the "CCNP3\_vt05" class. The "Class Details" section includes:

Course Name:	CCNP 3: Multilayer Switching
Language:	English
Version:	3.0
Start Date:	02/21/2005
End Date:	09/30/2005
Class Location:	<a href="#">Halmstad University</a>
Primary Instructor:	<a href="#">Olga Torstensson</a>
Email Address:	<a href="mailto:olga.torstensson@ide.hh.se">olga.torstensson@ide.hh.se</a>
Secondary Instructor:	
Email Address:	

Below the class details, there are sections for "View Official Course Material" (with links to "CCNP 3: Multilayer Switching Version 3.0 English", "Cisco Pedia", "Student Lab Manual (.exe file)", and "Student Lab Manual (.zip file)"), "Additional Course Materials", and "Assessments and Grades" (with links to "Take Assessment" and "Gradebook").

On the right side, there is a "Search" box with the text "Academy & Class Locator" and a "GO" button. Below the search box is a "Resources" section with links to "Tools", "Course Materials", "Library", "Glossary", and "Academy Marketplace".

At the bottom right, there are sections for "Alumni Membership" (with text about registering as an Alumni), "Course Catalog" (with text about learning more about courses and a "Read More" link), "Success Stories" (with an image of a student and text about "Hamid Swaps Cleaning For Technology" and a "Read More" link), and "Academy Marketplace" (with text about special discounts and a "Read More" link).

On the left side, there is a "Join the Alumni Community Today" banner with a "FIND OUT MORE" button. A navigation menu includes "ACADEMY CONNECTION", "STUDENT HOME", "My Classes", "CCNP3\_vt05", "Assessments and Grades", "Gradebook", "View Official Course Material", and "View Curriculum".

# Academy Connection - Gradebook

Academy Connection - Microsoft Internet Explorer

Address: http://cisco.netacad.net/cnams/gradebook/GradeBook.jsp;jsessionid=1E2F1E00588B59660CC749D62BC0D565.tc\_4\_2?classID=3226917&sourceID=5C&

**CISCO SYSTEMS NETWORKING ACADEMY**

My Profile | Contacts & Feedback | Help | Logout

Gradebook

**Gradebook**

**View Gradebook**

[About this page](#)

Below is your Gradebook for this class. Click an exam name to view details of that exam. Clicking individual exam scores will take you to the individual exam results page, which may contain a Proficiency Report and/or Personalized Feedback for that exam.

[Display Certificates and Letters](#)

**CCNP3\_vt05**

**Class Information**

Class Name: CCNP3\_vt05  
 Class ID: 3226917  
 Course: CCNP 3: Multilayer Switching  
 Version: 3.0

**Gradebook**

	Module 1 Exam	Module 2 Exam	Module 3 Exam	Module 4 Exam	Module 5 Exam	Module 6 Exam	Module 7 Exam	Module 8 Exam	Module 9 Exam	Module 10 Exam	Final Exam	Practice Certification Exam	Course Feedback	Skills Exam	Case Study	Custom Scores	Weighted Percentage	Grades	Attendance	Eligible for Certificate	Eligible for Letter	Result	
Weight (Totals 100)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	0							
View Item Information	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓													
Your Score	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	0.0	-	-				F

[VIEW AS CSV](#)

**Legend**

(\*) Regraded  
 (-) Not Taken

# Teaching



- **Lectures**
- **Exercises (2 hours week 37)**
- **Laborations (3 hours/week)**
  - 6 groups
  - Mandatory attendance
- **Extra laborations**
  - D514 and Packet Tracer



# Examination - Grading

- **Final Exam (2+2 credits)**
  - CCNA 1, Friday 24th of September
  - CCNA 2, Friday 22nd of October
- **Skills Exam (3.5 credits)**
  - Week 43 (25-29 of October)
  - Register on laborations later
- **Laborations**
  - Attendance to qualify for the skills exam
- **50% on EACH part to pass the course**

# Important regarding exams



- **Need to pass CCNA1 before continuing to CCNA2**
- **Need to pass Computer Networks 1 to qualify for Computer Networks 2**
- **Need to pass Computer Networks 2 to qualify for Computer Networks 3 ...**

# Certificate - CNAP



## Academy Connection:


- **Module Exams (self-study)**
  - To be allowed to take the final exam
- **Final Exam (CCNA 1 + 2) > 70%**
- **Skills Exam > 70%**

# Schedule



- <http://www.hh.se>
- **Course web page:**
  - [www.hh.se/computernetworks1](http://www.hh.se/computernetworks1)
  - **Link from** [www.hh.se/staff/maol](http://www.hh.se/staff/maol)

# Schedule – lectures



- W.35 Tuesday 10.15-12.00: Course Introduction**  
**Thursday 10.15-12.00: OSI Model, TCP/IP**
  
- W.36 Monday 10.15-12.00: IP Addressing, Subnetting, VLSM**
  
- W.39 Monday 10.15-12.00: Routing, Routing Table**
  
- W.40 Monday 10.15-12.00: Routing Protocols**

# Schedule - laborations



- W.36 Lab 1, Packet Tracer 4.0**
- W.37 Lab 2**
- W.38 Lab 3**
- W.39 Lab 4, Worksheet: Routing Table**
- W.40 Lab 5, Worksheet: VLSM**
- W.41 Lab 6**
- W.42 Self study (preparation for Skills Exam)**

# Schedule - exercises



**W.37 Monday 16.15-18.00 (Group 1 and 2)**

**Tuesday 8.15-10.00 (Group 3 and 4)**

**Tuesday 10.15-12.00 (Group 5 and 6)**

# Questions

