

Faculty of Engineering and Technology		
Year: 2024/2025	Electrical and Computer Engineering Department	First Semester

Course Information			
Course Title	Computer Networks		
Course Number	ENCS3320		
Credits	Three Hours		
Prerequisite	COMP133 Computer and Programming COMP230 Computer and Programming		
Course Website	https://ritaj.birzeit.edu/		
Instructor(s)	Name & Office	Email	Section(s)
	Ibrahim Nemer (Masri514)	inemer@birzeit.edu	Section 2 and Section 4
	Mohammad Jubran (Masri115)	mjubran@birzeit.edu	Section 3 and Section 5
	Ahmad Shawahna (Masri218)	ashawahna@birzeit.edu	Section 1
Office Hours	Check Ritaj, or by appointment, or send your questions by email.		

Description
Data communication networks and open system standards, layered network architecture, local area networks (LANs), high-speed and Bridge LANs, wide area networks (WANs), internetworking, transport protocols, error detection and correction, ARQ strategies, framing, identification and addressing, M/M/1 queuing system, multiple access communication, routing and flow control.

Textbooks
Jim Kurose and Keith Ross. Computer Networking: A Top Down Approach, 8th Edition, Addison-Wesley, 2021 (https://gaia.cs.umass.edu/kurose_ross/index.php).

Other resources
<ul style="list-style-type: none"> Larry L. Peterson and Bruce S. Davie Computer Networks: A Systems Approach, 6th Edition, Morgan Kaufmann, 2021 William Stallings, Data and Computer Communications, 10th Edition, Prentice Hall, 2014 Behrouz A. Forouzan, Data Communications & Networking, 5th Edition, McGraw-Hill, 2012 Andrew S. Tanenbaum Computer Networks, 5th Edition, Prentice Hall, 2012

Course Objectives
<p>Upon the successful completion of this course a student should understand:</p> <ul style="list-style-type: none"> Learn the computer Networking concepts, basic terminology, and applications. Understand the Internet architecture, components, services, and measures of performance. Understand the application-layer concepts, protocol principles, transport layer interfaces, and network applications such as the WEB and HTTP and the FTP. Understand the transport-layer concepts, relationship with the network- and application-layers, and services such as the principles of Reliable Data Transfer. Understand the concept of software defined networking Understand the network-layer concepts and routing principles, algorithms, and protocols. Understand the data link-layer concepts, protocols, and services such as error-detection and correction, addressing, and multiple-access techniques. Learn the main concepts of wireless and mobile networks.

(ABET) Relationship of course to Computer Engineering Program Student Outcomes

- (c) Ability to design a system, component, or process to meet desired needs.
- (e) Ability to identify, formulate and solve engineering problems.
- (k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

Tentative Course Outline

- Computer Networks Introduction (Ch.1)
- The application-layer concepts, services, and protocols (Ch.2)
- The transport-layer concepts, services, and protocols (Ch.3)
- The network-layer concepts, services, and protocols: Data Plane (Ch.4)
- The network-layer concepts, services, and protocols: Control Plane (Ch.5)
- The data link-layer concepts, services, and protocols (Ch.6)

Assessment Policy (Tentative)

Assessment	Date	Weight
Quizzes	Inside the class (quiz per chapter)	10%
Projects	Outside the class (two projects, groups)	20%
Midterm	Mid of the semester (TBA by the registrar)	30%
Final Exam	Comprehensive exam (TBA by the registrar)	40%
Total		100%

Notes & Policies

Exams/Quizzes	<ul style="list-style-type: none">▪ Exams may include: Definitions, True/False, Multiple-Choice, solving questions.▪ Not abiding by the rules is a reason for dismissal from the exam.
Makeups	<ul style="list-style-type: none">▪ Make-up will be allowed only for students who miss the final exam with an acceptable excuse according to the university regulations.
Drop Date	<ul style="list-style-type: none">▪ Last day to drop the course as mentioned in the academic calendar by the Registrar.
Cheating	<ul style="list-style-type: none">▪ Standard Birzeit University policy will be applied.
Attendance	<ul style="list-style-type: none">▪ Regular attendance is essential and expected.▪ Attendance will be taken by calling the names or passing a sign-up sheet.▪ If you miss a class, no make-up quizzes.
Late Submissions	<ul style="list-style-type: none">▪ No late submissions will be accepted.
Participation	<ul style="list-style-type: none">▪ Participation in the class will positively affect your performance.▪ Disruption and side talks will possibly result in dismissal from class.▪ No eating or chewing gums are allowed in class.
University Policies	<ul style="list-style-type: none">▪ Academic honor policy will be enforced, so please read the (honor code). Cheating will not be tolerated, but working together is encouraged.

ميثاق شرف الأمانة الأكاديمية

بموجب التسجيل في هذا المساق يلتزم الطالب باحترام أنظمة وقوانين الجامعة وخاصة تلك المتعلقة بالأمانة العلمية وعدم الغش. ويتحمل الطالب مسئولية ذاتية، أدبية وقانونية، عن المحافظة على الأمانة العلمية وذلك بالامتناع عن الغش في الامتحانات والوظائف والتقارير، وعدم السماح لغيره من الطلاب بأن ينقلوا عنه في الامتحانات والوظائف والتقارير.

يستوجب الغش أو محاولة الغش التوبيخ والإجراءات القانونية المنصوص عليها في تعليمات الأمانة الأكاديمية التي أقرها مجلس الجامعة بتاريخ 5 تموز 2006 وتشمل ما يلي:

1. العقوبة الأكاديمية: يقرها مدرس المساق وقد تصل إلى علامة رسوب في المساق.
2. العقوبة التأديبية: تقرها لجنة النظام في الكلية وقد تصل إلى الفصل المؤقت أو النهائي من الجامعة.

بموجب تسجيلي في هذا المساق واستلامي لهذا الميثاق أتعهد أمام الله أن أحافظ على الأمانة الأكاديمية بأن أمتنع عن الغش، وأن لا أتسامح مع أي محاولة للغش من قبل الآخرين.