Jordan University of Science and Technology
Faculty of Computer & Information Technology
Network Engineering And Security Department

NES413 Computer Networks Laboratory
Second Semester 2020-2021

Course Catalog
1 Credit Hours. A set of experiments to design, apply, analyze, and evaluate computer network protocols. Evaluation of static and dynamic routing protocols: RIP, OSPF, and BGP. Evaluation and analysis of TCP and UDP protocols. DHCP and NAT configuration. Analysis of network traffic using sniffing tools.

Text Book	
Title	Data Communications and Networking
Author(s)	Behrouz A. Forouzan
Edition	4th Edition
Short Name	Ref#1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref#2	Computer Networks: A Top-Down Approach	James F. Kurose and Keith W. Ross	5th Edition	

Instructor	
Name	**Dr. Omar Banimelhem**
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Instructor	
Name	**Dr. Moad Mowafi**

Office Location	E1L3
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Class Schedule & Room

Section 1:
  Lecture Time: Mon : 13:30 - 16:30
  Room: NES04-G2L2

Section 2:
  Lecture Time: Tue : 13:30 - 16:30
  Room: NES04-G2L2

Section 3:
  Lecture Time: Wed : 13:30 - 16:30
  Room: NES04-G2L2

Section 4:
  Lecture Time: Thu : 13:30 - 16:30
  Room: NES04-G2L2

Section 5:
  Lecture Time: Thu : 10:00 - 13:00
  Room: NES01-E1L3

Teaching Assistant

Shefa' Mubarak(Sections 3, 4), Hebah Al Dahoud(Sections 1, 2, 5)

Prerequisites

Line Number	Course Name	Prerequisite Type
1753120	NES312 Fundamentals Of Computer Networks	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 2	Data link layer traffic simulation	
Week 3	Network layer simulation	
Week 4	Static routing(using Packet Tracer)	
Week 5	Dynamic routing(using Packet Tracer)	
Week 6	DHCP, FTP and NAT	
Week 8	Basic IPv6 Configuration	
Week 9	Sniffing HTTP traffic	

Week 10	Sniffing TCP,UDP traffic	
Week 11	Basic DHCP capturing	
Week 12	Static and dynamic routing (on real routers)	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Build and simulate network typologies using Packet Tracer and configure intermediary and end devices. [1SO1, 1SO2, 1SO6]	24%	
Configure static and dynamic routing (RIP and OSPF). [1SO1, 1SO2, 1SO6]	22%	
Configure a DHCP and FTP server. [1SO1, 1SO2, 1SO6]	15%	
Configure static Network Address Translation (NAT) and Port Address Translation (PAT). [1SO1, 1SO2, 1SO6]	9%	
Perform IPv6 configuration on the routers and the end devices. [1SO1, 1SO2, 1SO6]	10%	
Configure VLANs and Router-on-a-Stick Inter-VLAN routing. [1SO1, 1SO2, 1SO6]	11%	
Trouble shoot a given network [1SO1, 1SO2, 1SO6]	9%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
33.33	33.33				33.33	

Evaluation	
Assessment Tool	**Weight**
Lab Work	15%
Quizzes	15%
Final Exam	40%
Midterm Exam	25%
Discussion	5%

Policy	
Exams	1. Practical midterm exam 2. Final exam may include: True/False, Multiple-Choice, Analysis and Descriptive formats. 3. Use only your own tools: calculator, pens and ruler 4. Instructions on the first page of the exam are quite important. 5. Not abiding by the rules is a reason for dismissal from the exam.
Makeups	Makeup exam should not be given unless there is a valid excuse.
Drop Date	Last day to drop the course is before the 12th week of the current semester.
Cheating	Standard JUST policy will be applied.

Attendance	1. Excellent attendance is expected. 2. According to the JUST policy, a student will receive the grade of ZERO (35%) "failed for absence" if he misses more than 20% of the classes. 3. Attendance will be taken by calling the names or passing a sign-up sheet. 4. If you miss a class, it is your responsibility to find out about any announcements or assignments you may have missed.
Workload	Average work-load student should expect to spend is 8 hours/week.
Graded Exams	Graded exam papers will be returned within a week.
Participation	1. Participation in the class will positively affect your performance. 2. Disruption and side talks will possibly result in dismissal from class. 3. No eating or chewing gums are allowed in class.

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