



**Password Technical College**  
44 Calle Felix Arce  
(Antes) Dr. Santiago Veve  
San Germán, PR 00683  
<http://passwordtech.edu20.org>

## **Syllabus**

### **COURSE GENERAL INFORMATION**

Course Title: CCNA: Introduction to Network II  
Code: CYNE 1030  
Contact Hours: 60 hrs.  
Credits: 2.0  
Date: September 27, 2022 to October 17, 2022  
Teacher: Prof. Joel Vargas  
Email: [jvargas@passwordpr.com](mailto:jvargas@passwordpr.com)

### **Course Description**

Introduction to Network II Introduces the architectures, models, protocols, and networking elements that connect users, devices, applications and data through the internet and across modern computer networks including IP addressing and Ethernet fundamentals. By the end of the course, students can build simple local area networks (LANs) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches.

### **Objective**

This course provides learners with a broad foundational understanding of networking. It is suitable for anyone interested in a career in IT, or a related career pathway. The primary emphasis is on networking knowledge with a small amount of basic skills that are useful for a home or SOHO network.

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- Explain the principles of IPv4 and IPv6 address management.
- Explain how clients access internet services.
- Explain the function of common application layer services.
- Configure an integrated wireless router and wireless client to connect securely to the internet.
- Connect wireless PC clients to a wireless router.
- Explain how to use security best practices to mitigate attacks.
- Configure basic network security.
- Troubleshoot basic network connectivity issues.

Modules	Topics	Works
IPv4 and IPv6 Address Management	<ul style="list-style-type: none"><li>• Network Boundaries</li><li>• Network Address Translation</li><li>• IPv4 Issues</li><li>• IPv6 Features</li></ul>	<ul style="list-style-type: none"><li>• Pre-Test Comprehension Test</li><li>• Homework 1</li></ul>
Transport Layer Services	<ul style="list-style-type: none"><li>• The Client Server Relationship</li><li>• TCP and UDP</li><li>• Port Numbers</li></ul>	<ul style="list-style-type: none"><li>• Quiz 1</li><li>• Homework 2</li></ul>
Application Layer Services	<ul style="list-style-type: none"><li>• Network Application Services</li><li>• Domain Name System</li><li>• Web Clients and Servers</li><li>• FTP Clients and Servers</li><li>• Virtual Terminals</li></ul>	<ul style="list-style-type: none"><li>• Laboratory 1</li></ul>
Build a Home Network	<ul style="list-style-type: none"><li>• Home Network Basics</li><li>• Network Technologies in the Home</li><li>• Wireless Standards</li><li>• Wireless Traffic Controls</li></ul>	<ul style="list-style-type: none"><li>• Mid-Term Exam</li></ul>
Connect to the Internet	<ul style="list-style-type: none"><li>• ISP Connectivity Options</li><li>• Network Virtualization</li><li>• Mobile Device Connectivity</li></ul>	<ul style="list-style-type: none"><li>• Quiz 2</li><li>• Laboratory 2</li></ul>

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Security Considerations	<ul style="list-style-type: none"><li>• Security Threats</li><li>• Social Engineering Attacks</li><li>• Malware</li><li>• Denial of Service</li><li>• Security Tools</li></ul>	<ul style="list-style-type: none"><li>• Homework 3</li></ul>
Configure Network and Device Security	<ul style="list-style-type: none"><li>• Wireless Security Measures</li><li>• Implement Wireless Security</li><li>• Configure a Firewall</li></ul>	<ul style="list-style-type: none"><li>• Quiz 3</li><li>• Laboratory 3</li></ul>
Troubleshoot Common Network Problems	<ul style="list-style-type: none"><li>• The Troubleshooting Process</li><li>• Physical Layer Problems</li><li>• Troubleshooting Commands</li><li>• Troubleshoot Wireless Issues</li><li>• Common Internet Connectivity Issues</li></ul>	<ul style="list-style-type: none"><li>• Post-Test Comprehension</li></ul>

**Class Work:**

- Assessment 1- OSI Model
- Assssment 2- Networking
- Laboratory 1- Crypt Edit



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## Evaluation Criteria

CRITERIA	Grade total
Mid-Term Exam	100
Final Exam	100
Quizzes	100
Homework's and Laboratories	100
Assistance	100
<b>Total</b>	<b>500</b>

\*5 Points less for each non-excused 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.

## Educational Resources

- Neo LMS (2022). Introduction to Networks II. *passwordtech.edu20*.

<https://passwordtech.edu20.org/>

- Cisco Network Academy (2022). Networking Essentials (2.0). *Netacad*.

<https://www.netacad.com/>

## Notes

• **Reasonable Accommodation:** Any student who requires a reasonable accommodation should do the request at the beginning of the course or as soon as he / she acquires knowledge of what it requires, through the Professor in charge and this notifying the Academic Director.

• **Honesty, fraud, plagiarism:** The lack of honesty, fraud, plagiarism and / or any other inappropriate behavior in relation to the student's academic performance constitute violations of the Institution's Catalog, its Rules of Conduct and Student Duties. Major infractions, as determined by the Catalog, may result in the suspension of the Institution for a definite time or permanent expulsion as stipulated in the Norms of Conduct and Duties of the Student.