University of New Mexico Valencia Information Technology (IT) Department

COURSE SYLLABUS *Fall 2017*

Course Name: IT 230: Computer Networking	**CRN# 57113**	
Class Days/Time/Location: TTh/4:30 – 6:15/ B127 or B123A	**Section Number: 501**	
Course Credits: 4.0		
Instructor: James Hart	**Email: hart56@unm.edu**	**Phone: 239-3435**
Office Hour/Location: MW 1:00 -3:00, TTh 1:00 4:30, or ARR in B123A	**Course Prerequisite: IT 125 and IT 131**	

Texts & Supplies

Required: 8 Gig flash drive

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:
- Explain network technologies.
- Explain how devices access local and remote network resources.
- Implement basic network connectivity between devices.
- Design an IP addressing scheme to provide network connectivity for a small to medium-sized business network.
- Describe router hardware.
- Explain how switching operates in a small to medium-sized business network.
- Configure monitoring tools available for small to medium-sized business networks.
- Configure initial settings on a network device
- Implement DHCP on a router.
- Implement network address translation (NAT).
- Implement access control lists (ACLs) to filter traffic.
- Determine how a router will forward traffic based on the contents of a routing table.
- Implement static routing.
- Explain how switching operates in a small to medium-sized business network.
- Configure Ethernet switch ports.
- Implement VLANs.
- Use monitoring tools and network management protocols to troubleshoot data networks.
- Configure monitoring tools available for small to medium-sized business networks.
- Configure initial settings on a network device.

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
- 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 be on time. If you are running late please call or email. You will be contacted and dropped due to excessive unexcused absences.

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

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

Late homework or lab assignments will be penalized unless prior arrangements have been made and approved by the instructor. Make-up exams will be allowed in case of verifiable emergencies or prior arrangements are approved by the instructor.

Syllabus & 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.