

University of New Mexico Valencia Information Technology (IT) Department

COURSE SYLLABUS Spring 2018

Course Name: IT 230: Computer Networking	CRN# 45876	
Class Days/Time/Location: Online	Section Number: 501	
Course Credits: 4.0		
Instructor: James Hart	Email: hart56@unm.edu	Phone: 239-3435
Office Hour/Location: MW 1:30 - 2:30, TTh 10:30 - 2:30 in B123A or ARR online(Zoom, Skype)	Course Prerequisite: IT 125 and IT 131	

Texts & Supplies

Required: Computer with Internet access

Course Description & Pre- or Co-requisites

IT 230: Computer Networking. (4) Students will learn the fundamentals of network technology, technical concepts of network environments, identify the basic characteristics for local and wide area networks, list and describe the layers of the OSI networking model, list and identify the use of common network devices, describe the procedure for installing and configuring network adapters, list common network protocols, identify the best network protocol, describe the physical characteristics of a LAN, identify inter-network connectivity hardware by sight, define the roles of clients, servers, and peers on a network, list the most common network operating systems, identify potential network bottlenecks, and list fault tolerance procedures. Prerequisites: IT 125 and IT 131.

Student Learning Outcomes

Students completing this course will:

- Describe the devices and services used to support communications in data networks and the Internet
- Describe the role of protocol layers in data networks
- Describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks
- Explain fundamental Ethernet concepts, such as media, services, and operations
- Build a simple Ethernet network using routers and switches
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations
- Utilize common network utilities to verify small network operations and analyze data traffic

MIDTERM

- Configure and verify static routing and default routing.
- Configure and troubleshoot basic operations of a small switched network.
- Configure and troubleshoot basic operations of routers in a small routed network.
- Configure and troubleshoot VLANs and inter-VLAN routing.
- Configure, monitor, and troubleshoot ACLs for IPv4.
- Configure and verify DHCPv4 and DHCPv6.
- Configure and verify NAT for IPv4.
- Configure and monitor networks using device discovery, management, and maintenance tools.

Course Outline

- Explore the Network
- Configure a Network Operating System
- Network Protocols and Standards
- Network Access
- Ethernet
- Network Layer
- IP Addressing
- Subnetting IP Networks
- Transport Layer
- Application Layer
- Advanced Troubleshooting
- Build a Small Network
- Routing Concepts
- Static Routing
- Dynamic Routing
- Switched Networks

Course Outline Cont.....

- Switch Configuration
- VLANs
- Access Control Lists
- DHCP
- NAT for IPv4
- Device Discovery, Management, and Maintenance

Grading

The following will be used to determine your grade in this course:

	%
Chapter Tests	30
Practice Finals / Certs	30
Labs	30
Final Exam	10
Total	100

The following scale is used to assign course grades:

Percentile Range	Grade
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

Note: A final grade of “D” or “F” is not acceptable for this course if it is required for graduation or as a prerequisite for other courses. A final grade of “D” or “F” requires repeating this course.

Attendance

Students are expected to contact me at least once a week or hopefully more in person, by email or Skype. There will be at least 1 ZOOM discussion per week at a predetermined time. If you are unable to attend the ZOOM meeting, please notify me in advance.

Students with Disabilities

Special Services is a department that can provide students with documented disabilities and the accommodations they might need. It is also a department that can help students who think they might have a disability. Please let me know as soon as possible so I can ensure that arrangements are made to accommodate your needs. If you have a disability and prefer not to register, please discuss this with me.

Computer Lab Responsibility

Please be advised that use of computer labs on UNM properties is governed by “Policy 2500: Acceptable Computer Use” which can be found at

<http://policy.unm.edu/university-policies/2000/2500.html>.

Food and drink are also prohibited in any computer lab on campus. Anyone violating these policies is subject to possible suspension and loss of computer lab privileges.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see pg.15 - <http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf>). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see:

<https://policy.unm.edu/university-policies/2000/2740.html>

Academic Dishonesty

<https://policy.unm.edu/regents-policies/section-4/4-8.html>

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in coursework may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University.

Late/Make-up/Re-take Policies

Online quizzes are always open and are available for multiple retakes. Chapter tests are open for 30 days after they are enabled. These chapter tests are also available for retakes after you contact me. They MUST be taken as we go and not put off until the final hour. Be sure to notify me if you feel you are falling behind for whatever reason.

Syllabus and Class Schedule

The syllabus and class schedule are subject to change by the instructor. Changes will be made with as much advance notice as possible.

Electronic Devices in Class

All mobile telephones must be turned off or switched to silent or vibrate mode.