Introduction to Networks, CNVT-1810-003; Fall 2021 – Warwick Campus

Instructor	Tony Rashid		
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Office Hours	Tuesday, Wednesday, Thursday 4:00 - 5:00 P.M – Friday: 5:00 – 6:00 P.M, or by appointment.		
Section 003	Classroom 2054 – Meets on Tuesdays 12 P.M - 3:50 P.M Semester starts September 7 – Ends December 14.		
Credit Hours	3 Credit Hours, 2 Lecture hours and 2 Laboratory hours per week (15 weeks)		

Online Instructional Material

Cisco Academy Curriculum and Assessment Web Site	https://www.netacad.com

Grading Policies

Skills:

Labs	15%
Packet Tracer Labs	10%
Case Study and Research	15%
Practical Final	30%

Academic:

Chapter Exams	10%
Final	20%

Textbook: Optional

Introduction to Networks
Companion Guide version 7:
Published by Cisco Press
Print: 9780136633662
eBook: 9780136633549

COVID-19 Vaccine Required for Fall 2021

Learn more about CCRI's COVID-19 Policy, requirements and Updates.

For more information, follow the link below

Link

NOTE: Student will be given a final grade only when all requirements have been completed.

		93-100%	A	90-92%	A-
87-89%	B+	83-86%	B	80-82%	B-
77-79%	C+	70-76%	C		
67-69%	D+	60-66%	D		
		Below 60%	F		

Course Objectives:

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum.
By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

By the end of the course, students will be able to:

- Configure switches and end devices to provide access to local and remote network resources.
- Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
- Configure routers to enable end-to-end connectivity between remote devices.
- Create IPv4 and IPv6 addressing schemes and verify network connectivity between devices.
- Explain how the upper layers of the OSI model support network applications.
- Use security best practices to configure a small network.
- Troubleshoot connectivity in a small network

Examinations:

All exams are to be taken online at the assigned time. Taking all chapter exams, working on Labs and Packet Tracer assignments will prepare you for the final and practical exams. You cannot utilize any materials such as books, notes, cell phones or the Internet searches when taking these exams. Students are reminded of the college policies relative to working independently and are required to complete all examinations, Packet Tracer labs and other materials assigned. These requirements can be done either independently, or in a group, depending on the instructions given.

Students are expected to **uphold a standard of conduct** relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. Cheating and plagiarism will not be tolerated. Copying answers on tests from somebody else, as well as assignments (entire or partial) is not allowed. Copying from textbooks and/or the Internet is also not allowed. Students who plagiarize and those who allow somebody else to copy your work will receive a grade of 0 (zero) for that exam or assignment.

Attendance/Tardiness:

Your final grade may be dropped by one letter grade as a result of missing the equivalent of two weeks of classes. An excused absence is: personal illness; urgent family issue; work related or a transportation issue. It is the responsibility of the student to notify the instructor of any absence and the reason for it. Documentation for the absence should be provided where applicable. Students whose work schedule may cause occasional tardiness should let the instructor know of the situation as soon as possible and are responsible for ALL missed work.

Other Policies

1. The student expected to complete the On-Line lessons outside of class time.
2. Late assignments, including labs, will be penalized 10%.
3. All assignments must be completed using a word processor.
4. Students who miss a chapter exam must take the quiz within two classes of the original quiz date.
5. Students are expected to participate as a member of teams when required.
6. Students must pass both the Skills based portion in addition to the Academic portion of the curriculum to pass the course.
7. Student's final grade can only raise one letter grade above the on-line final exam score based on other class assignments.
8. Students are allowed a **maximum** of three (3) re-takes of chapter exams per the semester.
9. All re-takes must be completed **prior** to the final exam, in the classroom, **without exception**.

Classroom Etiquette, Netiquette Policy:

- Respect your classmates and their opinions, knowledge and presence.
- Speak articulately and use proper grammar. Be respectful of your classmates and instructor.
- Do not include personal topics, or experiences, unless they are related to the topic being discussed.
- DO NOT use capitals, it is a known policy that by doing so you are representing "anger" which will not be tolerated.
- Agree to disagree. Do not ensue in an argument, but instead understand that there will be differences of opinions, which should be discussed.
- Don't share another's information, this is an invasion of privacy and can be considered a form of plagiarism. Ask for permission before posting anything that is not your own property, idea or work.
- Do not post anything that can be misconstrued as "inappropriate", this could lead to severe actions, and possible dismissal.
- If something is offensive to you, please do not take matters into your own hands, reach out to your instructor for guidance.
- Always reread your information before sending to ensure that it is in an acceptable form of communication.
- Please refer to The Student Handbook Code of Conduct outlines what is misconduct by a student.

Accessibility Policy:

CCRI is committed to creating an environment that meets the needs of all students. CCRI abides by the Americans with Disabilities Ace and Sections 504 and 508 of the Rehabilitation Act of 1973. Any student having a disability can arrange accommodations. Please refer to the Disability Services for Students for assistance.

Introduction to Networks Syllabus Fall 2021

Class Meeting	Lecture	Subjects	**Labs/*PT activities/Videos/ Case Study
Sept 7	Module 1	**Module 1:** Networking Today	Video 1.1.2 The Cisco Networking Academy Learning Experience Video 1.5.5 Download and Install Packet Tracer Video 1.5.6 Getting Started in Cisco Packet Tracer •PT 1.5.7 Network Representation Video 1.7.5 Cisco WebEx for Huddles **Lab 1.9.3 Research IT and Network job opportunities.
Sept 14	Module 2	**Module 2:** Basic Switch and End Device Configuration	Video 2.2.3 IOS CLI Primary Command Modes Video 2.2.5 Navigate Between IOS Modes Video 2.3.4 Context Sensitive Help and Command Syntax Check Video 2.3.6 Hot Keys and Shortcuts *PT 2.3.7 Navigate the IOS 2.3.8 Navigate the IOS Using Tera Term from console Video 2.4.6 Secure Administrative Access to a Switch Video 2.5.3 Alter the Running Configuration *PT 2.5.5 Configure Initial Switch Settings *PT 2.7.6 Implementing Basic Connectivity *PT 2.9.1 Basic Switch and End Device Configuration **Lab 2.9.2 Basic Switch and End Device Configuration
Se*PT 21	Modules 3	**Module 3:** Protocols and Models	Video 3.1.1 Devices in a Bubble **Lab 3.5.5 Investigate the TCP/IP and OSI Models in Action **Lab 3.7.9 Install Wireshark **Lab 3.7.10 Use Wireshark to View Network Traffic
Module Group Exam, Exam 1: Modules 1, 2 & 3 (35 questions) **Due by Sunday 11:00 P.M, September 26, 2021**			
Sept 28	Module 4 & 5		*PT 4.6.5 Connect a Wired and Wireless LAN 4.6.6 View Wired and Wireless NIC Information *PT 4.7.1 Connect the Physical Layer Video 5.1.2 Converting Between Binary and Decimal Numbering Systems Video 5.2.2 Converting Between Hexadecimal and Decimal Numbering Systems **Homework:** Numbers Translation (Handout)
Oct 5	Module 6 & 7	Module 6: Data Link Layer Module 7: Ethernet Switching	Video 7.3.4 MAC Address Tables on Connected Switches Video 7.3.5 Sending the Frame to the Default Gateway **Lab 7.1.6 Use Wireshark to Examine Ethernet Frames **Lab 7.2.7 View Network Device Mac Addresses **Lab 7.3.7 View the Switch MAC Address Table
Module Group Exam, Exam 2: Modules 4, 5, 6, and 7 (35 questions) **Due by Sunday 11:00 P.M, October 17, 2021**			
Oct 12	Module 8	**Module 8:** Network Layer	Video 8.2.3 Sample IPv4 Headers in Wireshark Video 8.3.5 Sample IPv6 Headers in Wireshark Video 8.5.5 IPv4 Routing Router Tables **Case Study Assigned**
Oct 19	Modules 9 & 10	**Module 9:** Address Resolution **Module 10:** Basic Router Configuration	*PT 9.1.3 Identify MAC and IP Addresses Video 9.2.3 ARP Operation – ARP Request Video 9.2.4 ARP Operation – ARP Reply Video 9.2.5 ARP Role in Remote Communications *PT 9.2.9 Examine the ARP Table Video 9.3.1 IPv6 Neighbor Discovery *PT 9.3.4 IPv6 Neighbor Discovery *PT 10.1.4 Configure Initial Router Settings *PT 10.3.4 Connect a Router to a LAN **Module 10:** Basic Router Configuration

			*PT 10.3.5 Troubleshoot Default Gateway Issues Video 10.4.1 A Network Device Differences: Part 1 Video 10.4.1 B Network Device Differences: Part 2 *PT 10.4.3 Basic Device Configuration **Lab 10.4.4 Build a Switch and Router Network
Module Group Exam, Exam 3: Modules 8, 9 and 10 (35 questions) **Due Sunday 11:00 P.M October 31, 2021**			
Oct 26	Module 11	**Module 11:** IPv4 Addressing	Video 11.1.5 Network, Host and Broadcast Addresses Activity 11.2.4 Unicast, Broadcast, or Multicast Activity 11.3.3 Pass or Block IPv4 Addresses Activity 11.3.7 Public or Private IPv4 Address Video 11.3.5 The Subnet Mask Video 11.5.4 Subnet with the Magic Number *PT 11.5.5 Subnet an IPv4 Network
Nov 2		Moule 11 Continued……	Video 11.6.4 Subnet Across Multiple Octets *PT 11.7.5 Subnetting Scenario Video 11.8.1 VLSM Basics Video 11.8.2 VLSM Example *PT 11.9.3 VLSM Design and Implementation Practice **Lab 11.10.1 Design and Implement a VLSM Addressing Scheme
Nov 9	No class for us – Thursday class schedule followed		
Nov 16	Modules 12 & 13	**Module 12:** IPv6 Addressing **Module 13:** ICMP	*PT 12.6.6 Configure IPv6 Addressing *PT 12.9.1 Implement a Subnetted IPv6 Addressing Scheme. **Lab 12.7.4 Identify IPv6 addresses *PT 13.2.6 Verify IPv4 and IPv6 Addressing *PT 13.2.7 Use Ping and Traceroute to Test Network Connectivity *PT 13.3.1 Use ICMP to Test and Correct Network Connectivity **Lab 13.3.2 Use Ping and Test Network Connectivity
Module Group Exam, Exam 4: Modules 11, 12 and 13 (35 questions) **Due Sunday 11:00 P.M November 21, 2021**			
Nov 23	Modules 14 & 15	**Module 14:** Transport Layer **Module 15:** Application Layer	Video 14.5.5 TCP 3- Handshake Video 14.6.2 TCP Reliability- Sequence Numbers and Acknowledgments Video 14.6.4 TCP Reliability – Reliability and Flow control *PT 14.8.1 Packet Tracer - TCP and UDP Communications **Lab 15.4.8 Observe DNS Resolution
Module Group Exam, Exam 5: Modules 14 and 15 (35 questions) **Due Sunday 11:00 P.M November 28, 2021**			
Nov 30	Modules 16 & 17	**Module 16:** Network Security Fundamentals **Module 17:** Build a Small Network	*PT 16.4.6 Configure Secure Passwords and SSH **Lab 16.4.7 Configure Network Devices with SSH *PT 16.5.1 Secure Network Devices *Lab 16.5.2 Secure Network Devices Video 17.5.8 The show version Command *PT 17.5.9 Interpret show Command Output *PT 17.7.7 Troubleshoot Connectivity Issues *PT 17.8.2 Skills Integration Challenge *PT 17.8.3 Troubleshooting Challenge
Module Group Exam, Exam 4: Modules 16 and 17 (35 questions) **Due Sunday 11:00 P.M December 5, 2021**			
Dec 7		**Review – Open Lab**	**Case Study due**
Dec 14	**Three hours Hands-on Practical Exam**		
Dec 21	**Final Exam at noon, in class**		

Schedule, assignments and course content may be subject to change.

*Packet Tracer (*PT) assignments must be uploaded to NetAcad.com no later than one week from the assigned date (assigned date found in first column labeled "Class Meeting" for each Module above).

**Labs must be turned in at the end of each class, unless otherwise specified.