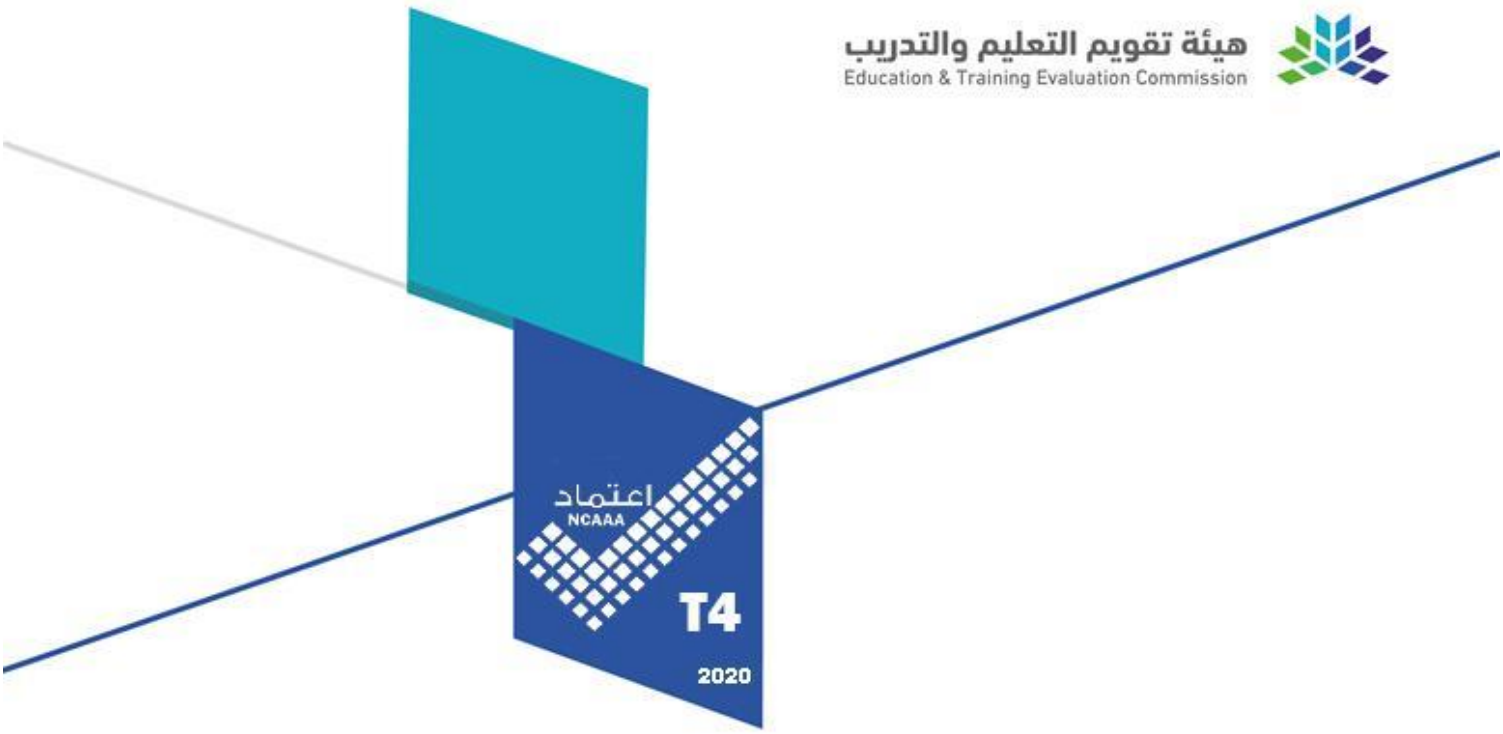
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Advanced Topics in Networks**
Course Code:	**502584-3**
Program:	**Bachelor in Information Technology**
Department:	**Department of Information Technology**
College:	**College of Computers and Information Technology**
Institution:	**Taif University**

Table of Contents

A. Course Identification **3**

6. Mode of Instruction (mark all that apply) 3

B. Course Objectives and Learning Outcomes **3**

1. Course Description 3

2. Course Main Objective 3

3. Course Learning Outcomes 3

C. Course Content **4**

D. Teaching and Assessment **4**

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 4

2. Assessment Tasks for Students 4

E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 5

2. Facilities Required 5

G. Course Quality Evaluation **5**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 15/5
4. Pre-requisites for this course (if any)**: Fundamentals of Networks (502482-3)**
5. Co-requisites for this course (if any)**: NON**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	7	100%
2	**Blended**	0	0
3	**E-learning**	0	0
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	30
3	**Tutorial**	--
4	**Others** (specify)	--
	Total	70

B. Course Objectives and Learning Outcomes

1. Course Description

The aim of this course is to present them concepts which are related to networks interconnection: Motivations, TCP Protocol (TCP characteristics, TCP services (error control, flow control, sequencing, etc.), TCP Segment, TCP Applications, etc) should be demonstrated. Furthermore, UDP Protocol: Application identification (port, socket), UDP characteristics, UDP Datagram, UDP Applications, etc) should be presented. Also, Multimedia Internetwork protocols such as RTP, RTCP, RTSP, etc will be demonstrated. Furthermore, high speed networks motivations, interconnection equipment's, and technologies: X25, FR, ATM, DSL, PPP, etc will be introduced. Also, wireless technologies will be discussed. Finally, a most recent topic in wireless communication should be selected and presented.

2. Course Main Objective

The main objective of this course is to Learn the students UDP Protocol: Application identification (port, socket), UDP characteristics, UDP Datagram, UDP Applications, etc., TCP/IP technology: TCP/IP and networks interconnection, TCP/IP main characteristics, TCP/IP Architecture: TCP/IP vs. OSI, TCP/IP layers, TCP services (error control, flow control, sequencing, etc.),TCP Segment, TCP Applications, Multimedia Internetwork protocols such as RTP, RTCP, RTSP, etc. high speed networks motivations, Interconnection equipment, wide area network technologies: X25, FR, ATM, DSL, PPP, etc., and most recent topic in wireless technology.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe advanced topics in IP, TCP, and UDP protocols.	K1
1.2	Describe wireless technologies.	K1
2	**Skills :**	
2.1	Outline multimedia Internetwork protocols.	S1
2.2	List high speed networks such as PPP/SLIP, XDSL and ATM.	S2
3	**Values:**	
3.1		

C. Course Content

No	List of Topics	Contact Hours
1	IP, TCP, and UDP	18
2	Multimedia networks: Multimedia applications, QoS constraints, real-time transport protocols: RTP, RTCP, and RTSP.	18
3	High speed internetworking technologies: PPP/SLIP, XDSL, X25, FR, ATM technologies	18
4	Wireless networks: wireless network architectures, standards, Ad-hoc network, sensor network	10
5	Most recent topic in wireless technology	6
Total		70

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**		
1.1	Describe advanced topics in IP, TCP, and UDP protocols.	Lecture Discussion Lab work	Written Exams Assignments
1.2	Describe wireless technologies.	Lecture Discussion Lab work	Writing Exam Assignments Reports Oral Presentations
2.0	**Skills**		
2.1	Outline multimedia Internetwork protocols.	Lecture Discussion Lab work	Written Exams Assignments
2.2	List high speed networks such as PPP/SLIP, XDSL and ATM.	Lecture Discussion Lab work	Written Exams Assignments Practical Exam
3.0	**Values**		
3.1			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	10	5%
2	Mid Exam	6	20%
3	Minor project	8	10%
4	Final presentation	9	5%
5	Labs	11	10%
6	Final Exam	12	50%

***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 :

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Computer Networking: A Top-Down Approach, James F. Kurose, Keith W. Ross, Harlow: Pearson, Edition 7th, 2017.
Essential References Materials	MPLS: Technology and Applications, Bruce S. Davie,Yakov Rekhter, Morgan Kaufmann Publishers Inc, US; 2Rev Ed edition (June 12, 2005)
Electronic Materials	Presentations
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board. • A Lab room appropriate for maximum 15 students with a personal computer, a data show and a smart board.
Technology Resources (AV, data show, Smart Board, software, etc.)	• Lab materials and required software
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
Effectiveness of Teaching	Students	Students surveys and Students course evaluation
Improvement of Teaching	Course Coordinator	Deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	• Review CAF (Course assessment file) • Alumni surveys. • Periodic exchange and remarking of tests or a sample of assignments with staff at another

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	IT Department Council/ Executive program committee
Reference No.	11
Date	23/10/21443


قسم تقنية المعلومات
Information Technology
Department
TU
جامعة الطائف
TAIF UNIVERSITY
كلية الحاسبات وتقنية المعلومات
College of Computer and
Information Technology
TU
جامعة الطائف
TAIF UNIVERSITY