

Grosse Ile High School
7800 Grays Drive
Grosse Ile, Michigan 48138
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Course Name: Discovery I – Discovery 4

Course Number: DIS-1
DIS-2
DIS-3
DIS-4

Course Credit: ½ credit per semester

School Year: 2008-09

Instructor: Hurley, Karen

Opportunity

We live in an increasingly connected world, creating a global economy and a growing need for technical skills. Cisco Networking Academy delivers information technology skills to over 500,000 students a year in more than 165 countries worldwide. Networking Academy students have the opportunity to participate in a powerful and consistent learning experience that is supported by high quality, online curricula and assessments, instructor training, hands-on labs, and classroom interaction. This experience ensures the same level of qualifications and skills regardless of where in the world a student is located.

Networking Academy students will become the architects of the networked economy; enabling everyday experiences on the global human network. With the ever-increasing demand for their skills, Networking Academy students have the chance to dream about business-critical positions never before imagined, in industries ranging from medicine and finance to entertainment and aerospace. Networking Academy opens doors to rewarding careers and opportunities for economic advancement and local community development. Students only need to be 'Mind Wide Open' to the possibilities.

Solution

The Cisco CCNA® Discovery curriculum provides foundational networking knowledge, practical experience, opportunities for career exploration, and soft-skills development to help students prepare for entry-level careers in IT and networking. The curriculum offers a hands-on approach to learning, and uses interactive tools and easy-to-follow labs to help students learn the general theory needed to build networks

Features

CCNA Discovery allows for quick application of learned concepts to encourage students to consider additional education in IT. It uses easy-to-follow, step-by-step labs that provide detailed instructions and feedback to help students reach the final solution.

CCNA Discovery includes embedded e-doing, highly interactive activities that stimulate learning and improve knowledge retention. E-doing involves rich multimedia, including Flash-based activities, videos, and interactive quizzes, that address a variety of learning styles, increase comprehension, and provide a rich learning experience.

Course Description:

Target Audience

CCNA Discovery is primarily designed for Cisco® Networking Academy® students who are looking for career-oriented, information and communication technology (ICT) skills instruction or a quick path to job entry and career exploration.

CCNA Discovery is composed of four courses:

- Networking for Home and Small Businesses
- Working at a Small-to-Medium Business or ISP
- Introducing Routing and Switching in the Enterprise
- Designing and Supporting Computer Networks

The curriculum has no prerequisites and the courses are taken sequentially.

Curriculum Description

This curriculum presents basic networking education to equip students with knowledge and skills that can be applied toward entry-level ICT careers and also CCENT and CCNA certifications. CCNA Discovery is a blended curriculum with both online and classroom learning.

CCNA Discovery has the following features:

- Designed for students with basic PC usage skills
- Can be delivered as an independent curriculum or integrated into broader courses of study at secondary schools, technical schools, colleges, and universities
- Offers a hands-on, career-oriented approach to learning networking that emphasizes practical experience
- Maps more directly to everyday experiences with networks and covers key networking concepts according to the types of environments students may encounter; ranging from small office or home office (SOHO) networking to more complex enterprise environments and theoretical networking models later in the curriculum
- Includes activities that emphasize networking implementation
- Teaches applied skills midway through the four-course series to help make the course content relevant, encourage students to consider additional education in ICT or related fields, and help students prepare for entry-level ICT careers

Course Objectives:

The goals of CCNA Discovery are as follows:

- Help students recognize the significant impact of networking on their lives
- Teach students how to build and support a home or small business network with wireless equipment
- Instill a sense of awe in students and encourage them to learn more about how things work and to pursue careers in networking
- Prepare students for entry-level jobs in the industry by employing interactive and engaging instructional approaches that help them understand general theory and gain practical experience

- Teach students the fundamental concepts of networking
- Provide opportunities for extensive hands-on interaction with PC and networking equipment to prepare students for careers and certification exams
- Establish the relevancy of networking in our everyday lives

Student Competencies:

Discovery I - Networking for Home and Small Businesses

Set up a personal computer system, including the operating system, interface cards, and peripheral devices

Plan and install a small network connecting to the Internet

Troubleshoot network and Internet connectivity

Share resources such as files and printers among multiple computers

Recognize and mitigate security threats to a home network

Configure an integrated wireless access point and wireless client

Discovery III - Introducing Routing and Switching in the Enterprise

Implement a LAN for an approved network design

Configure a switch with VLANs and inter-switch communication

Implement access lists to permit or deny specific traffic

Implement WAN links

Configure routing protocols on Cisco devices

Perform LAN, WAN, and VLAN troubleshooting using a structured methodology and the OSI model

Discovery II – Working at a Small-to-Medium Business or ISP

Understand the structure of the Internet and how communication occurs between hosts

Install, configure, and troubleshoot Cisco IOS devices

Plan a basic wired infrastructure to support network traffic

Configure a server to share resources and provide common Web services

Implement basic WAN connectivity using Telco services

Demonstrate proper disaster-recovery procedures and perform server backups

Discovery IV - Designing and Supporting Computer Networks

Gather customer requirements

Design a simple Internetwork using Cisco technology

Design an IP addressing scheme to meet LAN requirements

Create an equipment list to meet LAN design requirements





Install and configure a prototype Internetwork

Obtain and upgrade Cisco IOS software in Cisco devices

Required Text:

A new type of book will support the CCNA Discovery courses. The new Cisco Press **Learning Guides** will complement and supplement the CCNA Discovery courses by combining the textbook with the labs in one book per course. The books focus on readability, study aids, pedagogy, and practice. Each of the books provides tutorial content that reinforces and supplements the corresponding online curriculum. Each book will also contain the hands-on labs for the course plus additional labs from the Cisco Press authors to strengthen the learners' understanding of the course materials.

These books are 8.5" x 11" paperbacks with CD-ROM.

CCNA Discovery Titles	Publication Date
 <p data-bbox="305 604 1105 659">Networking for Home and Small Business, CCNA Discovery Learning Guide ISBN: 1587132095 / ISBN 13: 9781587132094</p>	December 2007
 <p data-bbox="279 831 1136 884">Working at a Small-to-Medium Business or ISP, CCNA Discovery Learning Guide ISBN: 1587132109 / ISBN 13: 9781587132100</p>	April 2008
 <p data-bbox="253 1056 1154 1108">Introducing Routing and Switching in the Enterprise, CCNA Discovery Learning Guide ISBN: 1587132117 / ISBN 13: 9781587132117</p>	April 2008
 <p data-bbox="279 1281 1133 1333">Designing and Supporting Computer Networks, CCNA Discovery Learning Guide ISBN: 1587132125 / ISBN 13: 9781587132124</p>	April 2008

References & Other Resources: See attached

Course Advisory Committee: See attached list

Class Assignments: See attached

Final Exam:

Exams are have restricted access per Cisco Academy according to agreement. All Tests and Exams are available for instructors to view, however, instructors are asked not to print exams. The Final Exam is located at the Cisco Academy site and is an on-line exam. Students are allowed to take the final exam twice. Students are asked to pass the first exam at 75% or better. If they do not pass the first exam at 75%, they must pass the second exam at 80% or better to proceed to the following class.

Certifications:

The CCNA Discovery curriculum prepares students for two different Cisco certification exams. After completing the first two courses of CCNA Discovery; Networking for Home and Small Businesses and Working at a Small-to-Medium Business or ISP, a student has the option to take the CCENT™ certification exam for entry network technicians. CCENT certifies the practical skills required for entry-level ICT positions. In addition, this certification demonstrates a student's aptitude and competence to work in an environment that features Cisco networking devices and software. CCENT certification is an optional first step toward earning the industry-standard Cisco CCNA® certification for networking careers. After completing all four CCNA Discovery courses, students will be prepared to take the CCNA certification exam.

Industry Recognized Certification

The CCNA Discovery curriculum prepares students for two different Cisco certification exams, CCENT® or CCNA®. After completing the Networking for Home and Small Businesses and Working at a Small-to-Medium Business or ISP courses, a student can choose to complete the CCENT® certification (Cisco Certified Entry Network Technician) certification exam. CCENT certifies that students have developed the practical skills required for entry-level networking support positions. In addition, this certification is designed to assess a student's aptitude and competence for working with Cisco routers, switches and Cisco IOS™.

CCENT is an optional first step toward earning the Cisco CCNA® network associate certification, which is the foundational certification for networking careers. Students who complete all four CCNA Discovery courses will be prepared for the industry-standard CCNA certification exam.

Class Policies: See attached

Evaluation & Grading: See attached

Course Outline:

Chapter	Networking for Home and Small Businesses	Working at a Small-to-Medium Business or ISP	Introducing Routing and Switching in the Enterprise	Designing and Supporting Computer Networks
1	Personal Computer Hardware	The Internet and Its Uses	Networking in the Enterprise	Introducing Network Design Concepts
2	Operating Systems	Help Desk	Exploring the Enterprise Network Infrastructure	Gathering Network Requirements
3	Connecting to the Network	Planning a Network Upgrade	Switching in an Enterprise Network	Characterizing the Existing Network
4	Connecting to the Internet Through an ISP	Planning the Addressing Structure	Addressing in an Enterprise Network	Identifying Application Impacts on Network Design
5	Network Addressing	Configuring Network Devices	Routing with a Distance Vector Protocol	Creating the Network Design
6	Network Services	Routing	Routing with a Link-State Protocol	Using IP Addressing in the Network Design
7	Wireless Technologies	ISP Services	Implementing Enterprise WAN Links	Prototyping the Campus Network
8	Basic Security	ISP Responsibility	Filtering Traffic Using Access Control Lists	Prototyping the WAN

9	Troubleshooting Your Network	Preparing for Certification	Troubleshooting an Enterprise Network	Preparing the Proposal
10	Course Summary: Putting It All Together	Course Summary: Putting It All Together	Course Summary: Putting It All Together	Course Summary: Putting It All Together

For more information

Cisco Networking Academy Program: www.cisco.com/go/netacad

Course Catalog: www.cisco.com/edu/courses

Certifications: www.cisco.com/go/certifications