



كلية الملك عبد الله الثاني
لتكنولوجيا المعلومات
KING ABDULLAH II SCHOOL FOR
INFORMATION TECHNOLOGY



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus



1	Course title	Computer Networks
2	Course number	1901765
3	Credit hours	٣
	Contact hours (theory, practical)	٣
4	Prerequisites/corequisites	
5	Program title	Computer Science
6	Program code	1
7	Awarding institution	The university of Jordan
8	School	King Abdullah II School for Information Technology
9	Department	Computer Science
10	Level of course	Postgraduate
11	Year of study and semester (s)	2022-2023 (Spring)
12	Final Qualification	Master of Science in Computer Science
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others:.....
17	Date of production/revision	22 Feb 2023

18 Course Coordinator:

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19 Other instructors:

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٢٠ Course Description:



As stated in the approved study plan.

This course builds on principles established in the undergraduate computer network course. Topics to be covered include: wireless network protocols, routing and discovery protocols, VLANs, Multicast protocols, Advanced topics in the Transport layer, Mobile IP, and quality of service principles.

٢١ Course aims and outcomes:

Aims:

The aim of the course is to enable students to be able (1) understand various details of networking protocols and architectures (2) understand and analyze advanced Internet protocols (3) To discuss the impact of newly introduced protocols on network convergence and service offering, (4) Run simulation to study and analyze network protocols, and (5) study and analyze network protocols.

Intended Learning Outcomes (ILOproblemss):

Upon successful completion of this course students will be able to:

A- Knowledge and Understanding (students should)

- A1) Be able to understand various details of networking protocols and architectures.
- A2) Be able to understand and analyze advanced Internet protocols.
- A3) Know the principle of Internet mobility and its detailed protocol.

B- Intellectual skills: with the ability to

- B1) To discuss the details of commonly used protocols.
- B2) To discuss the impact of newly introduced protocols on network convergence and service offering.
- B3) To provide a design for new protocol extensions.

C- Subject specific skills – with ability to use

- C1) A simulation to study and analyze network protocols.

D- Transferable skills – with ability to

- D1) To discuss advanced network architectures and protocols.
- D2) To present certain state-of-art topics in computer networks.
- D3) To analyze and design new protocols.

ABET Students Outcomes (SOs):

- 1- Analyze a complex computing problem and to apply principles of computing and other relevant



disciplines to identify solutions.

- 2- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- 3- Communicate effectively in a variety of professional contexts.

Mapping ILOs to ABET SOs

ILOs	ABET SOs
A1, A2, A3, B1, B2, B3,	1
C1	2
D1, D2, D3	3



٢٢ Topic Outline and Schedule:

Topic	Week	ILOs	ABET SOs	Instructor	TLA (teaching, learning and Assessment)
- Welcome and Orientation – Revisiting major concepts, research areas and applications And OSI Model	1 and 2	A1,A2, and A3	1	Saleh	
Review of Basic Signaling, Channel Capacity, IPv4 and Network Design and VLANs	3,4,5	A1-3, C1, C3, D3	1,2		Homework, Discussion, Exams
Advanced Routing Protocol: RIP, OSPF, BGP,..etc <i>Related Research Papers</i>	5,6,7	A2,B1-3,C1,, D1-3			Midterm-Exam
Wireless (IEEE802.11) <i>Related Research Papers</i>	8,9	A2,B1-3,C1,, D1-3	1,2		Homework, Discussion, Exams
Quality of Service	10	A4, B1, B2, B3, B4	1		Homework, Discussion, Exams
Advanced Topics: Mobile IP, SDN <i>Related Research Papers</i>	11,12,13	A2,B1-3,C1,, D1-3	1		Homework, Discussion, Exams
Discussion and Presentation of Class Project	14	A2,B1-3,C1,, D1-3	1		Evaluation Template



(Please mention instructors per topic if the course topics are being taught by more than one instructor)

٢٣ Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

- Reviewing papers
- Research paper
- Mid exam
- Final Exam

٢٤ Course Requirements:

- Mobile, Laptop or desktop computers
- Internet connection
- Account on Microsoft Teams + Moodle.



٢٥ Course Policies:

A- Attendance policies

Attending online meetings is mandatory. Attendance will be taken for each meeting. Regular attendance is essential for satisfactory completion of this course and university regulations will be applied.

B- Absences from exams and handing in assignments on time

- Any student who misses any exam will receive a zero grade. Permission for makeup will be granted only if the student notifies the instructor in due time and presents evidence of an officially excused absence.
- Submitting the assignments will be through the Moodle platform, the time duration for each home assignment will be determined clearly. Late submissions are not allowed; any student exceed this time duration without submitted his/her assignment will take the zero as mark.

C- Health and safety procedures

All students should comply with the university Health and Safety procedures (i.e., COVID-19 procedures).

D- Honesty policy regarding cheating, plagiarism, misbehavior

Assignments are individual or done in learning teams. While students are free to discuss their individual assignments with anybody, including fellow students, individual assignments are expected to show the expertise, creativity and critical faculty of the individual student. Virtually identical individual assignments (in the judgment of the instructor) are not acceptable. Plagiarism is unacceptable and will be punished with an F for the full course. References to all source materials are necessary. For more details on University regulations please visit <http://www.ju.edu.jo/rules/index.htm>

E- Grading policy + Weighting (i.e. weight assigned to exams as well as other student work)

All of the following are important in the evaluation of a student's work.

- Written Reports:
 - Organization, clarity and continuity.
 - Quality, completeness and soundness of the analysis
 - Quality of presentation.
- Oral Presentation:
 - Organization and continuity.
 - Selection and support of recommendations.
 - Time, style and clarity.
 - Professionalism.
- Assessment Weights:
 - Assignments + project: 30%
 - Mid exam: 30%
 - Final exam: 40%
- Satisfactory completion of this subject requires a 50% pass in the end-of-semester
- Suggested Grading Scale:

0-68 C 69-72 C+ 73-76 B- 77-80 B



81-84 B+ 85-89 A- 90-100 A

F- Available university services that support achievement in the course:

elearning.ju.edu.jo

G- Statement on Students with disabilities

Students with Disabilities: Students with disabilities who need special accommodations for this class (online meetings) are encouraged to contact the instructor and/or their academic advisor as soon as possible. In order to receive accommodations for academic work in this course, students must inform the course instructor and/or their academic advisor, preferably in a written format, about their needs no later than the 2nd week of classes.

٢٦ References:

A- Required book (s), assigned reading and audio-visuals:

1. Luger G., Artificial Intelligence, The Benjajmin/Cummings Publishing Company, 6th Edition, 2008.
2. SWI-Prolog
3. Research papers

B- Recommended books, materials, and media:

1. Computer Networks : A system approach. L. Peterson and B. Daive,. Latest Edition
2. Data communications and networking. Behrouz A. Forouzan. Latest Edition

C- Educational Platforms:

1. Elearning.ju.edu.jo
2. <http://teams.office.com/>

٢٧ Additional information:

1. Supplementary notes are made available of the e-learning (Moodle) system.
2. Students are encouraged to make use of JU library, E-LIBRARY:



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Name of Course Coordinator: Saleh Al-Sharaeh--Signature: --(sig) Saleh Al-Sharaeh

Date: 22/02/2022

Head of Curriculum Committee/Department: --Signature: -----

Head of Department: -----Signature: -----

Head of Curriculum Committee/Faculty: -----Signature: -----

Dean: -----Signature: -----
