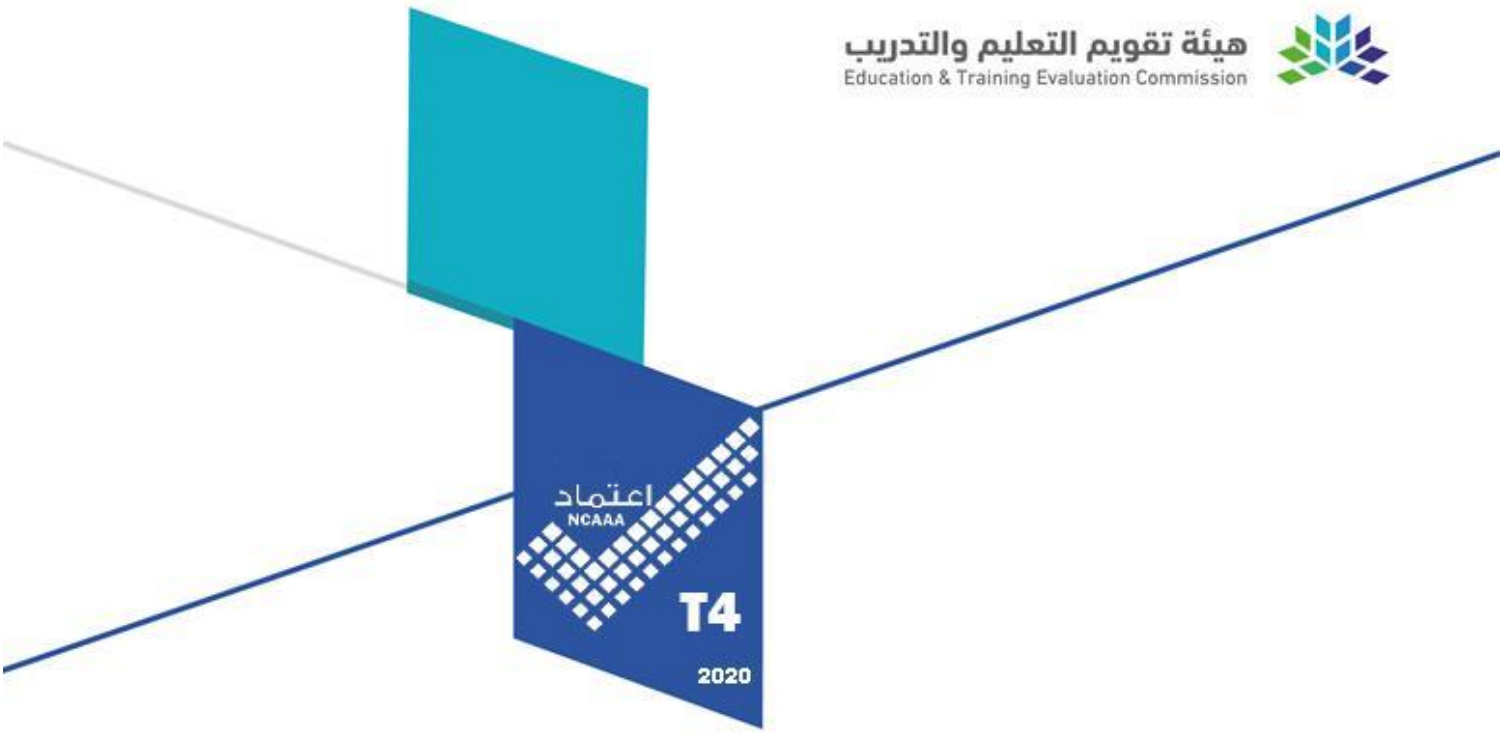
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Network Programming
Course Code:	503547-3
Program:	Bachelor in Computer Engineering
Department:	Department of Computer Engineering
College:	College of Computers and Information Technology
Institution:	Taif University

Table of Contents

A. Course Identification

1. Credit hours: 3
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☐ Elective ☑
3. Level/year at which this course is offered: 10/5
4. Pre-requisites for this course (if any)**:** Computer Network (503443-4)
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	3	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	45
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

Review of computer network topologies and network protocols, TCP/IP and HTTP. Processes and Interprocess Communication, IPC. Review of UNIX system software for IPC. Client-Server model and programming, some specific examples of IPC and Client-Server program using C language. Introduction to Hypertext Markup language, HTML and Web page designs using HTML. Introduction to JAVA language and Interactive Web pages. Use of JAVA to develop stand-alone and network applications.

2. Course Main Objective

Introduce students to network programming concepts. Develop networked applications using different technologies

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the basic concepts of networked applications	K1
1.2	Choose appropriate network interface for software development	K1
1.3		
1...		
2	**Skills:**	
2.1	Differentiate between network programming models	S1
2.2		
2.3		
2...		
3	**Values:**	
3.1	Apply the new technologies for network programming.	V1
3.2	Analyze, design, and develop networked applications using more than one technology	V1
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to network architecture, layering and protocols	3
2	Review of Java programming language and Development tools	3
3	Concepts of TCP, UDP, IP, Client Server model and P2P	3
4	Basic Web Concepts	3
5	Java Streams	3
6	Threads	3
7	Internet Address Lookup	3
8	Midterm	3
9	URLs and URIs	3
10	Sockets for Clients	3
11	Sockets for Servers	3
12	Secure Sockets	3
13	Web Services	3
14	Revision lab	3
15	Revision	3
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Understand basic concepts of networked applications	Lecture Discussion Brainstorming Group Work	Written Exams Quizzes Assignments Oral Test
1.2	Choose appropriate network interface for software development	Lecture Discussion Brainstorming Group Work Problem Solving	Written Exams Quizzes Assignments
…			
2.0	**Skills**		
2.1	Differentiate between network programming models	Lecture Discussion Brainstorming Problem Solving Projects	Written Exams Quizzes Assignments Oral Test Project
2.2			
…			
3.0	**Values**		
3.1	Apply new technologies for network programming.	Discussion Brainstorming Self-Learning	Assignments Student research
3.2	Analyze, design and develop networked applications using more than one technology.	Discussion Brainstorming Self-Learning	Assignments Student research
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	Continues	5%
2	Midterm Exam	8	20%
3	Project	11	15%
4	Quizzes	Continues	10%
5	Final Exam	16	50%
6			
7			
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Teaching staff provide at least 6 office hours for students to help them in the course as well as in any other academic issues.
- Consultation can also be done through blackboard and official email

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Unix Network Programming Volume 1: The Sockets Networking API Richard Stevens, Bill Fenner, and Andrew M. Rudoff 3rd Edition
Essential References Materials	Java Network Programming, Elliotte Rusty Harold, 4th Edition Publisher O'Reilly Media, Inc, USA, 2013
Electronic Materials	
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Traditional Classrooms,
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, Blackboard system
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning outcomes	Students	Indirect (Survey)
Effectiveness of teaching and assessment	Students	Indirect (Survey)
Extent of achievement of course learning outcomes	Faculty	Course Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Computer Engineering Council / Curriculum Committee
Reference No.	16
Date	04/02/2019

قسم هندسة الحاسب
Computer Engineering Department
TU
جامعة الطائف
TAIF UNIVERSITY