

Multilayer Switching

Halmstad University

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Course Disposition

- **Lecture part**
- **Laboratory exercises**
- **Seminar**
- **Written exam by the end of the course**
- **Practical exam by the end of the course**

Teachers

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- **Olga Torstensson <Olga.Torstensson@hh.se>**
Examiner, course responsible, lecturer
- **Malin Bornhager <Malin.Bornhager@hh.se>**
Lecturer
- **Philip Heimer <Philip.Heimer@hh.se>**
Conducting the ordinary laboratory exercises
Practical exam

Halmstad University, Sweden

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Course materials

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- **Seifert, R., *The Switch Book*,
Wiley Computer Publishing, 2000**
- **Implementing Cisco IP Switched Networks
(SWITCH) by Richard Froom, Erum Frahim
& Balaji Sivasubramanian.**
- **Scientific papers**

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Objectives

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- **Enterprise Network Design**
- **VLANs, Trunk Links**
- **Inter-VLAN Routing**
- **STP, Rapid Spanning Tree**
- **Multilayer switching**
- **Implementing High Availability with HSRP, VRRP and GLBP**
- **Security**

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Objectives

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- **QoS Models**
- **QoS DiffServ**
- **Congestion Management**
- **VoIP Basics**
- **WLAN topology**
- **QoS and Security in WLAN**

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Lectures

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- **W12 Introduction**
- **W13 STP, VLANs, Inter-VLAN Routing**
- **W14 QoS, IPT**
- **W15 Security, High Availability and Redundancy**

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LABs

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- **W13-14 Case study 1**
- **W15-16 QoS**
- **W18-19 Case study2 & IPT**

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Examination

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- **Mandatory LABs (case studies)**
- **Seminar & presentation**
- **Skills Exam**
- **Written Exam**

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Course parts - Laborations and Skills Exam

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- **Laborations and Skills Exam, 2 credits, grades not passed, 3, 4 and 5.**
- **The attendance to all laborations is mandatory. Most of the practical exercises will be done in groups, but some of the exercises are individual.**
- **The student need to be able to answer questions and show each laboration.**

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Course parts – Seminar , Written Exam

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- **Seminar 2 credits, grades not passed, passed.**
- **Written exam 3,5 credits grades not passed, 3, 4 and 5.**

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Seminar

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You should read all recommended scientific papers

- **W 15 Submitting of paper**
- **W 19 Presentation of paper. Quiz.**
The Quiz is not mandatory, but can give you max 3 additional points for Written Exam.
It will include question from all Seminar papers.

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Examination – Skills Exam W20

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To qualify for the Skills Exam the student need to attend to all laborations and show each laboration for the instructor during the lab.

- **Skills Exam – own notes**

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Cisco Network Academy Certificate

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- **Final Exams CCNP Switch is optional**
- **Requirements for Network Academy Certificate:**
 - to pass Final Exam with minimum 70%**
 - to pass all mandatory LABs and Skills**
 - to pass Written Exam**

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