



The University of Jordan
Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Network Programming
2	Course number	1901442
3	Credit hours (theory, practical)	3 credit hours taught in a computer lab
	Contact hours (theory, practical)	3
4	Prerequisites/corequisites	1901362 + 1901238 Computer Networks -1 + Programming in Special Languages
5	Program title	Computer Science
6	Program code	01
7	Awarding institution	The University of Jordan
8	School	King Abdullah II School of Information Technology
9	Department	Computer Science
10	Level of course	Third year
11	Year of study and semester (s)	2021/2022 – 1 ST semester
12	Final Qualification	Bachelor
13	Other department (s) involved in teaching the course	-
14	Language of Instruction	English
15	Teaching methodology	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others:
17	Date of production/revision	10/2021

18. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Mrs. Lubna Nassir Eddeen
Office number: 125
Office hours: Tuesday, Thursday (9-10),
Phone number:22581
Email address: lubna@ju.edu.jo

19. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

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20. Course Description:***As stated in the approved study plan.***

Network programming basic concepts; Java I/O streams; Internet addressing; the Socket class; the Datagram Socket class; Communication primitives; protocol specification, design, and implementation; multithreaded client/server applications; Java network programming API will be used to implement some practical networking aspects.

21. Course aims and outcomes:**A- Aims:**

The course aims at introducing students to basic network programming techniques using Java with hands-on lab practice

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

The successful completion of this course is expected to lead to the following outcomes:

a. Knowledge and Understanding (students should be able to understand):

- a1) the basic concepts associated with network programming
- a2) the role of a protocol in controlling the communication between hosts in a network
- a3) the advantages of multithreaded applications

b. Intellectual skills (students should be able to):

- b1) distinguish between transport layer protocols
- b2) design a new simple protocol
- b3) recognize the significance of flexibility, extendibility, simplicity, and efficiency in protocol design and implementation

c. Subject specific skills (students should be able to):

- c1) use Java I/O streams and Java exception handling primitives
- c2) implement practical client/server network protocols, using Java networking API
- c3) write multithreaded TCP/UDP clients and servers

d. Transferable skills (students should be able to):

- d1) work in a group to write the specification of a simple protocol
- d2) work in a group to demonstrate the protocol in D1**

22. Topic Outline and Schedule:

Week	Lecture	Topic	SO ¹	ILOs	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Networking Revision	1	a1, a2	Face to face	Quizzes and in-lab questions	Chapter 1
	1.2				Face to face		
	1.3				Online (Microsoft Teams)		
2+3+4	2.1	Java Overview & Streaming	1,2	a2, b2, c1-c3	Face to face	Quizzes and in-lab questions	Chapter 2 Chapter 3
	2.2				Face to face		
	2.3				Online (Microsoft Teams)		
5+6+7	3.1	Threads	1	a1	Face to face	Quizzes and in-lab questions	Chapter 4
	3.2				Face to face		
	3.3				Online (Microsoft Teams)		
8	MID Exam						
9+10+11	4.1	Socket programming	1,2	a2, b1, c2	Face to face	Quizzes and in-lab questions	Chapter 8 Chapter 9
	4.2				Face to face		
	4.3				Online (Microsoft Teams)		
12	5.1	The User Datagram Protocol	1,2	a2, b1, c3	Face to face	Quizzes and in-lab questions	Chapter 12
	5.2				Face to face		
	5.3				Online (Microsoft Teams)		
13	6.1	Multithreaded Applications	1,2,3,5	a3, b1, b2, c3, d1, d2	Face to face	Quizzes and in-lab questions	Chapter 8 Chapter 9 Chapter 12
	6.2				Face to face		
	6.3				Online (Microsoft Teams)		
14	7.1	Designing Application Protocols	1,2,3,5	b1-b3, c2, d1, d2	Face to face	Quizzes and in-lab questions	Chapter 9 Chapter 12
	7.2				Face to face		
	7.3				Online (Microsoft Teams)		
15	8.1	IP Multicast	1,2	a2, b1, c3	Face to face	Quizzes and in-lab questions	Chapter 13
	8.2				Face to face		
	8.3				Online (Microsoft Teams)		
16	Final Exam						

* Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting

** Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23. Evaluation Methods and Course Requirements (Optional):

Lecturing and Lab exercises + methods depicted in 22
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¹ ABET SOs (1-6)

24. Evaluation Methods and Course Requirements:

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

Evaluation Activity	Mark	Topic(s)	Platform
Quizzes & Assignments	20	Topics 1-12	Microsoft Teams
MID exam	30	Topic 2-7	Juexams.com
Final Exam	50	Topics 2-12	Juexams.com

25. Course Policies:

A- Attendance policies:

- Attendance is required per UJ regulations

B- Absences from exams and handing in assignments on time:

- No make up for quizzes under all circumstances
- Midterm and final exams make up are per UJ regulations, strictly
- Any task submitted after its announced deadline will be rejected regardless of any excuse

C- Health and safety procedures:

- No food or beverages are to be admitted into the lab
- Any tampering with the PCs in any UJ computer lab are not tolerated and will be punished according to UJ regulations

D- Honesty policy regarding cheating, plagiarism, misbehavior:

- All acts of plagiarism and or cheating are not tolerated and will be punished per UJ regulations

E- Grading policy:

- Quizzes and Assignments → 20%
- Midterm exam → 30%
- Final exam → 50%

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

- Lab 103 is provided for student practice

G- Statement on Students with disabilities

Students with Disabilities: Students with disabilities who need special accommodations for this class are encouraged to meet with the instructor and/or their academic advisor as soon as possible. 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 4th week of classes.

26. Required equipment:

Computer with Java IDE installed using NetBeans version 8.

27. References:

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

Elliott Rusty Harold, **Java Network Programming**, 4th edition, O'Reilly 2013.

B- Recommended books, materials, and media:

- Java Oracle documentation, <https://docs.oracle.com/javase/tutorial/>
- Selected YouTube Videos

28. Additional information:

Name of Course Coordinator: Mrs. Lubna Nasir Eddeen

Signature: 

Date: 2 / 10 / 2021

Head of curriculum committee/Department: ----- Signature: -----

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

Head of curriculum committee/Faculty: ----- Signature: -----

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

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Head of Department

Assistant Dean for Quality Assurance

Course File