University of Sana'a
Faculty of Engineering
Department: Electrical Engineering
Title of the Program: Communication Engineering and Networks

Course Specification of Telecommunication Switching and Signaling

I. Course Identification and General Information:

1.	Course Title:	Telecommunication Switching and Signaling				
2.	Course Code & Number:	CNE332				
3.	Credit hours:	C.H				Total
		Th.	Tu.	Pr.	Tr.	
		2	2	-	-	3
4.	Study level/ semester at which this course is offered:	Fourth Year/ First Semester				
5.	Pre –requisite (if any):	Communication Principles (CNE221)				
6.	Co –requisite (if any):	Digital Communications (CNE323)				
8.	Program (s) in which the course is offered:	Communication Engineering and Networks				
9.	Language of teaching the course:	Arabic & English				
10.	Location of teaching the course:	Inside the University, Faculty of Engineering				
11.	Prepared By:	Asst. Prof. Dr. Yahya Al-Naggar				
12.	Date of Approval	2020				

II. Course Description:

This course aims at providing students with the basic concepts and skills of Telecommunication Switching and Signaling. It deals with: basics of telephone, external telephone networks and their components, digital telephone exchanges, switching systems used in modern communication networks, subscriber lines and tracks between switches, Signaling in telecommunication networks and numbering system in the telephone network. It provides the main concepts of switching for both data communication and voice communication networks. It provides students the ability to understand the different types of switching techniques. It provides the student with the ability to understand and design

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Asst. Prof. Dr. Yahya Al-Naggar	Asst. Prof. Dr. Adel Ahmed Al-Shakiri	Assoc. Prof. Dr. Mohammad Algorafi	Prof. Dr. Mohammed AL-Bukhaiti	Assoc. Prof. Dr. Huda Al-Emad

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the types of switches. This course depends on lectures, weakly homework, and a practical project that includes the most of the course's subjects.

	III. Course Intended learning outcomes (CILOs) of the course	**Referenced PILOs**
a1	Recognize the components of the telephone and PSTN communication systems and electronic switching exchanges.	A2, A3
a2	Illustrates the characteristics, advantages and disadvantages of different types of switching techniques and signaling systems.	A2, A3
b1	Distinguish the problems and appropriate requirements of data communication solutions and appropriate solutions to the problems of different switching units in the digital telephone exchanges.	B1, B3
b2	Compare between the different techniques for communication functions, different switching units and route types then choose the suitable one for a specific application.	B1, B3
c1	Design various circuit and packet switches using mathematical models and simulation software.	C1, C2
c2	Simulate the telephone system network and digital exchange using suitable modeling and simulation software.	C3, C4
d1	Perform specific tasks individually and present his tasks' ideas clearly.	D1, D2
d2	Investigate the different electronic web sites and references.	D4, D5

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Recognize the components of the telephone and PSTN communication systems and	▪ Active lectures ▪ Tutorials ▪ Seminar/project/presentation	▪ Written tests (Mid and final Terms)

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	electronic switching exchanges.	▪ Interactive class discussions ▪ Exercises and home works ▪ Field visits	▪ Written assessments such as multiple-choice questions and Quizzes ▪ Home works and assignments ▪ Presentations
a2-	Illustrates the characteristics, advantages and disadvantages of different types of switching techniques and signaling systems.	▪ Active lectures ▪ Tutorials ▪ Seminar/project/presentation ▪ Interactive class discussions ▪ Exercises and home works ▪ Field visits	▪ Written tests (Mid and final Terms) ▪ Written assessments such as multiple-choice questions and Quizzes ▪ Home works and assignments ▪ Presentations

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Distinguish the problems and appropriate requirements of data communication solutions and appropriate solutions to the problems of different switching units in the digital telephone exchanges.	▪ Active lectures ▪ Tutorials ▪ Interactive class discussions ▪ Exercises and home works ▪ Directed self- study ▪ Problem based learning	▪ Written tests (Mid and final Terms) ▪ Written assessments such as multiple-choice questions and Quizzes ▪ Multi-competency comprehensive assessments ▪ Home works and assignments
b2- Compare between the different techniques for communication functions,	▪ Active lectures ▪ Tutorials	▪ Written tests (Mid and final Terms)

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different switching units and route types then choose the suitable one for a specific application.	▪ Interactive class discussions ▪ Exercises and home works ▪ Directed self- study ▪ Problem based learning	▪ Written assessments such as multiple-choice questions and Quizzes ▪ Multi-competency comprehensive assessments ▪ Home works and assignments

(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1- Design various circuit and packet switches using mathematical models and simulation software.	▪ Computer laboratory-based sessions ▪ Team work (group learning) ▪ The use of communication and information technology	▪ Written tests (Mid and final Terms) ▪ Written assessments such as multiple-choice questions and Quizzes ▪ Report/Project/Practical Lab Sessions ▪ Home works and assignments
c2- Simulate the telephone system network and digital exchange using suitable modeling and simulation software	▪ Computer laboratory-based sessions ▪ Team work (group learning) ▪ The use of communication and information technology	▪ Written tests (Mid and final Terms) ▪ Written assessments such as multiple-choice questions and Quizzes ▪ Report/Project/Practical Lab Sessions Home works and assignments

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(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Perform specific tasks individually and present his tasks' ideas clearly.	▪ Seminar/project/presentation ▪ Interactive class discussions ▪ Directed self- study ▪ Team work (group learning)	▪ Multi-competency comprehensive assessments ▪ Coursework Activities ▪ Home works and assignments ▪ Presentations
d2- Investigate the different electronic web sites and references.	▪ Seminar/project/presentation ▪ Interactive class discussions ▪ Directed self- study ▪ Team work (group learning)	▪ Multi-competency comprehensive assessments ▪ Coursework Activities ▪ Home works and assignments ▪ Presentations

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact hours
1.	Telephone Basics	a1, b1, d1, c2, d2	• Introduction to sound science. • The voice frequency range used in the telephone equipment. • Telephone components. • Telephone Network and Switch Board. • Types of telephones and their theory of operation.	1	2

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			• Steps to make a phone call and call Setup.		
2.	PSTN Basics	a1, b1, d1, d2	• Evolution. • Components. • Services. • Telephone Exchange.	1	2
3.	External telephone networks	a1, b2, c2, d1, d2	• Introduction to external telephone networks. • Telephone network and distribution board. • External telephone network components: • Primary Telephone Network: Main Distribution Frame, Cabinets, Manholes, Hand Holes, Ducts, Telephone Cables and Their Different Capacities. • Secondary Telephone Network: Join Box Unit, Distribution Box Unit, Protector.	1	2
4.	Telecommunication Traffic Engineering	a2, b1, c1, d1, d2	• General Characteristics of Telephone Traffic. • Mathematical Model. • State Transition Diagram for N trunk. • Queuing Systems. • Congestion.	2	4

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5.	Switching exchange systems	a1, a2, b1, c1, d1, d2	• Introduction to switching systems. • Switch modules development: manual switchboards, step-by-step switches, cross-bar divider, cross-point divider. • Digital switching in modern exchanges. • Methods and units of digital switching. • Examples of digital switching methods.	1	2
6.	Digital telephone exchanges	a1, a2, b1, b2, c2, d1, d2	• Digital telephone exchange components: switch unit, matching unit, control unit, main frame. • The main functions of the telephone exchange. • Types of telephone exchanges: local exchange, transit exchange.	1	2
7.	Space Division Switching	a2, b1, b2, c2, d1, d2	• Crossbar Switch. • Multistage Switch.	1	2
8.	Time Division Switching	a2, b1, b2, c2, d1, d2	• Time Slot Interchange (TSI). • Time Multiplexed Space Switch. • Equivalence of time and space switching.	1	2

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			• Multistage time and space switching.		
9.	Signaling system in telecommunications networks	a2, b1, c2, d1, d2	• Introduction to Signaling in telecommunication networks. • Signaling Techniques, Signaling Types. • Types of signaling signals. • Methods of signaling between the switches. • SS7 and Digital signaling in modern PBXs.	1	2
10.	Numbering system in the telephone networks	a1, a2, b1, b2, c1, c2, d1, d2	• Subscriber lines and tracks between the exchanges. • The hierarchy of the telephone network. • Tracks between exchanges. • Definition of the numbering system. • Numbering methods in local, foreign and international calls. • International Numbering Plan. • Examples of the numbering system used in the telephone network in the Republic of Yemen.	1	2
11.	Datagram Switching	a2, b1, b2, c2, d1, d2	• Basics of Datagram Switches. • Internet.	1	2
12.	Virtual Circuit Switching	a2, b1, b2, c2, d1, d2	• Basics Virtual Circuit Switching.	2	4

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			• Frame Relay. • ATM. • MPLS.		
Number of Weeks /and Units Per Semester				**14**	**28**

B – Tutorial Aspect:

Order	Units/Topics List	Number of Weeks	Contact hours	Learning Outcomes
1.	Telephone Basics	1	2	a1, b1, d1, c2, d2
2.	PSTN Basics	1	2	a1, b1, d1, d2
3.	External telephone networks	1	2	a1, b2, c2, d1, d2
4.	Telecommunication Traffic Engineering	2	4	a2, b1, c1, d1, d2
5.	Switching exchange systems	1	2	a1, a2, b1, c1, d1, d2
6.	Digital telephone exchanges	1	2	a1, a2, b1, b2, c2, d1, d2
7.	Space Division Switching	1	2	a2, b1, b2, c2, d1, d2
8.	Time Division Switching	1	2	a2, b1, b2, c2, d1, d2
9.	Signaling system in telecommunications networks	1	2	a2, b1, c2, d1, d2
10.	Numbering system in the telephone networks	1	2	a1, a2, b1, b2, c1, c2, d1, d2
11.	Datagram Switching	1	2	a2, b1, b2, c2, d1, d2
12.	Virtual Circuit Switching	2	4	a2, b1, b2, c2, d1, d2
Number of Weeks /and Units Per Semester		**14**	**28**	

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V. Teaching strategies of the course:

- Active lectures
- Tutorials
- Seminar/project/presentation
- Interactive class discussions
- Exercises and home works
- Computer laboratory-based sessions
- Directed self- study
- Problem based learning
- Team work (group learning)
- The use of communication and information technology
- Field visits

VI. Assignments:

No	Assignments	Aligned CILOs (symbols)	Week Due	Mark
1.	Preparation and submission of presentation on the components of the telephone network.	a1, b1, d1, c2, d2	4th	3
2.	Preparation and submission of presentation on digital telephone exchanges.	a1, a2, b1, b2, c2, d1, d2	6th	3
3.	Searching in the Internet for modern types of digital exchanges and submitting a written report on one of them.	a1, a2, b1, b2, c1, c2, d1, d2	10th	3
4.	Going to the field of the telephone exchange building in the city where the student studies and preparing a written report on the numbering system used in the Republic of Yemen.	a1, a2, b1, b2, c1, c2, d1, d2	12th	6
Total Score				**15**

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VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1.	Exercises & Homework & Quizzes	Weekly	15	10%	a1, a2, b1, b2, c1, c2, d1, d2
2.	Final Project + Presentation	15th	15	10%	a1, a2, b1, b2, c1, c2, d1, d2
3.	Assignments & Research	4th, 6th, 10th, 12th	15	10%	a1, a2, b1, b2, c1, c2, d1, d2
4.	Midterm Theoretical Exam	8th	30	20%	a1, a2, b1, b2, c1, c2, d1, d2
5.	Final Theoretical Exam	16th	75	50%	a1, a2, b1, b2, c1, c2, d1, d2
Total			**150**	**100%**	

VIII. Learning Resources:

- *Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s) (maximum two).

1. K. Chandrashekhar, 2009, Digital Switching Systems, 1st Edition, Technical Publications.
2. Thiagarajan Viswanathan, 2015, Telecommunication Switching Systems and Networks, 2nd Edition, PHI Learning.

2- Essential References.

1. P. Gnanasivam, 2010, Telecommunication Switching and Networks, 2nd Edition, New Age International.
2. V. S. Bagad, 2011, Communication Switching Techniques, 1st Edition, Technical Publications.
3. John G. van Bosse & Fabrizio U. Devetak , 2008, Signaling in Telecommunication Networks, 2nd Edition, Wiley-Interscience.

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4. Syed Riffat Ali, 1997, Digital Switching Systems: System Reliability and Analysis, 1st Edition, McGraw-Hill Professional Publishing.

3- Electronic Materials and Web Sites etc.

1. https://ieeexplore.ieee.org/document/59378/
2. http://www.lgsinnovations.com/productview/alcatel-lucent-5ess-2000-switch/
3. http://www.ecmweb.com/cee-news-archive/digital-telephone-systems
4. http://en.wikipedia.org/wiki/Electronic_Switching_System
5. http://en.wikipedia.org/wiki/Telephone_exchange
6. http://en.wikipedia.org/wiki/Network_switch

IX. Course Policies:

1.	**Class Attendance:** A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic
2.	**Tardy:** For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.
3.	**Exam Attendance/Punctuality:** A student should attend the exam on time. He is Permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam-
4.	**Assignments & Projects:** The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time-
5.	**Cheating:** For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty-
6.	**Plagiarism**:

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	Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7.	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination. Lecture notes and assignments my given directly to students using soft or hard copy

Reviewed By	**Vice Dean for Academic Affairs and Post Graduate Studies: Asst. Prof. Dr. Tarek A. Barakat** **President of Quality Assurance Unit: Assoc. Prof. Dr. Mohammed Algorafi** **Name of Reviewer from the Department: Asst. Prof. Dr. Nasser H. Almofari**
	Deputy Rector for Academic Affairs Asst. Prof. Dr. Ibrahim AlMutaa **Assoc. Prof. Dr. Ahmed Mujahed** **Asst. Prof. Dr. Munasar Alsubri**

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University of Sana'a
Faculty of Engineering
Department: Electrical Engineering
Title of the Program: Communication Engineering and Networks

Template for Course Plan (Syllabus) of Telecommunication Switching and Signaling

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	Dr. Yahya Al-Naggar	**Office Hours**					
Location & Telephone No.	Sana'a 777389333	**SAT**	**SUN**	**MON**	**TUE**	**WED**	**THU**
E-mail	dr.yahya.alnaggar@gmail.com						

II. Course Identification and General Information:						
1-	Course Title:	Telecommunication Switching and Signaling				
2-	Course Number & Code:	CNE332				
3-	Credit hours:	C.H				Total
		Th.	Tu.	Pr.	Tr.	
		2	2	-	-	3
4-	Study level/year at which this course is offered:	Fourth Year/ First Semester				
5-	Pre –requisite (if any):	Communication Principles (CNE221)				
6-	Co –requisite (if any):	Digital Communications (CNE323)				
7-	Program (s) in which the course is offered	Communication Engineering and Networks				
8-	Language of teaching the course:	Arabic & English				
9-	System of Study:	Semesters				
10-	Mode of delivery:	Face to face lectures and tutorials				
11-	Location of teaching the course:	Inside the University, Faculty of Engineering				

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III. Course Description:

This course aims at providing students with the basic concepts and skills of Telecommunication Switching and Signaling. It deals with: basics of telephone, external telephone networks and their components, digital telephone exchanges, switching systems used in modern communication networks, subscriber lines and tracks between switches, Signaling in telecommunication networks and numbering system in the telephone network. It provides the main concepts of switching for both data communication and voice communication networks. It provides students the ability to understand the different types of switching techniques. It provides the student with the ability to understand and design the types of switches. This course depends on lectures, weakly homework, and a practical project that includes the most of the course's subjects.

IV. Intended learning outcomes (ILOs) of the course:

- Brief summary of the knowledge or skill the course is intended to develop**:**

1. Recognize the components of the telephone and PSTN communication systems and electronic switching exchanges.
2. Illustrates the characteristics, advantages and disadvantages of different types of switching techniques and signaling systems.
3. Distinguish the problems and appropriate requirements of data communication solutions and appropriate solutions to the problems of different switching units in the digital telephone exchanges.
4. Compare between the different techniques for communication functions, different switching units and route types then choose the suitable one for a specific application.
5. Design various circuit and packet switches using mathematical models and simulation software.
6. Simulate the telephone system network and digital exchange using suitable modeling and simulation software.
7. Perform specific tasks individually and present his tasks' ideas clearly.
8. Investigate the different electronic web sites and references.

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V. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact hours
1.	Telephone Basics	• Introduction to sound science. • The voice frequency range used in the telephone equipment. • Telephone components. • Telephone Network and Switch Board. • Types of telephones and their theory of operation. • Steps to make a phone call and call Setup.	1st	2
2.	PSTN Basics	• Evolution. • Components. • Services. • Telephone Exchange.	2nd	2
3.	External telephone networks	• Introduction to external telephone networks. • Telephone network and distribution board. • External telephone network components: • Primary Telephone Network: Main Distribution Frame, Cabinets, Manholes, Hand Holes, Ducts, Telephone Cables and Their Different Capacities. • Secondary Telephone Network: Join Box Unit, Distribution Box Unit, Protector.	3rd	2
4.	Telecommunication Traffic Engineering	• General Characteristics of Telephone Traffic. • Mathematical Model. • State Transition Diagram for N trunk.	4th ,5th	4

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		• Queuing Systems. • Congestion.		
5.	Switching exchange systems	• Introduction to switching systems. • Switch modules development: manual switchboards, step-by-step switches, cross-bar divider, cross-point divider. • Digital switching in modern exchanges. • Methods and units of digital switching. • Examples of digital switching methods.	6th	2
6.	Digital telephone exchanges	• Digital telephone exchange components: switch unit, matching unit, control unit, main frame. • The main functions of the telephone exchange. • Types of telephone exchanges: local exchange, transit exchange.	7th	2
7.	Midterm Exam	All previous topics	8th	2
8.	Space Division Switching	• Crossbar Switch. • Multistage Switch.	9th	2
9.	Time Division Switching	• Time Slot Interchange (TSI). • Time Multiplexed Space Switch. • Equivalence of time and space switching. • Multistage time and space switching.	10th	2
10.	Signaling system in telecommunications networks	• Introduction to Signaling in telecommunication networks. • Signaling Techniques, Signaling Types. • Types of signaling signals. • Methods of signaling between the switches. • SS7 and Digital signaling in modern PBXs.	11th	2

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11.	Numbering system in the telephone networks	• Subscriber lines and tracks between the exchanges. • The hierarchy of the telephone network. • Tracks between exchanges. • Definition of the numbering system. • Numbering methods in local, foreign and international calls. • International Numbering Plan. • Examples of the numbering system used in the telephone network in the Republic of Yemen.	12th	2
12.	Datagram Switching	• Basics of Datagram Switches. • Internet.	13th	2
13.	Virtual Circuit Switching	• Basics Virtual Circuit Switching. • Frame Relay. • ATM. • MPLS.	14th ,15th	4
14.	Final Exam	All Topics	16th	2
Number of Weeks /and Units Per Semester			**16**	**32**

B – Tutorial Aspect:

Order	Units/Topics List	Number of Weeks	Contact hours
1.	Telephone Basics	1st	2
2.	PSTN Basics	2nd	2
3.	External telephone networks	3rd	2
4.	Telecommunication Traffic Engineering	4th ,5th	4
5.	Switching exchange systems	6th	2
6.	Digital telephone exchanges	7th	2

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7.	Space Division Switching	8th	2
8.	Time Division Switching	9th	2
9.	Signaling system in telecommunications networks	10th	2
10.	Numbering system in the telephone networks	11th	2
11.	Datagram Switching	12th	2
12.	Virtual Circuit Switching	13th ,14th	4
Number of Weeks /and Units Per Semester		**14**	**28**

VI. Teaching strategies of the course:

- Active lectures
- Tutorials
- Seminar/project/presentation
- Interactive class discussions
- Exercises and home works
- Computer laboratory-based sessions
- Directed self- study
- Problem based learning
- Team work (group learning)
- The use of communication and information technology
- Field visits

VII. Assignments:

No	Assignments	Aligned CILOs (symbols)	Week Due	Mark
1.	Preparation and submission of presentation on the components of the telephone network.	a1, b1, d1, c2, d2	4th	3

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2.	Preparation and submission of presentation on digital telephone exchanges.	a1, a2, b1, b2, c2, d1, d2	6th	3
3.	Searching in the Internet for modern types of digital exchanges and submitting a written report on one of them.	a1, a2, b1, b2, c1, c2, d1, d2	10th	3
4.	Going to the field of the telephone exchange building in the city where the student studies and preparing a written report on the numbering system used in the Republic of Yemen.	a1, a2, b1, b2, c1, c2, d1, d2	12th	6
Total Score				**15**

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1.	Exercises & Homework & Quizzes	Weekly	15	10%
2.	Final Project + Presentation	15th	15	10%
3.	Assignments & Research	4th, 6th, 10th, 12th	15	10%
4.	Midterm Theoretical Exam	8th	30	20%
5.	Final Theoretical Exam	16th	75	50%
Total			**150**	**100%**

IX. Learning Resources:

- *Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s) (maximum two).

3. K. Chandrashekhar, 2009, Digital Switching Systems, 1st Edition, Technical Publications.
4. Thiagarajan Viswanathan, 2015, Telecommunication Switching Systems and Networks, 2nd Edition, PHI Learning.

2- Essential References.

5. P. Gnanasivam, 2010, Telecommunication Switching and Networks, 2nd Edition, New Age International.

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6. V. S. Bagad, 2011, Communication Switching Techniques, 1st Edition, Technical Publications.
7. John G. van Bosse & Fabrizio U. Devetak , 2008, Signaling in Telecommunication Networks, 2nd Edition, Wiley-Interscience.
8. Syed Riffat Ali, 1997, Digital Switching Systems: System Reliability and Analysis, 1st Edition, McGraw-Hill Professional Publishing.

3- Electronic Materials and Web Sites etc.

7. https://ieeexplore.ieee.org/document/59378/
8. http://www.lgsinnovations.com/productview/alcatel-lucent-5ess-2000-switch/
9. http://www.ecmweb.com/cee-news-archive/digital-telephone-systems
10. http://en.wikipedia.org/wiki/Electronic_Switching_System
11. http://en.wikipedia.org/wiki/Telephone_exchange
12. http://en.wikipedia.org/wiki/Network_switch

X. Course Policies:

1.	**Class Attendance:** A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic
2.	**Tardy:** For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.
3.	**Exam Attendance/Punctuality:** A student should attend the exam on time. He is Permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam-
4.	**Assignments & Projects:** The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time-

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5.	**Cheating:** For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty-
6.	**Plagiarism**: Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7.	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination. Lecture notes and assignments my given directly to students using soft or hard copy

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