



## Certificate of Course Completion

# CCNA Exploration: Network Fundamentals

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During the Cisco® Networking Academy course, administered by the undersigned instructor, the student was able to proficiently:

- Explain how communication works in data networks and the Internet
- Recognize the devices and services that are used to support communications across an internetwork
- Explain the role of protocols in data networks
- Describe the importance of addressing and naming schemes at various layers of data networks
- Describe the protocols and services provided by the application layer in the OSI model and describe how this layer operates in sample networks
- Analyze the operations and features of the transport layer protocols and services
- Analyze the operations and features of the network layer protocols and services and explain the fundamental concepts of routing
- Design, calculate, and apply subnet masks
- Describe the operation of protocols at the data link layer
- Explain the role of physical layer protocols and services
- Build a simple Ethernet network using routers and switches
- Use Cisco CLI commands to perform basic router and switch configuration and verification

**Daniel Jesus MUNOZ GUERRA**

Student

Instytut Informatyki I-32 - Politechnika Wroclawska

Academy Name

Wroclaw

Location

Nowak, Kamil

Instructor

May 30, 2012

Date

Instructor Signature



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May 30, 2012

Dear Daniel Jesus MUNOZ GUERRA

Congratulations on completing the **CCNA Exploration: Network Fundamentals** course as part of the Cisco Networking Academy. This hands-on, lab-oriented course has prepared you for exciting career opportunities in the technology industry.

By completing this course you have earned a Certificate of Completion for CCNA Exploration: Network Fundamentals, and acquired competencies that include the following:

- Using network protocol models to explain the layers of communications in data networks
- Designing, calculating, and applying subnet masks and addresses
- Building a simple Ethernet network using routers and switches
- Employing basic cabling and network designs to connect devices
- Using Cisco CLI commands to perform basic router and switch configuration and verification

Technological literacy is more important today than ever before, and Cisco is proud to provide you with the knowledge and skills necessary to build and maintain computer networks.

Please accept my best wishes for your continued success.

Sincerely,

A handwritten signature in black ink that reads "John Chambers".

John T. Chambers  
Chairman and Chief Executive Officer