

Syllabus

COURSE GENERAL INFORMATION

Course Title: Network Essentials
Code: LCNA 1020
Contact Hours: 56
Term: May 11, 2022 to June 14, 2022
Teacher: Joel Vargas
Email: jvargas@passwordpr.com

Course Description

Networking Essentials covers basic networking concepts within the context of the networks you encounter every day. Students will develop hands-on networking skills and understand the role networks play in our lives. This course introduces students to networking careers and prepares them for further study.

Objectives

- Learn how to plan and install a network using real equipment and connect it to the Internet.
- Practice verifying and troubleshooting network and Internet connectivity.
- Learn how to recognize and mitigate security threats to a home network.
- Configure common Internet applications, set up sharing between computers, and configure basic IP services.
- Get immediate feedback on your work through built-in quizzes and tests.
- Connect with the global Cisco Networking Academy community.

Themes Content

1. Communicating on a Local Network
 2. Network Optimization
 3. Command Line Tools
 4. Network Addressing
 5. Providing Network Services
 7. Network Security
 8. Network Management
 9. Network Policies
 9. Testing and Troubleshooting
- Define the OSI Model and describe its function for each layer.
 - Describe in a table including a Hub, Switch, and Bridge, their qualities, their advantages, and disadvantages.
 - Define and illustrate the physical and logic topologies: Star, Mesh, Bus, Hybrid, and ring.
 - Create a small-scale model physical star Topology and identify each of the components (nodes, links, switches, routers, backbones).
 - Configure a 1 feet 568A, 568B, and crossover UTP cable Cat5e or Cat6 cable.

Laboratories:

- Lab 1- Binary Conversions
- Lab 2- IP Configuration
- Lab 3- Netwalk Interactive Puzzle
- Lab 4- Observing DNS Resolution
- Lab 5- Network Crossword Puzzle
- Lab 6- Custom Subnet Mask
- Lab 7- IP Addressing

EVALUATION CRITERIA

| CRITERIA | Grade total |
|------------------|--------------------|
| Laboratories 1-2 | 100 |
| Laboratories 3-5 | 100 |
| Laboratories 6-7 | 100 |
| Assessment 1-2 | 100 |
| Assistance | 100 |
| | |
| Total | 500 |

*4 Points less for each absence.

*Assignments are always due in class on the day designated. You are responsible for any work lost due to technical problems, etc. Late papers will lose a letter grade for each day that they are late. Any exceptions must be properly documented and discussed in advance for an extension to be arranged.

Lab Policy

1. For the student's and equipment's safety **no eating and/or drinking** is allowed in the classroom or laboratory.
2. Students must always apply preventing ESD (Electrostatic Discharge) procedures before using electronic devices.
3. Students must have unplugged electronic devices from electric outlets before any lab procedure.

EDUCATIONAL RESOURCES

- Pengelly, J. (2022). The Official Network + Student Guide (Exam N10-008).
Ebook CompTIA. Downers Grove, Illinois
- Neo LMS (2022). Network Essentials (CCNA 1020). *passwordtech.edu20*.
<https://passwordtech.edu20.org/>

NOTES

- **Reasonable Accommodation:** Any student who requires reasonable accommodation must request them at the beginning of the course or as soon acquire the required knowledge that through the Professor in charge and be notifying the Academic Director.
- **Honesty, fraud, plagiarism:** Dishonesty, fraud, plagiarism and any other inappropriate behavior about the student's academic performance, constitute violations of the catalog of the institution, its Rules of Conduct and Duties of Student. Major infractions, as provided in the catalog may result in the suspension of the institution for a defined time or permanent expulsion as stipulated in the Rules of Conduct and Duties of Student.