

**College of Technological Innovation**

The College of Technological Innovation (CTI) seeks to produce graduates recognized by business, government, and educational entities in the United Arab Emirates, the Gulf region, and the rest of the world as having a sound, current, and comprehensive education in the innovative application of information technology. It also seeks to develop a strong applied research capacity in emerging technologies directed toward meeting the IT needs of the Gulf region.

**NET 257 - Computer Network Foundations Lab**

Term	<b>202321 - 2023 Fall Semester</b>		
Section	<b>002</b>	CRN	<b>21549</b>
Course Pre-requisites	<b>CIT 210</b>		
Course Co-requisites	<b>NET 256;paired course ;</b>		
Credit hours	<b>1</b>	Lab hours	<b>2</b>
Lecture hours	<b>0</b>	Other hours	<b>0</b>
Schedule Type	<b>Lab</b>		
Delivery Mode	<b>On-Campus</b>		

Instructor's Name	<b>Maha Alblooki</b>		
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Class Time/Location	<b>T 1330-1520 F2-1-012;</b>		
Office Location	<b>FF3-01-050, <a href="https://zu-ac-ae.zoom.us/j/mahaalblooki">https://zu-ac-ae.zoom.us/j/mahaalblooki</a></b>		
Office Hours	<b>Tue 11:00-12:20, Wed 8:00-10:20, Thu 3:00-5:00</b>		

## 1. Course Description

This course provides hands-on practice for Computer Networking Foundations topics covered in NET256.

## 2. Course Learning Outcomes

By the end of this course, a student will be able to:

1. Configure and manage network devices (routers and switches) using terminal emulation software and host PCs.
2. Relate network concepts to appropriate technologies for network connectivity.
3. Apply subnet masks to fulfil given requirements in IPv4 and IPv6 networks.
4. Build a simple Ethernet network using routers and switches.
5. Perform basic troubleshooting operations on LANs and connected devices.

### Alignment to Program Learning Outcomes

<b>TI_BSINT: Information Technology--B.S.: Bachelor of Science</b>	<b>Course Learning Outcomes</b>
1. Critical Thinking and Quantitative Reasoning in IT (ITCTQR)- Program graduates will be able to use critical thinking and quantitative processes to identify, analyze and solve problems, and evaluate solutions in an IT context	3, 1
2. Information Technology Application (ITA) - Program graduates will be able to select existing and cutting-edge IT tools and procedures to develop modules and systems which fulfill organizational requirements for operation in a global environment	2
3. Information Technology Management (ITM) - Program graduates will be able to assess and determine information resource requirements for current problems in order to develop solutions suitable for IT and business managers operating in a multi-national and multi-cultural environment	5
4. Information Technology Professional Practice (ITPP) - Program graduates understand how groups interact, be able to assume a leadership role when required, and understand the fundamentals of professional and ethical conduct	
5. IT Systems Theory and Practice (ITSTP) - Program graduates will be able to understand and communicate the fundamentals of systems theory in the development of appropriate systems that function in a global environment	4, 5
6. Technical Communication (ITTC) - Program graduates will be able to express themselves effectively and efficiently in both English and Arabic while using the correct IT terms for each language	

### 3. Weekly Outline

Week	Topic	Activity
08/21 to 08/25	Introduction to the course syllabus, Cisco Accounts setup Simulation software installation and setup	Syllabus and Introduction
08/28 to 09/01	Lab 1: Part a: Navigate the IOS by Using TeraTerm for Console Connectivity Part b: Initialize and Reload a Router and Switch	ITN v7 Lab Manual
09/04 to 09/08	Lab2: Basic Switch and End Device Configuration	ITN v7 Lab Manual
09/11 to 09/15	Lab 3: Observe DNS Resolution Lab 4: Build a Switch and Router Network	ITN v7 Lab Manual
09/18 to 09/22	Lab 4: Build a Switch and Router Network	ITN v7 Lab Manual
09/25 to 09/29	Lab 5: Part a: Calculate IPv4 Subnets	ITN v7 Lab Manual
10/02 to 10/06	Lab 5: Part b: Design and Implement a VLSM Addressing Scheme	ITN v7 Lab Manual
10/09 to 10/13	Lab 6: Identify IPv6 Addresses Configure IPv6 Addresses on Network Devices	ITN v7 Lab Manual
10/16 to 10/20	Lab 7: Use Ping and Traceroute to Test Network Connectivity	ITN v7 Lab Manual
10/23 to 10/27	Lab 8: View Network Device MAC Addresses Lab 9: View the Switch MAC Address Table	ITN v7 Lab Manual
10/30 to 11/03	Lab 10: Use Wireshark to View Network Traffic	ITN v7 Lab Manual
11/06 to 11/10	Revision Skills Exam	Practice for Hands-on Skills Based Assessments Exam
11/13 to 11/17	Cisco Final Exam Final	Cisco Exam on Cisco portal (OnCampus)
11/20 to 11/24	Skill Exam	Individual Hands-on Skills Based Assessment (SBA) Exam Last day of classes : Dec 4, 2023

## **4. Pedagogy - Learning Process**

### **4.1 Zayed University Pedagogical Framework**

Zayed University is committed to a student-centered learning environment that is characterized by the following approach to teaching:

1. **Active and Varied:** The ZU faculty member adopts a variety of active teaching-learning strategies, tailored to each learning task and to the intended learning outcomes.
2. **Collaborative and Individual:** Cooperative group learning tasks, as well as individual learning tasks, are integral to each ZU course.
3. **Content-rich and Language-rich:** Instruction focuses on the development of in-depth knowledge, along a continuum from richer-in-language, to richer-in-content in the baccalaureate and graduate programs.
4. **Facilitated by Technology:** Appropriate educational technology is integrated into every ZU course.
5. **Interculturally attuned:** Teaching in ZU requires global awareness, sensitivity to local culture, a commitment to developing intercultural competence, and a commitment to learning from students.
6. **Interpersonally oriented:** Successful learning at ZU is facilitated by building positive relationships with students, while maintaining professional demeanor and holding students accountable.
7. **Learner focused:** The ZU faculty member evaluates and builds on learner knowledge and strengths, while addressing learner needs.
8. **Practical and Theoretical:** Instruction lays solid theoretical foundations, as appropriate to the level of study, while having a real-world orientation.
9. **Reflective:** Instructors strive to be reflective educators who enable reflective and critical learning in students.
10. **Supportive:** The ZU faculty member fosters student dispositions of leadership, creativity, innovation, self-responsibility, and lifelong learning in a supportive learning environment.

### **4.2 Teaching Method**

#### **Online Learning**

This course is designed to be taught online with a flexible schedule and include synchronous and/or asynchronous activities. All course activities are completed online using varied digital tools and there is only a rare requirement to attend the physical campus or an approved testing center.

#### **Blended Learning**

This course is designed to be taught with significant learning activities undertaken online (synchronously and/or asynchronously) and a reduced number of on-campus face-to-face classes. The online activities are a purposeful substitution of on-campus classes as determined by the college.

#### **On-campus Learning**

This course is designed to be taught on-campus in face-to-face classes with a synchronous schedule. The classes are technology-enabled and digital tools will be used to support and augment the learning experience.

#### **Emergency Remote Learning**

This course was planned to meet on-campus, but due to some emergency (e.g. pandemic or natural disaster) the decision has been made that it needs to be taught remotely. The on-campus schedule for faculty and students will primarily be maintained, and synchronous and asynchronous online technology is used to facilitate the remote teaching.

### **4.1 Course-Level Pedagogy/Learning Process**

Laboratory

## 5. Course Text/s

Textbook				
Title	Publisher	Author	ISBN	Year
Introduction to Networks Course Booklet (CCNAv7.0) , 1st Edition	Cisco Press	Cisco Networking Academy	9780136632955	2020

## Additional Learning Materials

Text Other
<b>Other Material</b>
Cisco Net Academy Online Curriculum: Introduction to Networks (ITN) v7.0 – <a href="https://www.netacad.com/ITN%20v7%20Lab%20Manual">https://www.netacad.com/ITN v7 Lab Manual</a> based on Introduction to Networks on Cisco Net Academy

## 6. Assessment of Student Learning

Item	%	Description	Due Date MM/DD/YYYY	Course Learning Outcomes
Assignment 1	15	Lab Simulation on PT for Assignment 1	09/16/2023	2,3,4,5,1
Assignment 2	20	Lab Simulation on PT for Assignment 2	10/07/2023	2,3,4,5,1
Assignment 3	15	Lab Simulation on PT for Assignment 3	10/28/2023	2,3,4,5,1
Final Exam	10	Cisco Final Exam relating theoretical concepts to practical situations on Cisco portal (OnCampus)	11/16/2023	2
Skills Exam	40	Hands-on lab skills-based exam covering practical lab topics (Individual, Closed-book)	11/23/2023	3,4,5,1

## 7. Course Policies

- When a class is missed it is your responsibility to contact the instructor in order to gather the information that you missed from the class session.
- You are expected to be in class/online class activities on time and remain for the scheduled class period. Classes will begin promptly at the scheduled time and you will be marked absent if you are late.
- Course documents (syllabus, readings, assignments, etc.), announcements and grades will be posted on the BlackBoard site for this class. This site can be found at <https://learn.zu.ac.ae> Students are expected to make use of this technology.
- You will be given assignments to complete throughout the semester. Your assignments must be your work and submitted by the deadline set by your instructor.
- Late assignments will be subject to a penalty as specified by your instructor.
- Please contact the instructor if you have a family emergency or medical reason for a late assignment.
- For student complaints, problems and/or suggestions, please visit SAHIM (<http://sahim.zu.ac.ae>).

## 8. Grading Key

Zayed University has adopted a plus/minus grading scale for all undergraduate and graduate courses. Based on Zayed University policy, the grade points and percentage ranges are assigned to each letter grade as follows:

Percentage	Grade	Grade Points	Explanation
90-100%	A	4.00	Excellent+
87-89%	A-	3.700	Excellent-
84-86%	B+	3.300	Very Good+
80-83%	B	3.000	Very Good
77-79%	B-	2.700	Very Good-
74-76%	C+	2.300	Good+
70-73%	C	2.000	Good
67-69%	C-	1.700	Good-
64-66%	D+	1.300	Pass+
60-63%	D	1.000	Pass
0-59%	F	0	Fail

## 9. Attendance Policy

### Attendance:

You are required to attend all classes, practical sessions, seminars, and examinations related to the courses in which you are registered. Your instructors are responsible for recording class attendance accurately on the official online register. You are responsible for checking and tracking your attendance records for each course through the Student Access Program

### Absences:

- It is your responsibility to catch up on work missed through class absence.
- If you miss 5% of the class meetings allotted for a course you will receive a warning from the Registrar's Office.
- If you miss 10% of the class meetings allotted for a course you will receive a second warning from the Registrar's Office.
- If you miss more than 15% of the class meetings allotted for a course you will receive a **Withdrawal with Failure (WF)** grade for the course.
- **After missing 15% or more of the class meetings, you will not be allowed to continue the course and will need to re-take it in a later semester.**

### Student Appeals:

- Student appeals against receiving a WF grade for a course after exceeding the 15% absence limit, must be submitted on the Attendance Appeal e-form within three (3) working days of the student receiving the notification of the WF grade from the Registrar's Office.
- If the appeal is upheld, you will be allowed to withdraw from the course, and a grade of Withdrawn (W) will be assigned for that course.
- If the appeal is denied, the grade of Withdrawn with Failure (WF) will remain assigned for that course.

### Waived Absences:

- Special consideration may be given to students with extra-ordinary circumstances for the absences to be waived. These circumstances require the approval of the Vice President, or designee, upon the recommendation of the College Dean and the endorsement of the Provost.

Reference: ZU Policy & Procedure ACA-REG-103 Attendance

## **10. Academic Integrity**

### **10.1 Zayed University Honor Code**

"In the Name of God Most Gracious Most Merciful"

As a student of the University that carries the name of the beloved and revered father of the nation, the late Sheikh Zayed Bin Sultan Al Nahayan (*may his soul rest in eternal peace*), I pledge to:

- Demonstrate the virtues of honesty, respect and fairness
- Adhere to the highest standards of personal moral conduct
- Refrain from any and all forms of academic dishonesty
- Present a positive image of myself by acting with maturity and honor
- Take responsibility for my actions and do my part to maintain a community of trust
- Dedicate myself to the achievement of the University's excellence

I promise to honor Sheikh Zayed and to preserve his legacy by following the example set by the wise and beloved father of the United Arab Emirates

### **10.2 Desired Behavior**

Students are expected to do their own work, citing all of the sources they use and being honest and open in all of their dealings with instructors, advisors, classmates, and administrators.

### **10.3 Prohibited Behavior**

All forms of academic dishonesty are strictly prohibited. Violators of this code are subject to university discipline. Academic dishonesty includes, but is not limited to:

- Cheating
- Plagiarism
- Falsification of data
- Inventing or misrepresenting research or citations
- Helping others to cheat, plagiarize or falsify material
- Obtaining copies of tests without permission
- Misrepresenting coursework done for another course as new work without prior permission from the instructor
- Interfering with other students' work
- Taking a quiz or examination for another student, or having another student take a quiz or examination for oneself
- Collaborating with others on assignments meant to be done on one's own, without the prior permission of the instructor
- Abuse, misuse or appropriation of shared instructional or research resources
- Destroying or tampering with shared instructional or research resources
- Withholding or hiding shared instructional or research resources
- Appropriation of shared instructional or research resources

### **10.4 University Discipline**

The student who engages in behavior prohibited by this Policy may be subject to University discipline as well as discipline in the course, department, or college in which the offense occurred.

## **11. Disability**

Under UAE Federal Law; Students of Determination (Physical Disabilities and Learning Difficulties) are entitled to receive exam accommodation, such as, access to Assistive Technology, extra time, rest breaks or use of a separate room. To avail of this accommodation students must be registered with Student Accessibility Services (SAS) where their requirements will be accessed. For registration and further information please contact the Department of Student Accessibility Services (SAS); the Manager, Humaid Matter AlTayer Assistive Technology Resource Center Abu Dhabi, LB-01-037, and in Dubai, the Manager, Khalaf AlHabttoor Assistive Technology Resource Center, 04-GF-054.



