



Computer and Info. Technology Department

Major Computer Technical Support

1430H – 2010G

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Department	Computer and Info. Technology	Major	Technical Support
<p>Course Description:</p> <p>This course is designed to fulfill the training needs of local jobs based on the national occupational skill standards of the computer user technical support. Training also includes general skills of English language, mathematics, physics, human interaction, vocational guidance, excellence and communication. Basic skills on electricity, electronics, data circuits, networks, operating systems and specialized skills in computer assembly, maintenance and upgrading are also included.</p> <p>Trainees are trained in 1560 training hours in addition to 420 practical training hours.</p> <p>Graduates will receive a Diploma (associate degree) in Computer Technology (Technical Support) and have the opportunity to work in fields related to computer maintenance, operating and information. A graduate will be able to work with or manage technical support centers.</p>			
<p>Course's general objective:</p> <p>This program aims to provide trainees with skills and necessary knowledge to carry out the work in technical support at the fourth level of the National Vocational Qualifications System.</p>			
<p>Course's specific objectives:</p> <p>At the end of this course trainees should be able to perform the following:</p> <ol style="list-style-type: none">1- Computer assembly.2- Computer upgrade.3- Computer maintenance.4- Technical troubleshooting.5- Computer technical support.6- Computer applications and operating system backup.7- Technical support management.8- Career communications.9- Knowledge of tech. support specialized terms.			

The Study Plans Distributed on trimesters

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
First trimester	1	ISL 101	Islamic Culture -1		2	2	0	0	2
	2	ARB 101	Arabic Language		2	2	0	0	2
	3	ENG 106	General English Language		4	4	0	2	6
	4	MAT 113	General Mathematics		4	4	0	0	4
	5	CMT 101	Introduction to Computer Applications		2	0	4	0	4
	6	PHY 115	General Physics		3	3	0	1	4
	7	VOC 107	Vocational Guidance & Excellence		2	2	0	0	2
Total Number of Units					19	17	4	3	24
CRH: Credit Hours L: Lecture P: Practical T: Tutorial CTH: Contact Hours									

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
Second trimester	1	ENG 135	Specialized English -1	ENG 106	4	4	0	2	6
	2	MAT 115	Specialized mathematics	MAT 113	3	3	0	1	4
	3	CMT 102	Advanced Computer Applications	CMT 101	2	0	4	0	4
	4	SUP 113	Fundamentals of Electronics		4	2	4	0	6
	5	CMT 127	Computer components & Assembly		4	2	4	0	6
Total Number of Units					17	11	12	3	26

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
Third trimester	1	ENG 234	Specialized English -2	ENG 135	4	4	0	2	6
	2	CMT 124	Computer Client O.S.	CMT 127	4	2	4	0	6
	3	SUP 222	Technical Support Skills	CMT 102	3	2	2	0	4
	4	SUP 137	Computer Hardware Maintenance	CMT 127	4	2	4	0	6
Total Number of Units					15	10	10	2	22

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
Forth trimester	1	ISL 102	Islamic Culture -2	ISL 101	2	2	0	0	2
	2	ENG 137	Communication Skills -1	ENG 106	4	4	0	2	6
	3	SUP 132	Operating System -1	CMT 124	4	2	4	0	6
	4	NET 107	Network Fundamentals		4	2	4	0	6
	5	ETH 101	Professional Ethics & Comm. Skills		2	2	0	0	2
Total Number of Units					16	12	8	2	22

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
Fifth trimester	1	ENG 237	Communication Skills -1	ENG 137	4	4	0	2	6
	2	SUP 232	Operating System -2	SUP 132	4	2	4	0	6
	3	SUP 267	Fundamentals of Computer Security	CMT 124	4	2	4	0	6
	4	SUP 247	LAN Support	NET 107	4	2	4	0	6
	5	SUP 290	Preparation for Professional Certificates	CMT 124 CMT 127	1	0	2	0	2
Total Number of Units					17	10	14	2	26

	No.	Course Code	Course Name	Prerequisites	No. of Units				
					CRH	L	P	T	CTH
Sixth trimester	1	SUP 299	Co-operative Training		4	Site Conditions Over 420 hours			

Total Number of trimesters Credit Units					CRH	L	P	T	CTH
					88	60	48	12	120
Total of training Hours (13X120) + Cooperative training Hours (420)					1980				



COMPUTER COMMON COURSES

1430H – 2010G

Department	English Language Center		Major	Computing Technology		
Course Name	Specialized English-1		Course Code	ENG 135		
Prerequisites	ENG 106					
Trimester	1	2	3	4	5	6
Credit Hours		4				Cooperative
Contact Hours (hours per week)	L	4				
	W	0				
	T	2				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>This basic course aims at introducing students of computer & information technology to the technical English language of their field of specializations.</p>						
General Objective:						
<p>The general goal of this course is to enable the students to comprehend and speak basic simple written and spoken technical English in the field of computer science & information technology as well as preparing them for enrollment in more advanced courses of similar nature.</p>						
Specific Objectives				Required Performance Specifications	NOSS Related tasks	
A. Procedural Objectives: Trainee should be able to:						
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. Grasp and use a reasonable amount of basic technical terms in their field of study.					Basic knowledge	
2. Comprehend simple to intermediate technical texts of computing & IT.					Basic knowledge	
3. Employ related grammatical structures used in the language of their major.					Basic knowledge	
4. Understand acronyms as they relate to computing and IT.					Basic knowledge	
5. Prepare and orally present technical material covered in class.					Basic knowledge	
6. Write sequences, facts, descriptions, emails, comparisons, and give instructions.					Basic knowledge	
7. Understand spoken language presented in class.					Basic knowledge	
Textbook:	Santiago, R. E. (2007) Infotech: <i>English for computer users</i> . Cambridge: Cambridge University Press.					
Additional Readings and Teaching Aids.	Course Book Audio CD.					
References:	Oxford Word Power Dictionary.					
Theoretical and Practical Topics:				NOSS Related tasks		
				Task	Task Description	
o Unit 1 Computer Applications (Page 2).					Basic knowledge	
o Unit 2 Computer essentials (Page 7).					Basic knowledge	
o Unit 3 Inside the system (Page 11).					Basic knowledge	
o Unit 4 Buying a computer (Page 16).					Basic knowledge	

○ Unit 5 Type, click and talk! (Page 22).		Basic knowledge
○ Unit 6 Capture your favorite image (Page 27).		Basic knowledge
○ Unit 7 Display screens and ergonomics (Page 32).		Basic knowledge
○ Unit 8 Choosing a printer (Page 37).		Basic knowledge
○ Unit 9 Devices for the disabled (Page 42).		Basic knowledge
○ Unit 10 Magnetic storage (Page 48).		Basic knowledge
○ Unit 11 Optical storage (Page 52).		Basic knowledge
○ Unit 12 Flash memory (Page 57).		Basic knowledge
○ Unit 13 The operating system (OS) (Page 63).		Basic knowledge
○ Unit 14 Word processing (WP) (Page 68).		Basic knowledge
○ Unit 15 Spreadsheets and databases (Page 73).		Basic knowledge
○ Unit 15 Spreadsheets and databases (Page 73).		Basic knowledge

Detailed Contents		
Hours	Contents	Instructional Objectives Students will learn and practice the following Language forms and functions:
Module 1 Computers today 1		
4	Unit 1 Computer Applications (Page 2): <ul style="list-style-type: none"> ○ The digital age. ○ The magic of computers. ○ Collocations. ○ Computers at work. 	<ul style="list-style-type: none"> ○ Match captions with pictures. ○ In pairs, discuss how computers are used in various situations. ○ Read the text and identify parts of speech. ○ Guess the meaning from context. ○ Match words with their correct meanings. ○ Match the verbs with nouns to practice collocations. ○ Complete sentences using collocations. ○ Listen and complete a table. ○ Read a text and fill the gaps with sentences. ○ Write a short presentation.
4	Unit 2 Computer essentials (Page 7): <ul style="list-style-type: none"> ○ Different types of computer . ○ Advertising slogans. ○ What is a computer?. 	<ul style="list-style-type: none"> ○ Discuss the elements of computer systems. ○ Label computer elements in a graph. ○ Match the slogans with hardware. ○ Scan slogans for similar words. ○ Read the text and explain a figure. ○ Listen and label pictures & check comprehension. ○ Use classifying expressions to describe a diagram. ○ Write an email to explain the benefits of computers.
6	Unit 3 Inside the system (Page 11): <ul style="list-style-type: none"> ○ Technical specifications. ○ What is inside a PC system?. ○ How memory is measured?. 	<ul style="list-style-type: none"> ○ Translate technical specifications into Arabic. ○ Distinguish between RAM and ROM. ○ Learn about how memory is measured ○ Use relative clauses. ○ Listen for specific information to fill a diagram. ○ Review computer terms in groups.

4	<p>Unit 4 Buying a computer (Page 16):</p> <ul style="list-style-type: none"> ○ In a computer shop. ○ Choosing the right computer. ○ Computer adverts. ○ Technical specifications. ○ Greetings and offering help. 	<ul style="list-style-type: none"> ○ Discuss the elements of computer systems. ○ Label computer elements in a graph. ○ Match the slogans with hardware. ○ Scan slogans for similar words. ○ Read the text and explain a figure. ○ Listen and label pictures & check comprehension. ○ Use classifying expressions to describe a diagram. ○ Write an email to explain the benefits of computers.
Module 2 Input/Output devices 21		
4	<p>Unit 5 Type, click and talk! (Page 22):</p> <ul style="list-style-type: none"> ○ Describing input devices. ○ Functions and features of devices. ○ The keyboard. ○ Mouse actions. ○ Interacting with your computer. ○ Speech recognition systems. 	<ul style="list-style-type: none"> ○ Label input devices. ○ Listen for information. ○ Use the infinitive and gerunds to describe input devices functions and features. ○ Label pictures with functions. ○ Fill in a reading text with missing verbs. ○ Listen for comprehension.
4	<p>Unit 6 Capture your favorite image (Page 27):</p> <ul style="list-style-type: none"> ○ They eyes of your computer . ○ Scanners . ○ A digital camera. ○ Superlatives . ○ Suffixes. 	<ul style="list-style-type: none"> ○ Discuss the ways of capturing an image on a computer. ○ Read a text and answer questions. ○ Listen to a conversation and complete notes. ○ Distinguish between facts & opinion. ○ Complete sentences with the right superlative form. ○ Use suitable suffixes to form adjectives or nouns. ○ Describe a camera, webcam, or a video camera.
4	<p>Unit 7 Display screens and ergonomics (Page 32):</p> <ul style="list-style-type: none"> ○ How screen displays work. ○ Choosing the right display device. ○ Ergonomics. ○ Should & Shouldn't. 	<ul style="list-style-type: none"> ○ Talk about your computer screen. ○ Match definitions with technical words. ○ Read and answer questions about the computer screen display. ○ Listen and recommend display devices. ○ Discuss the health problems associated with computer use. ○ Practice giving instructions and advice (by using should or shouldn't). ○ Write an email using guidelines.
4	<p>Unit 8 Choosing a printer (Page 37):</p> <ul style="list-style-type: none"> ○ Printers. ○ Multifunction printers. ○ Comparatives. 	<ul style="list-style-type: none"> ○ Label the types of printer. ○ Read the text and discuss printer types. ○ Scan a text for words with similar meanings ○ Join ideas using suitable connectors. ○ Label connectors according to their function. ○ Complete sentences using the comparative forms of the adjectives. ○ Read adverts and answer questions. ○ Write an email to your friend comparing two printers.

4	<p>Unit 9 Devices for the disabled (Page 42):</p> <ul style="list-style-type: none"> ○ Assistive technologies. ○ Computers for disabled. ○ Noun Phrases. ○ Assistive technologies for blind. 	<ul style="list-style-type: none"> ○ Describe photos. ○ Search for information in a text. ○ Complete a crossword from a text. ○ Form noun phrases. ○ Select the type of a modifier before a head noun. ○ Listen to an interview and make notes. ○ Write an email summarizing the different technologies available in the market for disabled.
Module 3 Storage devices 47		
4	<p>Unit 10 Magnetic storage (Page 48):</p> <ul style="list-style-type: none"> ○ Types of magnetic drives. ○ Buying a portable hard drive. ○ Precautions. ○ Word building. 	<ul style="list-style-type: none"> ○ Scan a text for information. ○ Complete sentences with words. ○ Listen and answer questions. ○ Identify a sector and track in a figure. ○ Match words with definitions. ○ Match instructions with techno pictures. ○ Use the imperatives to give precaution and warnings. ○ Identify parts of a speech. ○ Write a replay to an email.
4	<p>Unit 11 Optical storage (Page 52):</p> <ul style="list-style-type: none"> ○ DVD & CDs. ○ Optical discs and drives. ○ Choosing the right storage device. ○ Connectors 	<ul style="list-style-type: none"> ○ Discuss the major DVD & CDs functions and features. ○ Listen to a conversation for information. ○ Scan a text for information Make notes from reading. ○ Match connectors with their functions. ○ Translate computer instructions into Arabic. ○ In pairs, choose and give reasons on selection of storage devices. ○ Give an opinion about a topic from a forum.
4	<p>Unit 12 Flash memory (Page 57):</p> <ul style="list-style-type: none"> ○ Flash-based gadgets. ○ Memory in a flash. ○ What are flash drives?. 	<ul style="list-style-type: none"> ○ Match flash memories descriptions with the pictures. ○ Read the text about flash memories and answer the questions. ○ Scan a text for words or phrases with similar meanings. ○ Practice word buildings. ○ Convert nouns into verbs and verb into nouns. ○ Put two words or more together to form new meaning. ○ Listen for comprehension. ○ Describe a flash based device. ○ Write a short reply to a text from a friend. ○ Complete a vocabulary puzzle.
Module 4 Basic software 62		
4	<p>Unit 13 The operating system (OS) (Page 63):</p> <ul style="list-style-type: none"> ○ The functions of operating systems. ○ GUI operating systems. ○ Mac & PC operating systems. ○ Windows Vista. 	<ul style="list-style-type: none"> ○ Discuss the functions of the operating systems. ○ Complete a text with technical words. ○ Read the text and decide which adjectives to use to describe the GUI. ○ Translate operating system terms and expressions into Arabic.

		<ul style="list-style-type: none"> ○ Label the interface features. ○ Compare MAC and PC operating systems. ○ Decide if these nouns are countable, uncountable or either. ○ Write a summary following steps.
4	<p>Unit 14 Word processing (WP) (Page 68):</p> <ul style="list-style-type: none"> ○ Word Processing features. ○ Word Sudoku. ○ The Cut & Paste techniques . 	<ul style="list-style-type: none"> ○ Discuss the major functions and features of MS-Word Processor. ○ Translate features and functions of WP to own language. ○ Read instructions and complete the puzzle. ○ Listen and identify steps in a task. ○ Give instructions on how to cut and paste text. ○ Correct mistakes in a dialogue. ○ Practice giving instruction using the imperative. ○ Write how to copy and paste an image into Word. ○ Write instructions on how to use find and replace a text. ○ Scan descriptions to match with dialogue boxes.
4	<p>Unit 15 Spreadsheets and databases (Page 73):</p> <ul style="list-style-type: none"> ○ Spreadsheet programs. ○ Business letters. ○ Databases. ○ Software at home and at work. 	<ul style="list-style-type: none"> ○ Discuss what spreadsheets are and what they are used for? ○ Label words with diagram. ○ Listen for comprehension. ○ Discuss the advantages and disadvantages of showing data as a graph. ○ Complete an invoice and a letter. ○ Write fax to complain about having errors installing a printer. ○ Make a list of applications. ○ Read a text about databases. ○ Form the plural of regular and irregular nouns. ○ Practice the plural endings.

Department	English Language Center		Major	Computing Technology		
Course Name	Specialized English -2		Course Code	ENG 234		
Prerequisites	ENG 135					
Trimester	1	2	3	4	5	6
Credit Hours			4			Cooperative
Contact Hours (hours per week)	<i>L</i>		4			
	<i>W</i>		0			
	<i>T</i>		2			
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>Building on the content of Technical English I, this course is intended to provide students of Computer Science and IT with more advanced and specialized technical English needed for studying their major and functioning in their future careers.</p>						
General Objective:						
<p>The general goal of this course is to develop students' proficiency in technical English and in the four language skills in general and in reading and writing in particular. In addition, students will learn specialist terminology related to computer science and IT.</p>						
Specific Objectives				Required Performance Specifications	NOSS Related tasks	
A. Procedural Objectives: Trainee should be able to:						
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. Understand and use advanced computing terminology.					Basic knowledge	
2. Comprehend technical texts that cover a wide range of topics in their field.					Basic knowledge	
3. Understand and use grammatical structures related to technical language.					Basic knowledge	
4. Understand abbreviations (acronyms) as they relate to computing and information technology.					Basic knowledge	
5. Prepare and orally present technical materials covered in the classroom.					Basic knowledge	
6. Write short essays using sequence, fact, description, comparison.					Basic knowledge	
7. Understand spoken language presented in the classroom and workplace.					Basic knowledge	
Textbook:	Oxford English for Information Technology – E. Glendinning & J. McEwan.					
Additional Readings and Teaching Aids.	Reading to be selected and distributed by the instructor.					
References:	Oxford Word Power Dictionary.					

Theoretical and Practical Topics:	NOSS Related tasks	
	Task	Task Description
○ Unit 1: Computer Users.		Basic knowledge
○ Unit 2: Computer Architecture.		Basic knowledge
○ Unit 3: Computer Applications.		Basic knowledge
○ Unit 5: Former Student.		Basic knowledge
○ Unit 6: Operating Systems.		Basic knowledge
○ Unit 7: Graphical User Interfaces.		Basic knowledge
○ Unit 10: Computer Support.		Basic knowledge
○ Unit 11: Networks.		Basic knowledge
○ Unit 18: Data Security.		Basic knowledge
○ Unit 22: People in Computing.		Basic knowledge

Detailed Contents		
Hours	Contents	Instructional Objectives In each unit students will learn and practice the following language functions and skills:
4	Unit 1: Computer Users A: ○ Starter ○ Speaking ○ Writing ○ Language Skills B: ○ Specialist reading	○ Listen for specific Information. ○ Practice speaking and writing about their own use of computer. ○ Understand the difference between the Past simple and the Present perfect. ○ Practice reading for specific information.
4	Unit 2: Computer Architecture A: ○ Starter ○ Reading ○ Speaking ○ Writing ○ Language Skills B: ○ Specialist reading	○ Exchange personal information. ○ Participate in discussions related to the uses of computer. ○ Practice reading for specific information. ○ Practice reading advertisement. ○ Understand and use common computing terminology. ○ Use sequence words. ○ Understand prepositions of place ○ Write a brief description.
6	Unit 3: Computer Applications A: ○ Starter ○ Reading ○ Language Skills ○ Speaking ○ Writing B: ○ Specialist reading	○ Discuss major computer applications. ○ Practice reading diagrams and charts. ○ Practice skimming and scanning. ○ Describe a process verbally. ○ Use the Present passive for description of processes. ○ Describe a process in writing.
4	Unit 5: Former Student A: ○ Starter ○ Speaking ○ Language Skills ○ Writing	○ Discuss IT courses. ○ Practice Listening for specific information. ○ Understand questions in the past simple. ○ Practice using phrasal verbs with up ○ Describe an IT course in writing.

6	<p>Unit 6: Operating Systems</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Reading ○ Speaking ○ Language Skills ○ Writing <p>B:</p> <ul style="list-style-type: none"> ○ Specialist reading 	<ul style="list-style-type: none"> ○ Participate in discussions related to operating systems. ○ Practice skimming and scanning. ○ Describe main operating systems verbally. ○ Understand the use of the –ing form in subject position and after preposition. ○ Practice describing technical concepts in writing.
4	<p>Unit 7: Graphical User Interfaces</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Reading ○ Speaking ○ Writing <p>B:</p> <ul style="list-style-type: none"> ○ Specialist reading 	<ul style="list-style-type: none"> ○ Discuss diagrams related to computer interfaces. ○ Practice timed reading for specific details. ○ Learn and practice common verbs used in computer applications. ○ Understand how to use verbs like: allow, enable, help, let and permit. ○ Practice writing instructions.
4	<p>Unit 10: Computer Support</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Language Skills ○ Speaking 	<ul style="list-style-type: none"> ○ Understand a spoken explanation. ○ Understand If-sentences. ○ Understand and follow sequential procedures verbally.
6	<p>Unit 11: Networks</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Reading ○ Language Skills ○ Speaking ○ Writing <p>B:</p> <ul style="list-style-type: none"> ○ Specialist reading 	<ul style="list-style-type: none"> ○ Understand and use an adequate amount of advanced computing terminology. ○ Read a diagram and text together. ○ Understand and use relative clauses with participle. ○ Explain sequential procedures verbally. ○ Practice writing advantages and disadvantages.
6	<p>Unit 18: Data Security</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Reading ○ Language Skills ○ Speaking ○ Writing <p>B:</p> <ul style="list-style-type: none"> ○ Specialist reading 	<ul style="list-style-type: none"> ○ Participate in discussions related to data security. ○ Read and comprehending technical texts (scanning). ○ Learn and practice cause and effect structure. ○ Write a detailed description of a technical problem and its solution.
4	<p>Unit 22: People in Computing</p> <p>A:</p> <ul style="list-style-type: none"> ○ Starter ○ Reading ○ Language Skills ○ Speaking ○ Writing <p>B:</p> <ul style="list-style-type: none"> ○ Specialist reading 	<ul style="list-style-type: none"> ○ Discuss professional life of people working in IT. ○ Practice note-taking. ○ Understand and practicing how to use structures used for requirement: need to, have, must, be + essential and critical ○ Transfer information from a text to a table. ○ Practice how to write a c.v. for a job application.
2	Revision	
2	Quizzes and exams	

Department	English Language Center		Major		Computing Technology	
Course Name	Communication Skills-1		Course Code		ENG 137	
Prerequisites	ENG 106					
Trimester	1	2	3	4	5	6
Credit Hours				4		Cooperative
Contact Hours (hours per week)	L			4		
	W			0		
	T			2		
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>Building on the content of previous English courses (Eng 106, ESP I & II), this course is intended to provide computing and IT students with opportunities to develop their communication skills both in daily life and at the workplace. The course focuses on workplace skills, communicative ability, and life skills.</p>						
General Objective:						
<p>The general goal of this course is to develop students' language and communication skills both at the workplace and in their daily interaction with speakers of English. Another important goal of the course is to determine students' future communicative needs (both oral and written) and tailor instruction towards such needs through authentic activities that simulate real life communication.</p>						
Specific Objectives				Required Performance Specifications	NOSS Related tasks	
A. Procedural Objectives: Trainee should be able to:						
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. Understand spoken and written general and employment-related language.					Basic knowledge	
2. Communicate in their own words with instructors and co-workers.					Basic knowledge	
3. Understand the cultural and civic expectations of their new environment and workplace.					Basic knowledge	
4. Cope with authentic documents they will encounter at work (most if not all skills in the syllabus address workplace).					Basic knowledge	
Textbook:	Workplace Plus: Living and Working in English. (Student Book) By Joan Saslow. Longman. http://www.longman.com/workplaceplus Workplace Plus: Living and Working in English. (Work Book) By Joan Saslow					
Additional Readings and Teaching Aids.	Additional relevant communicative activities to be selected by the instructor.					
References:	English/English/Arabic Dictionary					
Recommendations for Instructors:						
<ul style="list-style-type: none"> Teachers are advised to use additional supplementary materials (as needed) based on the communication needs of their students. It is also recommended to make use of the students' knowledge of the subject matter in their major in order to boost their self confidence and use their technical knowledge to develop communication in class. The use of PowerPoint and other teaching aides is highly recommended. 						
Authentic Communicative activities in this book are very important tools to develop the students' communicative competence. Based on the student's field of training, using more relevant authentic communicative activities will prove useful.						

Theoretical and Practical Topics:	NOSS Related tasks	
	Task	Task Description
○ Unit 1: Your Life and Work.		Basic knowledge
○ Unit 2: Your Environment.		Basic knowledge
○ Unit 3: Your Equipment and Machines.		Basic knowledge
○ Unit 4: Your Customers.		Basic knowledge
○ Unit 5: Your Time.		Basic knowledge
○ Unit 6: Your Supplies and Resources.		Basic knowledge
○ Unit 7: Your Relationships.		Basic knowledge
○ Unit 8: Your Health and Safety.		Basic knowledge
○ Unit 9: Your Money.		Basic knowledge
○ Unit 10: Your Career.		Basic knowledge

Detailed Contents		
Hours	Contents	Instructional Objectives In each unit students will learn and practice the following language functions and skills:
4	Unit 1: Your Life and Work: Skills: <ul style="list-style-type: none"> ○ Preparing for job interview. ○ Requesting a letter of recommendation. ○ Filling out an application. ○ Describing skills and abilities. Grammar: <ul style="list-style-type: none"> ○ Present perfect continuous. ○ Gerunds for describing likes, dislikes and skills. 	<ul style="list-style-type: none"> ○ Engage in short conversations. ○ Get to know someone. ○ Ask for references.
4	Unit 2: Your Environment: Skills: <ul style="list-style-type: none"> ○ Requesting and giving directions in a building. ○ Offering and giving assistance. ○ Giving directions to a place. Grammar: <ul style="list-style-type: none"> ○ Imperatives for directions, warnings, requests and suggestions. ○ Indirect commands. 	<ul style="list-style-type: none"> ○ Give directions for transportation. ○ Use maps and building directions.
6	Unit 3: Your Equipment and Machines: Skills: <ul style="list-style-type: none"> ○ Reporting equipment breakdown. ○ Troubleshooting a problem. ○ Discussing product warranty. ○ Using Product service telephone lines. Grammar: <ul style="list-style-type: none"> ○ The passive voice. ○ Review: Irregular past participles. 	<ul style="list-style-type: none"> ○ Discuss a product warranty. ○ Complete a proof-of-purchase card. ○ Use telephone to call product service lines.
4	Unit 4: Your Customers: Skills: <ul style="list-style-type: none"> ○ Offering and asking for services. ○ Explaining conditions. ○ Writing consumer complaint letters. 	<ul style="list-style-type: none"> ○ Request a certain brand. ○ Ask for service in a gas station. ○ Explain conditions. ○ Write consumer complaint letters.

	<p>Grammar:</p> <ul style="list-style-type: none"> ○ Used to. ○ Comparisons with as and not as. ○ Review: Comparative forms. 	
6	<p>Unit 5: Your Time:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Understanding consequences. ○ Discussing payment. ○ Understanding importance of punctuality. ○ Rescheduling events. <p>Grammar:</p> <ul style="list-style-type: none"> ○ Verbs followed by infinitives. ○ Verbs followed by objects and infinitives. 	<ul style="list-style-type: none"> ○ Discuss payment. ○ Calculate pay. ○ Understand importance of punctuality. ○ Reschedule events.
4	<p>Unit 6: Your Supplies and Resources:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Comparing and contrasting values. ○ Drawing conclusions. ○ Classifying products. <p>Grammar:</p> <ul style="list-style-type: none"> ○ Conclusions with must. ○ Exclamations with what. 	<ul style="list-style-type: none"> ○ Compare prices. ○ Use unit pricing. ○ Use food coupons. ○ Determine the best buy.
4	<p>Unit 7: Your Relationships:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Asking about and understanding rules and laws. ○ Congratulating someone on good news. ○ Offering help. ○ Comparing and contrasting customs and laws. <p>Grammar:</p> <ul style="list-style-type: none"> ○ Impersonal it with adjectives and infinitives. 	<ul style="list-style-type: none"> ○ Offer help. ○ Understand rules, laws and violations.
6	<p>Unit 8: Your Health and Safety:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Reading directions and warnings. ○ Following employer policies. ○ Applying warnings on medications. <p>Grammar:</p> <ul style="list-style-type: none"> ○ Review: Possessive adjectives. ○ Possessive pronouns. 	<p>Return an item to the supermarket.</p> <ul style="list-style-type: none"> ○ Get a prescription. ○ Choose and use over-the-counter medications.
4	<p>Unit 9: Your Money:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Reading bills. ○ Writing checks. ○ Evaluating financial services of banks. ○ Offering information to customers. <p>Grammar:</p> <ul style="list-style-type: none"> ○ Conditional sentences. ○ Keep + gerund. 	<ul style="list-style-type: none"> ○ Find appropriate person for information. ○ Use the yellow pages. ○ Read the fine print. ○ Understand credit and debit cards.
4	<p>Unit 10: Your Career:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Calling for an interview. ○ Offering job history and references. ○ Discussing career goals. ○ Accepting feedback in performance reviews. 	<ul style="list-style-type: none"> ○ Phone for an interview. ○ Praise others. ○ Accept complaints.

	Grammar: <ul style="list-style-type: none">○ Review: The simple present tense and the present continuous.○ Review: The present perfect and the present perfect continuous.	
4	Recommendations for Instructors: <ul style="list-style-type: none">○ Teachers are advised to use additional supplementary materials (as needed) based on the communication needs of their students.○ It is also recommended to make use of the students' knowledge of the subject mater in their major in order to boost their self confidence and use their technical.○ knowledge to develop communication in class.○ The use of PowerPoint and other teaching. aides is highly recommended.	
Authentic Communicative activities in this book are very important tools to develop the students' communicative competence. Based on the student's field of training, using more relevant authentic communicative activities will prove useful.		

Department	English Language Center			Major	Computing Technology	
Course Name	Communication Skills -2			Course Code	ENG 237	
Prerequisites	ENG 137					
Trimester	1	2	3	4	5	6
Credit Hours					4	Cooperative
Contact Hours (hours per week)	L				4	
	W				0	
	T				2	
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>Building on the language skills developed in previous English courses (Eng 101, ESP I & II), this course is intended to provide Computing and IT students with opportunities to develop their communication skills both in daily life and at the workplace. The course focuses on workplace skills, communicative ability, and life skills.</p>						
General Objective:						
<p>The general goal of this course is to develop students' language and communication skills both at the workplace and in their daily interaction with speakers of English. Another important goal of the course is to determine students' future communicative needs (both oral and written) and tailor instruction towards such needs through authentic activities that simulate real life communication.</p>						
Specific Objectives				Required Performance Specifications	NOSS Related tasks	
A. Procedural Objectives: Trainee should be able to:						
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. Understand spoken and written general and employment-related language.					Basic knowledge	
2. Communicate in their own words with instructors and co-workers.					Basic knowledge	
3. Understand the cultural and civic expectations of their new environment and workplace.					Basic knowledge	
4. Cope with authentic documents they will encounter at work.					Basic knowledge	
Textbook:	Workplace Plus: Living and Working in English 3. (Student Book) By Joan Saslow. Longman. http://www.longman.com/workplaceplus Workplace Plus: Living and Working in English 3. (Work Book) By Joan Saslow.					
Additional Readings and Teaching Aids.	Additional relevant communicative activities to be selected by the instructor.					
References:	English/English/Arabic Dictionary					
Recommendations for Instructors:						
<ul style="list-style-type: none"> Teachers are advised to use additional supplementary materials (as needed) based on the communication needs of their students. It is also recommended to make use of the students' knowledge of the subject matter in their major in order to boost their self confidence and use their technical knowledge to develop communication in class. The use of PowerPoint and other teaching aides is highly recommended. 						
Authentic Communicative activities in this book are very important tools to develop the students' communicative competence. Based on the student's field of training, using more relevant authentic communicative activities will prove useful.						

Theoretical and Practical Topics:	NOSS Related tasks	
	Task	Task Description
○ Unit 1: Your Life and Work.	*	Basic knowledge
○ Unit 2: Your Environment.	*	Basic knowledge
○ Unit 3: Your Equipment and Machines.	*	Basic knowledge
○ Unit 4: Your Customers.	*	Basic knowledge
○ Unit 5: Your Time.	*	Basic knowledge
○ Unit 6: Your Supplies and Resources.	*	Basic knowledge
○ Unit 7: Your Relationships.	*	Basic knowledge
○ Unit 8: Your Health and Safety.	*	Basic knowledge
○ Unit 9: Your Money.	*	Basic knowledge
○ Unit 10: Your Career.	*	Basic knowledge

Detailed Contents		
Hours	Contents	Instructional Objectives In each unit students will learn and practice the following language functions and skills:
4	<p>Unit 1: Your Life and Work:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Prepare for job interview. ○ Request a letter of recommendation. ○ Fill out an application. ○ Describe skills and abilities. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Weather adjectives. ○ Expressions of surprise. ○ Occupations and allied skills. 	<ul style="list-style-type: none"> ○ Engage in short conversations. ○ Get to know someone. ○ Ask for references.
4	<p>Unit 2: Your Environment:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Requesting and giving directions in a building. ○ Offering and giving assistance. ○ Giving directions to a place. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Directions in building interiors. ○ Responses to social invitation. 	<ul style="list-style-type: none"> ○ Give directions for transportation. ○ Use maps and building directions.
6	<p>Unit 3: Your Equipment and Machines:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Report equipment breakdown. ○ Troubleshoot a problem. ○ Discuss product warranty. ○ Use Telephone Product service lines. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Equipment, machine, and appliances. ○ Machine maintenance. ○ Computer malfunction. 	<ul style="list-style-type: none"> ○ Discuss a product warranty. ○ Complete a proof-of-purchase card. ○ Use telephone to call product service lines.
4	<p>Unit 4: Your Customers:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Explain a discounted item. ○ Discuss a safety recall. 	<ul style="list-style-type: none"> ○ Request a certain brand. ○ Ask for service in a gas station. ○ Explain conditions. ○ Write consumer complaint letters.

	<ul style="list-style-type: none"> ○ Improve quality-control problem. ○ Offer services. ○ Explain conditions. ○ Write consumer complaint letters. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Phrases to describe good and bad quality. ○ Locations in a store. ○ Product for babies and children. 	
6	<p>Unit 5: Your Time:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Understand consequences of lateness. ○ Clarify job expectations. ○ Discuss payment, hours, and overtime pay. ○ Understand importance of punctuality. ○ Reschedule events. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Payment options . ○ Wages and hours. ○ Time expressions. 	<ul style="list-style-type: none"> ○ Discuss payment. ○ Calculate pay. ○ Understand importance of punctuality. ○ Reschedule events.
4	<p>Unit 6: Your Supplies and Resources:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Order supplies by email or online. ○ Make economical purchasing decisions. ○ Determine the "best buy". ○ Draw conclusions. ○ Classify products. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Containers. ○ Units of measure. ○ Abbreviations of quantity. 	<ul style="list-style-type: none"> ○ Compare prices. ○ Use unit pricing. ○ Use food coupons. ○ Determine the best buy.
4	<p>Unit 7: Your Relationships:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Ask about and understand rules and laws. ○ Congratulate someone on good news. ○ Offer help. ○ Compare and contrast customs and laws. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Expressions of uncertainty. ○ Conversation starters. ○ Adjectives of emotion. 	<ul style="list-style-type: none"> ○ Offer help. ○ Understand rules, laws and violations.
6	<p>Unit 8: Your Health and Safety:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Read directions and warnings. ○ Follow employer policies. ○ Apply warnings on medications. ○ Return an item to the supermarket. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Complaints about food. ○ Medicine label terms. 	<ul style="list-style-type: none"> ○ Return an item to the supermarket. ○ Get a prescription. ○ Choose and use over-the-counter medications.
4	<p>Unit 9: Your Money:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Read bills. 	<ul style="list-style-type: none"> ○ Find appropriate person for information. ○ Use the yellow pages.

	<ul style="list-style-type: none"> ○ Write checks. ○ Evaluate financial services of banks. ○ Offer information to customers. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Bank services and accounts. ○ Good and bad financial news. ○ Expressions of satisfaction and dissatisfaction. 	<ul style="list-style-type: none"> ○ Read the fine print. ○ Understand credit and debit cards.
4	<p>Unit 10: Your Career:</p> <p>Skills:</p> <ul style="list-style-type: none"> ○ Call for an interview. ○ Offer job history and references. ○ Discuss career goals. ○ Accept feedback in performance reviews. ○ Praise others. ○ Accept compliments. <p>Vocabulary:</p> <ul style="list-style-type: none"> ○ Responses to compliments. ○ On the job educational opportunities. 	<ul style="list-style-type: none"> ○ Phone for an interview. ○ Praise others. ○ Accept complaints.
4	<p>Recommendations for Instructors:</p> <ul style="list-style-type: none"> ○ Teachers are advised to use additional supplementary materials (as needed) based on the communication needs of their students. ○ It is also recommended to make use of the students' knowledge of the subject mater in their major in order to boost their self confidence and use their technical. ○ knowledge to develop communication in class. ○ The use of PowerPoint and other teaching. aides is highly recommended. 	

Authentic Communicative activities in this book are very important tools to develop the students' communicative competence. Based on the student's field of training, using more relevant authentic communicative activities will prove useful.

Department	Computer and Info. Technology		Major	Computing technology			
Course Name	Specialized Mathematics		Course Code	MAT 115			
Prerequisites							
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours		3					
Contact Hours (hours per week)	L		3				
	W		0				
	T		1				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course introduces the required topics needed by the trainee in this major. Trainees are going to practice Algebraic expressions, multi-borders, Linear equations, Matrixes & limit, Logarithmic & basic circuits, Concept of function & its curves , Algebra of compound Number. Also, this course is required for all majors in the Computer Department.</p>							
General Objective:							
This course aims to acquire the trainee the basic skills in Mathematical calculations related to computer technology.							
Specific Objectives		Required Performance Specifications			NOSS Related tasks		
A. Procedural Objectives: Trainee should be able to:							
1. To solve Algebraic expressions and Quadratic Equation.		To solve the question as defined correctly.			Computer's user technician supporter, Knowledge 6, Internet technology assistant programmer and developer, Knowledge8, Computer systems administrator, Knowledge5, Multi media expert, Knowledge8.		
2. To solve Linear equations.		To solve the question as defined correctly.					
3. To solve exponential functions.		To solve the question as defined correctly.					
4. To solve Logarithms.		To solve the question as defined correctly.					
5. To solve Trigonometric functions.		To solve the question as defined correctly.					
6. To draw curves of Trigonometric functions .		To solve the question as defined correctly.					
7. Rounding off compound No.		To solve the question as defined correctly.					
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Define Algebraic expressions.		Mention the types of Algebraic expressions			Computer's user technician supporter, Knowledge 8, Knowledge8, Computer systems administrator, Knowledge5, Multi media expert, Knowledge8.		
2. Define the type the linear equation.		Mentioning the types of the linear equations					
3. Mention the methods of using Matrixes & limit to solve linear equations.		To define the correct method of the answer.					
4. Mention the types of exponential functions.		To mention two types of functions.					
5. To mention the methods of rounding off compound No.		To define the correct Algebraic method to answer a question.					
Safety instructions:							
○							

Theoretical and Practical Topics:	NOSS Related tasks		
	Professional Standard	Task	Task Description
○ Algebraic expressions and Quadratic Equation.	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.
○ Linear equations (3 Xs).	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.
○ Matrix and limits.	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.
○ Logarithms and functions.	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.
○ Principles of functions and curves (Trigonometric functions).	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.
○ Rounding off compound numbers.	Networks Technician	Knowledge8	Mathematical & Calculation Knowledge
	Computer's user technician supporter	Knowledge6	Ability to make technical analysis.
	Internet technology developer and programmer assistant.	Knowledge8	Mathematical & Calculation Knowledge
	systems administrator	Knowledge5	To get know logical analysis.
	Multimedia expert	Knowledge8	To get know measurement units.

Detailed Contents		
Hours	Contents	Evaluation Tools
6	Algebraic expressions & multi borders <ul style="list-style-type: none"> ○ Calculation Operations (multiplications- division – subtraction –add) . ○ Arrange calculation Operations on algebraic expressions. ○ Algebraic fractions. ○ Numerical values of algebraic expressions. ○ Analysis of Quadratic Equation. 	Oral questions Written questions Self- test
6	Linear equations <ul style="list-style-type: none"> ○ Types & concept of linear equations . ○ Methods to solve linear equations. ○ Solving linear equations with one passive. 	Oral questions Written questions Self- test
7	Matrixes & limit <ul style="list-style-type: none"> ○ Matrix concepts &types. ○ Calculation process on matrix. ○ Calculation of extremists (2x2) &3x3) . ○ Solve linear equations using matrixes . 	Oral questions Written questions Self- test
7	Logarithmic & exponential circuits <ul style="list-style-type: none"> ○ Negative exponential & fractions . ○ Calculation Operations on exponential . ○ Define logarithms . ○ Rules of logarithms . ○ Number e & natural logarithm . ○ Exponential logarithm equations . 	Oral questions Written questions Self- test
7	Concept of function & its curve <ul style="list-style-type: none"> ○ Define function . ○ Field . ○ Range . ○ Function curve . ○ Some common functions (tri-functions) 	Oral questions Written questions Self- test
6	Algebra of compound NO. <ul style="list-style-type: none"> ○ Define compound numbers as couple . ○ Figure (a+ib) on compound axis . ○ Algebraic Operations on compound numbers ○ Polar figure . ○ Complex roots (DeMorgan's Laws) . 	Oral questions Written questions Self- test

References	1-mathematics for technicians , a .greer & g . taylor , stanely thornes 1989 . 2- basic mathematics, h. kruglack & moore, schaum outlines , mc grow-hill . 3- college of algebra & trigonometry , p. Schmidt, schaum outline series , mc grow- hill inc. 1987 . 4- college of algebra, ray barent , mc grow- hill inc ., 1987 .
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Department	Computer and Info. Technology			Major	Computing Technology		
Course Name	Computer components & Assembly			Course Code	CMT 127		
Prerequisites							
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours		4					
Contact Hours (hours per week)	L	2					
	W	4					
	T	0					
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course introduces the basic principle for assembling and building the computers components thru thrills on how to deal with the different parts of the computer and how to assemble them together for building a computer up. After that, there are thrills on how to install a suitable operating system. Moreover, there is training on how to do the basic maintenance for the set and how to fix damages.</p> <p>This course represents Hardware part of (A+) and IT Essential 1 Certificate.</p>							
General Objective:							
<p>This course aims to acquire the trainee the basic skills in building up and assembling computer parts.</p>							
Specific Objectives	Required Performance Specifications	NOSS Related tasks					
		From The Criterion				Task No.	
A. Procedural Objectives: Trainee should be able to:							
1. Install the Motherboard.	Installing the motherboard and choosing the suitable case	Computer's user technician assistant				G2 , G3	
		Networks technician				G2 , G4	
		Systems administrator				F1 , F5	
		Programmer assistant & Internet applications developer				G2 , G4	
2. Install Hard disks.	Connecting the hard disk with the motherboard and choosing the right cable.	Computer's user technician assistant				G2 , G3	
		Networks technician				G2 , G4	
		Systems administrator				F1 , F5	
		Programmer assistant & Internet applications developer				G2 , G4	
3. Install Compact Disks	Making a compact disk.	Computer's user technician assistant				G2 , G3	
		Networks technician				G2 , G4	
		Systems administrator				F1 , F5	
		Programmer assistant & Internet applications developer				G2 , G4	
4. Install the Processor.	Installing the processor on the main board.	Computer's user technician assistant				G2 , G3	
		Networks technician				G2 , G4	
		Systems administrator				F1 , F5	
		Programmer assistant & Internet applications developer				G2 , G4	
5. Install the sound card.	Installing the sound card on the main board.	Computer's user technician assistant				G2 , G3	
		Networks technician				G2 , G4	
		Systems administrator				F1 , F5	

		Programmer assistant & Internet applications developer	G2 , G4
6. Install the Memory.	Installing the memory in the right place.	Computer's user technician assistant	G2 , G3
		Networks technician	G2 , G4
		Systems administrator	F1 , F5
		Programmer assistant & Internet applications developer	G2 , G4
7. Install or change and format the network card.	Installing the network card.	Computer's user technician assistant	C4, D4, D5, F2
		Networks technician	B4, C2, G5
		Systems administrator	A1, A2, A3, E2
		Programmer assistant & Internet applications developer	F4
8. Try out the set and maintain it.	Starting the computer after being built and assembled	Computer's user technician assistant	F3, Knowledge1, F3, C7
		Networks technician	Knowledge1, F2
		Systems administrator	Knowledge2
		Programmer assistant & Internet applications developer	Knowledge3
B. Behavioural and Cognitive Objectives: Trainee should be able to:			
1. Recognize the different parts of the computer.	Mentioning the main parts of computer.	Computer's user technician assistant	G2, G3, D4
		Networks technician	G2, G4, A6
		Systems administrator	A1, F1, F5
		Programmer assistant & Internet applications developer	G2, G4, F4
2. Recognize the different features of the mother board.	Mentioning the main difference between mother boards and the features of each.	Computer's user technician assistant	G2, G3, D4
		Networks technician	G2, G4, A6
		Systems administrator	A1, F1, F5
		Programmer assistant & Internet applications developer	G2, G4, F4
Safety conditions:			
<ul style="list-style-type: none"> Keep devices safe. Follow the safety instructions when using tools. Follow the safety instructions of location. 			
Theoretical and Practical Topics:	NOSS Related tasks		
	Because this course is shared between all courses of Computer Technology so the following tasks from the professional standard for a career were adapted.		
• Safety Procedures and Tools:	Computer's users Technician supporter	C4	Makes backup for the data on the set
		D4	Ensures the conformity with the standard
		F2	Prints the maintenance instruction from the manufacturer
	Network computer's technician	G6	Makes training projects using the training net
		F5	Ensures the application of a security place
	Systems administrator	Behaviors 7	Keeps the sets and tools safe
		E3	Marks policies of backing up
	Programmer assistant and internet applications developer	Behaviors 13	Keeps the sets and tools safe
D6		Prepares backup for programs	

<ul style="list-style-type: none"> Introduction to personnel computer: 	Computer's users Technician supporter	D4	Ensures the conformity with the standard	
		G2	Takes part in the training course	
		G3	Follow up reading in specialized books, journals and newsletters	
	Network computer's technician	A6	Participates in defining computer characteristics	
		G2	Takes part in the training course	
		G4	Follows up specialized books and magazines.	
	Systems administrator	A1	Defines device specifications	
		F1	Takes part in the training course	
		F5	Follow up reading in specialized books, journals and newsletters	
	Programmer assistant and internet applications developer	F4	Participates in defining computer devices characteristics	
		G2	Takes part in the training course	
		G4	Follows up specialized books and magazines	
<ul style="list-style-type: none"> Assembling computer step by step: 	Computer's users Technician supporter	B3	Makes check on a device	
		D3	Asks for device parts	
		D4	Ensures the conformity with the standard	
		F2	Prints the maintenance instruction from the manufacturer	
		F3	Update protection programs	
	Network computer's technician	A6	Participates in defining computer devices characteristics.	
		B4	Studies the available characteristics in the market	
		C1	Asks for a network devices and tools	
		E3	Changes the VGA	
		E4	Repairs network devices	
	Systems administrator	A1	Defines device specifications	
		E2	Identifies features of backup tapes and sets.	
	Programmer assistant and internet applications developer	E2	Identifies types of problems at the beneficiary site	
		F4	Participates in defining computer devices characteristics	
	<ul style="list-style-type: none"> Principles of prevention maintenance and faults repairing: 	Computer's users Technician supporter	C4	Update protection programs
D4			Ensures the conformity with the standard	
D5			Changes the faulty parts	
F2			Prints the maintenance instruction from the manufacturer	
Network computer's technician		B4	Studies the available characteristics in the market	
		C2	Installs network devices	
		G5	Benefits from manufacturer help	
Systems administrator		A1	Identifying features of sets	
		A2	Installs operating system	
		A3	Fixes computer configuration	
		E2	Identifies types of problems at the beneficiary site	
Programmer assistant and internet applications developer		E4	Reinstalls softwares	
<ul style="list-style-type: none"> Principles of operating system: 		Computer's users Technician supporter	F3	Updates softwares protection
			C7	Upgrades OS and softwares
			Knowledge 1	Understands technical terms in English
	D3		Asks for device parts	

	Network computer's technician	Knowledge 2	Knows the technical terms in English	
	Systems administrator	Knowledge 3	Knows computer conception.	
	Programmer assistant and internet applications developer	Knowledge 1	Understands technical terms in English language	
		F2	Gives advices on how to use the available softwares and programs	
<ul style="list-style-type: none"> Laptops and small mobile devices: 	Computer's users Technician supporter	C4	Makes backup copy of computer data	
		D4	Ensures the conformity with the standard	
		D5	Changes the faulty parts	
		F2	Prints the maintenance instruction from the manufacturer	
	Network computer's technician	B4	Studies the available characteristics in the market	
		C2	Installs network devices	
		G5	Benefits from manufacturer help	
	Systems administrator	A1	Defines the device's characteristics	
		E2	Repairs system faults and softwares support	
		A2	Installs OS	
		A3	Fixes device configuration	
	Programmer assistant and internet applications developer	E4	Reinstalls softwares	
	<ul style="list-style-type: none"> Introduction to printers and scanners: 	Computer's users Technician supporter	D4	Ensures the conformity with the standard
D5			Changes the faulty parts	
F2			Prints the maintenance instruction from the manufacturer	
Network computer's technician		B4	Studies the available characteristics in the market	
		C2	Installs network devices	
		G5	Benefits from manufacturer help	
Systems administrator		A1	Defines the device's characteristics	
		A3	Fixes device configuration	
		E2	Repairs system faults and softwares support	
<ul style="list-style-type: none"> Network Principles: 		Computer's users Technician supporter	E	Configure the device to join the network
		Network computer's technician	A1	Participates in defining network type
			A2	Identifies the network location type
			A3	Participates in defining the connection type
	A6		Participates in defining computer devices characteristics	
	A7		Participates in developing the network design	
	C1		Asks for a network devices and tools	
	C2		Installs network devices	
	C5		Supervises the cables run	
	C6		Run network cables	
	C7		Checks cables run	
	C8		Connects between devices	
	C9		Checks devices function	
	E1		Receives problem description	
	E2		Repairs cables faults	
	E3		Changes network card	
	F1		Monitor network performance continuously	
	F2		Tests solution before Applying them	
	F3		Participates in finding solution for a continuous network function	

		E4	Repairs network devices
		E5	Configure network card in the device
		F6	Provides backup for programs and network device configuration
	Systems administrator	A	Prepares systems and softwares
		B	Manages users accounts
D5		Manage system function (OS, server, services support)	
<ul style="list-style-type: none"> Introduction to computer security: 	Computer's users Technician supporter	C2	Uses softwares testing
		C4	Makes backup copy of computer data
		F3	Update protection programs
	Network computer's technician	C	Configure the network
		C4	Prepares network devices
		D1	Uses network software monitoring
		F1	Monitor network performance continuously
	Systems administrator	F3	Participates in finding solution for a continuous network function
		B	Manages users accounts
		C	Manages system files
	Programmer assistant and internet applications developer	D	Provides technical support for the systems
		D	Updates systems
		E	Maintains applications
<ul style="list-style-type: none"> Communication skills: 	Computer's users Technician support	F	Provides routine maintenance
		G	Keeps developing himself
	Network computer's technician	E	Provides technical support to the network
		G	Keeps developing himself
	Systems administrator	D	Provides technical support for the systems
		F	Keeps developing his skills
	Programmer assistant and internet applications developer	E	Maintains applications
		F	
		G	Keeps developing himself

The Theoretical Detailed Content		
Hours	Contents	Evaluation means
3	Safety Procedures and Tools: <ul style="list-style-type: none"> • Conditions and Safety procedures. • Tools and programs used in personnel computer. • The best practice in using tools. 	Oral questions Written questions Homework Self- test
3	Introduction to Personnel Computer: <ul style="list-style-type: none"> • International professional certificate. • Computer system. • Computer parts. • Internal components. • Ports and connections. • Input devices. • Output devices. • System resources. 	Oral questions Written questions Homework Self- test
3	Computer building-step by step: <ul style="list-style-type: none"> • Opening the computer case. • Installing power supply. • Installing internal fans. • Installing fans in external slots. • Installing network and video cards. • Installing internal cables. • Closing the computer case completely and connecting external cables. • Running the computer for the first time. 	Oral questions Written questions Homework Self- test
2	Principles of prevention maintenance and faults repairing: <ul style="list-style-type: none"> • Maintenance prevention. • Steps of repairing faults. 	Oral questions Written questions Homework, Self- test
3	Principles of operating system: <ul style="list-style-type: none"> • Operating system(OS) functions. • Comparison between operating systems. • Defining OS based on customer need. • Installing OS. • Windows exploration. • Techniques of repairing prevention of OS. • Repairing OS faults. 	Oral questions Written questions Homework Self- test
3	Laptops and small mobile devices: <ul style="list-style-type: none"> • Portable laptop. • Laptop's components. • Comparison between PC and laptop. • Laptop's configuration. • Comparison between mobile phones. • Techniques of maintenance of laptops and small mobile devices. • Maintenance of laptops and small mobile devices. 	Oral questions Written questions Homework Self- test

2	<p>Introduction to scanners and printers:</p> <ul style="list-style-type: none"> • Different kind of printers. • Configuring printer. • Different kind of scanners. • Configuring scanner. • Maintenance prevention of printers and scanners. • Repairing scanners and printers faults. 	<p>Oral questions Written questions Homework Self- test</p>
3	<p>Network Principles:</p> <ul style="list-style-type: none"> • Network concepts. • Network types. • Network techniques. • Physical network components. • Infrastructure and building network. • Network standards. • Ethernet standards. • TCP/IP and OSI model. • Configuring network card and modem. • Communication techniques. • Prevention maintenance of the network. • Repairing network faults. 	<p>Oral questions Written questions Homework Self- test</p>
2	<p>Introduction to computer security:</p> <ul style="list-style-type: none"> • The importance of information security. • Security threats. • Security procedures. • Techniques of maintenance procedure of computer security. • Repairing faults related to security. 	<p>Oral questions Written questions Homework Self- test</p>
2	<p>Communications skills:</p> <ul style="list-style-type: none"> • Relation between communication and repairing .faults. • Communication skills and professional behavior. • Profession ethics. • Connection center environment and technical responsibilities. 	<p>Oral questions Written questions Homework Self- test</p>

The Practical Detailed Content		
Hours	Contents	Evaluation means
4	Introduction to Personnel Computer: <ul style="list-style-type: none"> International professional certificate. Computer system. Computer parts. Internal components. Ports and connections. Input devices. Output devices. System resources. 	Notice (Practical performance) Written questions Self- test
4	Safety Procedures and Tools: <ul style="list-style-type: none"> Conditions and Safety procedures. Tools and programs used in personnel computer. The best practice in using tools. 	Notice (Practical performance) Written questions Self- test
12	Computer building-step by step: <ul style="list-style-type: none"> Opening the computer case Installing power supply. Installing internal fans. Installing fans in external slots. Installing network and video cards. Installing internal cables. Closing the computer case completely and connecting external cables. Running the computer for the first time. 	Notice (Practical performance) Written questions Self- test
4	Principles of prevention maintenance and faults repairing: <ul style="list-style-type: none"> Maintenance prevention. Steps of repairing faults. 	Notice (Practical performance), Written questions, Self- test
6	Principles of operating system: <ul style="list-style-type: none"> Operating system(OS) functions. Comparison between operating systems. Defining OS based on customer need. Installing OS. Windows exploration. Techniques of repairing prevention of OS. Repairing OS faults. 	Notice (Practical performance) Written questions Self- test
4	Laptops and small mobile devices: <ul style="list-style-type: none"> Portable laptop. Laptop's components. Comparison between PC and laptop. Laptop's configuration. Comparison between mobile phones. Techniques of maintenance of laptops and small mobile devices. Maintenance of laptops and small mobile devices. 	Notice (Practical performance) Written questions Self- test

4	<p>Introduction to scanners and printers:</p> <ul style="list-style-type: none"> • Different kind of printers. • Configuring printer. • Different kind of scanners. • Configuring scanner. • Maintenance prevention of printers and scanners. • Repairing scanners and printers faults. 	<p>Notice (Practical performance) Written questions Self- test</p>
6	<p>Network Principles:</p> <ul style="list-style-type: none"> • Network concepts. • Network types. • Network techniques. • Physical network components. • Infrastructure and building network. • Network standards. • Ethernet standards. • TCP/IP and OSI model. • Configuring network card and modem. • Communication techniques. • Prevention maintenance of the network. • Repairing network faults. 	<p>Notice (Practical performance) Written questions Self- test</p>
4	<p>Introduction to computer security:</p> <ul style="list-style-type: none"> • The importance of information security. • Security threats. • Security procedures. • Techniques of maintenance procedure of computer security. • Repairing faults related to security. 	<p>Notice (Practical performance) Written questions Self- test</p>
4	<p>Communications skills:</p> <ul style="list-style-type: none"> • Relation between communication and repairing faults. • Communication skills and professional behavior. • Profession ethics. • Connection center environment and technical responsibilities. 	<p>Notice (Practical performance) Written questions Self- test</p>
<p>References</p>	<p>IT Essentials I v4.0 , PC Hardware and Software(Chapters 1-10) Cisco Networking Academy Program, Student Companion Guide, Cisco Press</p>	

Department	General Studies				Major	All Majors	
Course Name	Advanced Computer Applications				Course Code	CMT 102	
Prerequisites	CMT 101						
Trimester	1	2	3	4	5	6	
Credit Hours		2				Cooperative	
Contact Hours (hours per week)	L	0					
	W	4					
	T	0					
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course Description:							
<p>This course consists of several topics manage the trainee to knows advanced possibilities to the most common office applications (Excel & Access) which help the computer's user to achieves their works in profession way .</p> <p>This course covers advanced three levels of ICDL.</p>							
General Objective:							
This course aims training on the most important office applications in professional way.							
Specific Objectives	Required Performance Specifications	NOSS Related tasks					
		From The Criterion	Task No.				
A. Procedural Objectives: Trainee should be able to:							
1. Using electronic tables programs professionally.	Execute limited operations in electronic tables program.	Support technician of commuter users	General Knowledge in F1, F4				
		Programmer assistant & internet technology developer	F1				
2. Using data base.	Execute limited operations in data base.	Programmer assistant & internet technology developer	F1, C3, C15				
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Suitable seat before computer.	Seat in correct way.	Programmer assistant & internet technology developer	C2.C3.C15				
		Networks technician	Knowledge in A4, E6				
2. To know English specialized terms.	Mentions the term with order.	Support technician	Knowledge 1				
		Programmer assistant & internet technology developer	C2.C3.C15				
		Networks technician	Knowledge A4, E6				
Safety conditions:							
<ul style="list-style-type: none"> ○ To follow safety instructions in the specifications books enclosed with computer. ○ To follow the instructions of correct sit. 							

Theoretical and Practical Topics:	NOSS Related tasks		
	Professional Standard	Task	Task Description
o Electronic tables (Excel):	Computer's user technician supporter	Knowledge 3	Good typeset.
		Knowledge 4	The ability of writing reports.
		F1	Follow the frequently schedule maintenance.
	Programmer assistant & network developer	Knowledge F1	To know writing & preparing reports.
		Knowledge D5	Knowing documentation methods.
	Computer networks technician	Knowledge E6	Knowing methods of preparing reports.
o Data base programs (Access):	Computer's user technician supporter	Knowledge 3	Good typeset.
		Knowledge 4	The ability of writing reports.
	Programmer assistant & network developer	C3	Joins the screens with the database (append, edit, delete, retrieve).
		C15	Participates in data transfer.
		F1	Helps in evaluation of the programs offered by the others.
		Knowledge F2	Knowing data base.

Practical detailed Content		
Hours	Contents	Evaluation Tools
18	First part : Electronic tables (Excel) & includes :	
8	Calculation operations advanced skills using functions: <ul style="list-style-type: none"> • Time & date functions. • Knowledge functions. • Logical functions. • Search & references functions. • Mathematics & triangles functions. • Calculate all open hand compositions. • Scouting formulation errors & values errors. • Errors meaning /null #, num , ref# , n/a# , name # , div/0 # , value , # # # #. • Replace whole formulation or part with calculated value. • Reference model r1 c1. • Use tri-dimensional references . • The effects of copy , include , or delete work papers on tri-dimensional references. • Limiting formulation reference site or cells followed another cell values. • Creating data calculation formulation on other work page or another compilation. • Open compilation directed by formulation. • Refresh references to renamed compilations or converted. • Create images , cells or organism. 	Direct notice (practical performance) Self – test Home woks

5	<p>Electronic tables planning:</p> <ul style="list-style-type: none"> • Purpose behind using planning. • Included planning. • Planning paper. • Create planning. • Create Default planning by one step. • Delete data heads or titles or planning show media, editing planning titles. • Delete data chains. • Add text square to planning. • Add title to planning or axis. • Change planning size and the setting for printing. • Maximize , minimize & change planning paper's size. • Fixing different planning type. • fixing different planning choices. • fixing different site for planning. 	<p>Direct notice (practical performance) Self – test Home woks</p>
5	<p>Conditional setting , ordering , filtering lists in electronic tables:</p> <ul style="list-style-type: none"> • Differentiate data that do called conditions. • Applying conditional ordinations. • Change conditional ordinations , add or delete. • Ordering: <ul style="list-style-type: none"> ○ Default Ordering arranges. ○ Lists Ordering. ○ Rows Ordering depend on contents of one column. ○ Rows Ordering depend on contents of two column. ○ Columns Ordering depend on rows contents. • Filtering: <ul style="list-style-type: none"> ○ Delete Filtering factors from the list. ○ Automatic Filtering choices. ○ Three or more conditions in single column. ○ Criteria in two columns or more. ○ Criteria scope. 	<p>Direct notice (practical performance) Self – test Home woks</p>
<p>34 The second part : Data base (Access)</p>		
2	<p>Introduction to data base:</p> <ul style="list-style-type: none"> • Database tasks , concept of database setup. • Different between electronic tables program & data base program. • Data base files contents. • Purpose behind using data base design. • Basic steps of data base design. 	<p>Direct notice (practical performance) Self – test Home woks</p>

4	<p>Data base operating program:</p> <ul style="list-style-type: none"> • Operate program. • Finish program. • Create a data base , data bases programs using: <ul style="list-style-type: none"> ○ Wizard. ○ Without Wizard. • Open table. • Copy field & its characters. • Add field to a table. • Delete a field form the table. • Methods of change field data type. 	<p>Direct notice (practical performance) Self – test Home woks</p>
4	<p>Tables in Database :</p> <ul style="list-style-type: none"> • Different in work sheet between Electronic tables and database. • Data types. • Methods of create tables in database by using: <ul style="list-style-type: none"> ○ Tables wizard. ○ Insert data in data sheet. • Open table. • Copy field & its characters. • Add field to a table. • Delete a field form the table. • Methods of change field data type. 	<p>Direct notice (practical performance) Self – test Home woks</p>
4	<p>Records in data base:</p> <ul style="list-style-type: none"> • Add and edit data. • Save a record. • Delete a record. • Undo of changes. • Repeat a value from previous record. • Move between records & fields. • Purpose behind using Primary keys. • Primary keys types in data base program. 	<p>Direct notice (practical performance) Self – test Home woks</p>
4	<p>Inquires in data base:</p> <ul style="list-style-type: none"> • Types of inquires. • Inquires design. • Show higher or low values in inquires. • Inquires calculations operations. • Create limit inquiry. • Create table inquiry. • Create table form another table using inquiry. • Create central inquiry. • Create deletion inquiry. • Show tables names or hide it in net inquiry design. 	<p>Direct notice (practical performance) Self – test Home woks</p>

	<ul style="list-style-type: none"> • Add table or inquiry in net inquiry design or delete it. • Expression creator. • Create an expression. 	
2	<p>Database Forms:</p> <ul style="list-style-type: none"> • Purpose behind using of forms. • Create forms. • Show the title and other information in form or report. • Show current date and time. • Show of pages numbers. • Show or hide network. • Open and close tool boxes. • Rename form. • Create sub-form. 	<p>Direct notice (practical performance) Self – test Home woks</p>
3	<p>Data base Relations:</p> <ul style="list-style-type: none"> • Relations task in a data base of data bases programs. • Define relations. • Integrated referential. • Succession of update & delete. • Define relations among tables. • Edit a found previous relation. • Delete a relation. • Remove a table form frame. • Show found relations. 	<p>Direct notice (practical performance) Self – test Home woks</p>
3	<p>Binding data & check authenticity:</p> <ul style="list-style-type: none"> • Purpose behind binding data. • Using data types & fields to bind data in tables. • Rules of authenticity. • Using macro or new procedure to check authenticity. • Using authenticity of data access or binding it in tables. • Create insert masks. 	<p>Direct notice (practical performance) Self – test Home woks</p>
4	<p>Data base reports:</p> <ul style="list-style-type: none"> • Reports purpose. • Reports display methods. • Report creation methods. • Confine volume , pattern place or report. • Customize form frame or report. • Show the title & other information text in pattern or report. • Show date & current time. • Add pages separation. • Show pages numbers. • Change pages numbers. 	<p>Direct notice (practical performance) Self – test Home woks</p>

	<ul style="list-style-type: none"> • Confine Options of page set up to print form or report. • Confine default template for form or report. • Change source of form or report. • Report sections. • Show or hide Report sections. • Change size of report and form sections. • Keep one syllable contents. • Repeat group head in another page. • Ignore printing page head or appending it in the first & last pages of reports. • Assume pages separation if one of the conditions achieved. • Cancel print order if the report not include any registers. 	
2	<p>Search & Ordering data base:</p> <ul style="list-style-type: none"> • Search methods about data & replace it. • Search on a value in a field & replace it. • Replace limited value in the field. • Search on a register in data papers. • Registers simple or complex milling operations. • Record ordering in data paper display method or display pattern. • Record ordering using network design. • Record ordering in reports. 	<p>Direct notice (practical performance) Self – test Home woks</p>
2	<p>Data base Filtering:</p> <ul style="list-style-type: none"> • Chose filtering method in a table , inquiry or pattern. • Similarity between limiting inquires & filtering factors. • Save filtering factors to reuse. • filtering factor effects , table ordering arrange or inquiry about pattern or new report. • Create filtering factor: <ul style="list-style-type: none"> ○ Filtering depend on selected. ○ Filtering depend on form. ○ Input Filtering. ○ Advanced Filtering / ordering. • Possibility to mill registers or break it in a pattern. 	<p>Direct notice (practical performance) Self – test Home woks</p>

References	<p>1- sams teach yourself Microsoft windows xp in 24 hours by gerg m.perry. 2- Microsoft office xp gohabrakin jarir bookstore 2002. 3- Simplified office xp . jarir bookstore 2002.</p>
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Department	Computer and Info. Technology			Major	Computing Technology		
Course Name	Operating System -1			Course Code	SUP 132		
Prerequisites	CMT 124						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours				4			
Contact Hours (hours per week)	L			2			
	W			4			
	T			0			
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course introduce basic skills required for Network programs and operating systems in general, and Windows Operating System specifically plus Internet Protocols and services and Operating systems troubleshooting.</p> <p>This course is part of Server Cert. (Windows)</p>							
General Objective:							
<p>This course aims to provide trainees with basic skills required for network programs and operating systems and internet protocols.</p>							
Specific Objectives	Required Performance Specifications	NOSS Related tasks					
		From The Criterion	Task No.				
A. Procedural Objectives: Trainee should be able to:							
1. Installs Windows	Windows Performance	Computer's user technician assistant	C7				
2. Manages user accounts	Create user account. Manage specific accounts.	Computer's user technician assistant	C4,C6,F4				
3. Manages Hard disks	Use Hard disk tools	Computer's user technician assistant	C4,C6				
4. Manages Windows network security	Use Windows Security tools	Computer's user technician assistant	B3,C2,C7,C4,E2,E3,F4,F5				
5. Configures Internet Protocols	Internet Protocols configuration	Computer's user technician assistant	C7,E2,E3,E4,E5				
6. Configures DHCP Service	DHCP Configuration	Computer's user technician assistant	C7,E2,E3,E4,E5				
7. Configures DNS	DNS Configuration	Computer's user technician assistant	C7,E2,E3,E4,E5				
8. Configures Web Server	Web Server configuration	Computer's user technician assistant	C7,E2,E3,E4,E5				
9. Fix any windows errors	Fix Operating system errors	Computer's user technician assistant	B3,B6,B7,C2,C3,C4,C5				
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Know the Windows installation steps	List the steps	Computer's user technician assistant	C7				
2. Know the concept of Operating system management	Realize Network Management	Computer's user technician assistant	C7, E2				
3. Know the steps of Network services configuration	List the steps	Computer's user technician assistant	C7, E2				
4. Know how to solve OS troubles	List the steps	Computer's user technician assistant	C7, E1, E2				

Safety conditions:			
<ul style="list-style-type: none"> Maintain devices safety. Follow the safety instructions when using tools. Follow the safety instructions of location. Tide up the place when finishing work. 			
Theoretical and Practical Topics:	NOSS Related tasks		
	Because this course is shared between all courses of Computer Technology so the following tasks from the professional standard for a career were adapted.		
	Professional Standard	Task	Task Description
○ OS basics:	Computer's users Technician supporter	C2	Uses the inspection programs.
		D4	Ensures that the spare part meets the specifications.
		G2	Participates in training courses.
		G3	Follows the magazines and specialized news.
○ Internet Protocols:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems.
		E2	Examines the network settings.
		E3	Examines the network card (NIC).
○ Network services:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems.
		E2	Examines the network settings.
		E3	Examines the network card (NIC).
		E4	Examines the network cable.
○ Network Operating systems approach:	Computer's users Technician supporter	C4	Back up the computer data.
		C6	Restores user data.
		C7	Upgrades the programs and operating systems.
○ Installation and launching OS:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems.
○ Windows OS:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems.
○ Network Service Configuration:	Computer's users Technician supporter	E2	Examines the network settings.
		E3	Examines the network card (NIC).
		E4	Examines the network cable.
		E5	Examines the network connection points.
○ Advanced management of network OS:	Computer's users Technician supporter	B3	Makes the examination on the computer.
		C2	Uses the inspection programs.
		C4	Back up the computer data.
		C6	Restores user data.
		C7	Upgrades the programs and operating systems.
		E2	Examines the network settings.
		E3	Examines the network card (NIC).
		F3	Updates the security programs.
F4	Automatically alerts the user on emergency cases.		
○ OS Error fixing:	Computer's users Technician supporter	F5	Removes the unnecessary files & programs.
		C2	Uses the inspection programs.
		C3	Determines the possible solutions.
		C4	Back up the computer data.
		C5	Applies the suitable solution.
		D4	Ensures that the spare part meets the specifications.
		F3	Updates the security programs.
		F4	Automatically alerts the user on emergency cases.
F5	Removes the unnecessary files & programs.		
		B6	Sends the device to the maintenance center when problem is hard to be solved.
		B7	Follows the problem solution.

○ Network Security:	Computer's users Technician supporter	C2	Uses the inspection programs.
		C4	Back up the computer data.
		C7	Upgrades the programs and operating systems.
		E2	Examines the network settings.
		E3	Examines the network card (NIC).
		F1	Follow the frequently schedule maintenance.
		F3	Updates the security programs.
		F4	Automatically alerts the user on emergency cases.
		F5	Removes the unnecessary files & programs.
		F6	Prepares the periodic maintenance reports.

Detailed theoretical Contents

Hours	Contents	Evaluation Tools
2	Operating systems basics: <ul style="list-style-type: none"> ○ OS basics. ○ Windows OS. ○ Network OS preview. 	Oral questions Written questions Self- test
2	Internet Protocols: <ul style="list-style-type: none"> ○ Internet websites. ○ Internet search. ○ Internet Protocol. 	Oral questions Written questions Self- test
2	Network Services: <ul style="list-style-type: none"> ○ Network Services. ○ Remote access services. ○ Guides. ○ Other network OS Services. 	Oral questions Written questions Self- test
2	Network Os approach: <ul style="list-style-type: none"> ○ Network OS specifications. ○ Windows OS. 	Oral questions Written questions Self- test
3	Installation and launching preview: <ul style="list-style-type: none"> ○ Installation preparation. ○ Installation process. ○ Launching. ○ Network OS installation errors. 	Oral questions Written questions Self- test
2	Windows OS: <ul style="list-style-type: none"> ○ Installation. ○ Administrator Control Panel. ○ User accounts. ○ File system. ○ Services. 	Oral questions Written questions Self- test
4	Network service configuration: <ul style="list-style-type: none"> ○ DHCP Configuration. ○ DNS configuration. ○ Web Server configuration. 	Oral questions Written questions Self- test
4	Advanced Administration of network OS: <ul style="list-style-type: none"> ○ Admin control panel. ○ Groups and user accounts. ○ File system and services. 	Oral questions Written questions Self- test
2	OS errors fixing: <ul style="list-style-type: none"> ○ Disaster recovery. ○ Network error fixing. ○ Knowledge about general errors. ○ LILO errors. ○ Specify and report errors. 	Oral questions Written questions Self- test

3	<p>Network security:</p> <ul style="list-style-type: none"> ○ Network security police creation. ○ Network security threats. ○ Network security procedures. ○ Updates and upgrades applications. ○ Firewall. 	<p>Oral questions Written questions Self- test</p>
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Detailed Practical Contents		
Hours	Contents	Evaluation Tools
4	<p>Operating systems basics:</p> <ul style="list-style-type: none"> ○ OS basics. ○ Windows OS. ○ Network OS preview. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
4	<p>Internet Protocols:</p> <ul style="list-style-type: none"> ○ Internet websites. ○ Internet search. ○ Internet Protocol. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
4	<p>Network Services:</p> <ul style="list-style-type: none"> ○ Network Services. ○ Remote access services. ○ Guides. ○ Other network OS Services. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
4	<p>Network Os approach:</p> <ul style="list-style-type: none"> ○ Network OS specifications. ○ Windows OS. 	<p>Notice (Practical performance) Oral questions, Written questions, Self- test</p>
6	<p>Installation and launching preview:</p> <ul style="list-style-type: none"> ○ Installation preparation. ○ Installation process. ○ Launching. ○ Network OS installation errors. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
6	<p>Windows OS:</p> <ul style="list-style-type: none"> ○ Installation. ○ Administrator Control Panel. ○ User accounts. ○ File system. ○ Services. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
6	<p>Network service configuration:</p> <ul style="list-style-type: none"> ○ DHCP Configuration. ○ DNS configuration. ○ Web Server configuration. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>
6	<p>Advanced Administration of network OS:</p> <ul style="list-style-type: none"> ○ Admin control panel. ○ Groups and user accounts. ○ File system and services. 	<p>Notice (Practical performance) Oral questions Written questions Self- test</p>

6	OS errors fixing: <ul style="list-style-type: none"> ○ Disaster recovery. ○ Network error fixing. ○ Knowledge about general errors. ○ LILO errors. ○ Specify and report errors. 	Notice (Practical performance) Oral questions Written questions Self- test
6	Network security: <ul style="list-style-type: none"> ○ Network security police creation. ○ Network security threats. ○ Network security procedures. ○ Updates and upgrades applications. ○ Firewall. 	Notice (Practical performance) Oral questions Written questions Self- test

References	IT Essentials II, Cisco Networking Academy Program, Student Companion Guide, Cisco Press.
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Department	Computer and Info. Technology		Major	Computing Technology		
Course Name	Operating System -2		Course Code	SUP 232		
Prerequisites	132 SUP					
Trimester	1	2	3	4	5	6
Credit Hours					4	Cooperative
Contact Hours (hours per week)	L				2	
	W				4	
	T				0	
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>This course introduce basic skills required for Network programs and operating systems in general, and Linux Operating System specifically plus Internet Protocols and services and Linux Operating systems troubleshooting.</p> <p>This course is part of Server Cert. (Linux).</p>						
General Objective:						
<p>This course aims to provide trainees with basic skills required for network programs and Linux operating systems and internet protocols.</p>						
Specific Objectives	Required Performance Specifications	NOSS Related tasks				
		From The Criterion	Task No.			
A. Procedural Objectives: Trainee should be able to:						
1. Installs Linux.	Installs Linux	Computer's user technician assistant	C3			
2. Administrates networks with Linux.	Administrates networks with Linux	Computer's user technician assistant	F4			
3. Fixes Linux errors.	Fixes Linux errors	Computer's user technician assistant	F4			
4. Installs and maintain Linux contents.	Installs and maintain Linux contents	Computer's user technician assistant	C2 , C3			
5. Secure the network.	Applies Network security with Linux	Computer's user technician assistant	F5			
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. List Linux Properties.	List Linux Properties	Computer's user technician assistant	C7			
2. List some network services with Linux.	List some network services with Linux	Computer's user technician assistant	C7, E2			
3. List some general errors in Linux.	List some general errors in Linux	Computer's user technician assistant	C7, E1, E2			
4. List security specification in Linux.	List security specification in Linux	Computer's user technician assistant	C4, C7, E2			
Safety conditions:						
<ul style="list-style-type: none"> • Maintain devices safety. • Follow the safety instructions when using tools. • Follow the safety instructions of location. • Tide up the place when finishing work. 						

Theoretical and Practical Topics:	NOSS Related tasks		
	Professional Standard	Task	Task Description
○ Installs Linux:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems
○ Administrate Linux:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems
○ Administrates networks with Linux:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems
○ Fixes Linux errors:	Computer's users Technician supporter	C3	Determines the possible solutions
		C7	Upgrades the programs and operating systems
○ Installs and maintain Linux contents:	Computer's users Technician supporter	C2	Uses the inspection programs
		C7	Upgrades the programs and operating systems
○ Secure the network:	Computer's users Technician supporter	C7	Upgrades the programs and operating systems
		F5	Removes the unnecessary files & programs

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
4	Linux installation: <ul style="list-style-type: none"> ○ Format. ○ Installation Process. ○ Launching system. 	Oral questions Editing Questions Self Practice Test
4	Administrate Linux: <ul style="list-style-type: none"> ○ Administrate User Accounts. ○ Administrate File System. 	Oral questions Editing Questions Self Practice Test
6	Administrate Network with Linux: <ul style="list-style-type: none"> ○ Setup FTP. ○ DHCP Setup. ○ Web Server Setup. 	Oral questions Editing Questions Self Practice Test
4	Linux contents installation and maintenance: <ul style="list-style-type: none"> ○ Content names and concepts. ○ Content Installation and setup. ○ Testing content performance. ○ Laptop contents. 	Oral questions Editing Questions Self Practice Test
4	Linux errors Fixing: <ul style="list-style-type: none"> ○ Disaster recovery. ○ Network errors fixing. ○ Identify general errors. 	Oral questions Editing Questions Self Practice Test
4	Network Security: <ul style="list-style-type: none"> ○ Create Security policy. ○ Network security threats. ○ Execute security procedures. ○ Upgrades and updates applications. ○ Firewalls. 	Oral questions Editing Questions Self Practice Test

Detailed Practical Contents		
Hours	Contents	Evaluation Tools
8	Linux installation: <ul style="list-style-type: none"> ○ Format. ○ Installation Process. ○ Launching system. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
8	Administrate Linux: <ul style="list-style-type: none"> ○ Administrate User Accounts. ○ Administrate File System. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
10	Administrate Network with Linux: <ul style="list-style-type: none"> ○ Setup FTP. ○ DHCP Setup. ○ Web Server Setup. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
10	Linux contents installation and maintenance: <ul style="list-style-type: none"> ○ Content names and concepts. ○ Content Installation and setup. ○ Testing content performance. ○ Laptop contents. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
8	Linux errors Fixing: <ul style="list-style-type: none"> ○ Disaster recovery. ○ Network errors fixing. ○ Identify general errors. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
8	Network Security: <ul style="list-style-type: none"> ○ Create Security policy. ○ Network security threats. ○ Execute security procedures. ○ Upgrades and updates applications. ○ Firewalls. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test
References	IT Essentials II, Cisco Networking Academy Program, Student Companion Guide, Cisco Press.	

Department	Computer and Info. Technology			Major	Computing Technology		
Course Name	Computer Network Fundamentals			Course Code	NET 107		
Prerequisites							
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours				4			
Contact Hours (hours per week)	L			2			
	W			4			
	T			0			
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course provides the necessary knowledge of computer network work and its components by preparing the trainee through a set of theory lessons and practical training that makes him able to understand the computer network components and how to build it.</p> <p>This course is considered as one of courses that help to pass the Cisco Certified Network Associate CCNA precisely CCNA 1.</p>							
General Objective:							
The goal of this course is to provide the trainee with the necessary skills and knowledge of computer network components and how to build a network.							
Specific Objectives	Required Performance Specifications			NOSS Related tasks			
				From The Criterion		Task No.	
A. Procedural Objectives: Trainee should be able to:							
1. Build and install network media	Installs specific network cable. Builds cable connection correctly.			Computer's user technician assistant	E		
				Networks technician	C6, C7, C8		
				Systems administrator	A, B		
2. Build Ethernet LAN	Builds network made of two or more Ethernet network Checks network running.			Computer's user technician assistant	E		
				Networks technician	A1, A2, A3		
				Systems administrator	A, B		
3. Use switch to build high performance network	Uses switch to create many collision domain. Achieves high network performance.			Computer's user technician assistant	E		
				Networks technician	C1, C2		
				Systems administrator	A, B		
4. Use Router to segment the network	Divide network into many broadcast domain and achieves high network performance by using router.			Computer's user technician assistant	E		
				Networks technician	F1, C9		
				Systems administrator	A, B		
5. Perform IP subnetting	Divides IP address.			Computer's user technician assistant	E		
				Networks technician	C9, E1, E2, E3, E4, E5		
				Systems administrator	A, B		

B. Behavioural and Cognitive Objectives: Trainee should be able to:			
1. Define the 7 layers of OSI model.	Specify the task of each layer of the OSI model.	Computer's user technician assistant	E
		Networks technician	A6, A7
		Systems administrator	A, B
2. Differentiate between different cables.	Name and specify the properties of the presented cable.	Computer's user technician assistant	E
		Networks technician	C5, C6, C7
		Systems administrator	A, B
3. Define network connection devices and their properties.	Enumerate some connection devices and state their properties.	Computer's user technician assistant	E
		Networks technician	C2
		Systems administrator	A, B
4. State properties and work of the network of Ethernet type.	Enumerate the characteristics of Ethernet.	Computer's user technician assistant	E
		Networks technician	A1, A3
		Systems administrator	A, B
5. Define the concept of router and switch in the network.	Differentiate between the routing and switching task.	Computer's user technician assistant	E
		Networks technician	A7
		Systems administrator	A, B
6. Define the different type of IP classes.	State different type of IP class.	Computer's user technician assistant	E
		Networks technician	A7
		Systems administrator	A, B
7. Define the different ways of IP subnetting.	State the way of dividing IP.	Computer's user technician assistant	E
		Networks technician	A7
		Systems administrator	A, B
8. Differentiate between routing protocols.	Enumerate the difference between routing protocols.	Computer's user technician assistant	E
		Networks technician	A7
		Systems administrator	A, B
9. Enumerate the well known problems of LAN.	Enumerate the well known LAN problems. Specify the possible causes of the problem. Specify a solution for the problem.	Computer's user technician assistant	E
		Networks technician	F1, F2, F3, F4, F6
		Systems administrator	A, B
Safety conditions:			
<ul style="list-style-type: none"> ○ Preserves the state of devices. ○ Follow instructions of place safety. ○ Follow instructions when using tools. ○ Tide up the place once the work is finished. 			
Theoretical and Practical Topics:	NOSS Related tasks		
	Because this course is shared between all courses of Computer Technology so the following tasks from the professional standard for a career were adapted.		
	Professional Standard	Task	Task Description
○ Network and daily communication services:	Computer's users Technician supporter	E	Prepares the device to access the network.
	Network computer's technician	A6	Helps in determining the computer specifications.
		F4	Provides appropriate operative environment for network devices.

		C1	Requests the network devices and tools.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
		D5	Manage the system run (OS, server, support services).
○ Communication using network:	Computer's users Technician supporter	E	Prepares the device to access the network.
	Network computer's technician	C8	Connects between devices.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
D5		Manage the system run (OS, server, support services).	
○ Task of application layer protocols:	Computer's users Technician supporter	E	Prepares the device to access the network.
	Network computer's technician	C8	Connects between devices.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
D5		Manage the system run (OS, server, support services).	
○ Transport layer:	Computer's users Technician supporter	E	Prepares the device to access the network.
	Network computer's technician	A1	Participates in defining the network types.
		A2	Explores the network location.
		A3	Participates in defining the connection type.
		C8	Connects between devices.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
D5		Manage the system run (OS, server, support services).	
○ Network layer:	Computer's users Technician supporter	E	Prepares the device to access the network.
	Network computer's technician	A7	Participates in developing network design.
		C2	Build network devices.
		C5	Supervises network cables run.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
		D5	Manage the system run (OS, server, support services).
○ IP v4 addressing:		Computer's users Technician supporter	E
	Network computer's technician	A7	Participates in developing network design.
		C2	Build network devices.
		C5	Supervises the network cables installation.
	Systems administrator	A	Prepares the software and systems.
		B	Manages user accounts.
		D5	Administrates system performance (operating system, server, support services).
○ Data link layer:		Computer's users Technician supporter	E
	Network computer's technician	E1	Receive problem description.
		E2	Repairs network cables.
		E3	Changes network card.
		E4	Repairs network devices.
		E5	Prepares network card for a device.

		C9	Test the network devices operation.	
	Systems administrator	A	Prepares the software and systems.	
		B	Manages user accounts.	
		D5	Administrates system performance (operating system, server, support services).	
○ Physical layer:	Computer's users Technician supporter	E	Prepares the device to access the network.	
	Network computer's technician	C6	Installs network cables.	
		C7	Inspects the network cables installations.	
	Systems administrator	A	Prepares the software and systems.	
		B	Manages user accounts.	
		D5	Administrates system performance (operating system, server, support services).	
○ Ethernet:	Computer's users Technician supporter	E	Prepares the device to access the network.	
	Network computer's technician	C6	Installs network cables.	
		C7	Inspects the network cables installations.	
		C9	Test the network devices operation.	
	Systems administrator	A	Prepares the software and systems.	
		B	Manages user accounts.	
		D5	Administrates system performance (operating system, server, support services).	
	○ Planning and connecting network:	Computer's users Technician supporter	E	Prepares the device to access the network.
		Network computer's technician	C6	Installs network cables.
C7			Inspects the network cables installations.	
C9			Test the network devices operation.	
Systems administrator		A	Prepares the software and systems.	
		B	Manages user accounts.	
		D5	Administrates system performance (operating system, server, support services).	
○ Preparing and testing the network:		Computer's users Technician supporter	E	Prepares the device to access the network.
		Network computer's technician	F1	Continuously monitor the network operation.
	F2		Test the solutions before implementation.	
	F3		Cooperates for finding solutions to maintain the network operation continuity.	
	F6		Provides the backup copies of the operating systems and configuration files of network devices.	
	Systems administrator	A	Prepares the software and systems	
		B	Manages user accounts.	
		D5	Administrates system performance (operating system, server, support services).	

Detailed Theoretical Contents		
Hours	Contents	Assessment Tools
2	Network and daily communication services: <ul style="list-style-type: none"> ○ Network orientation. ○ Examples of daily network services. 	Oral questions Written questions Self- test Online end of chapter exam
2	Communication using network: <ul style="list-style-type: none"> ○ Communication infrastructure. ○ LAN and WAN. ○ Protocols. ○ Using multiple layer samples. ○ Network addressing. 	Oral questions Written questions Self- test Online end of chapter exam
3	Task of application layer protocols: <ul style="list-style-type: none"> ○ Application- User interface. ○ Protocols and application layer services. ○ DNS service. ○ WWW and HTTP service. ○ Email service. ○ File sharing. ○ Remote access. ○ FTP. 	Oral questions Written questions Self- test Online end of chapter exam
3	Transport layer: <ul style="list-style-type: none"> ○ Rules of transport layer. ○ TCP- the trusted communication. ○ Managing TCP sessions. ○ UDP. 	Oral questions Written questions Self- test Online end of chapter exam
3	Network layer: <ul style="list-style-type: none"> ○ Ipv4 protocol. ○ Network segmentation. ○ Subnetting the subnet. ○ Static routing. ○ Dynamic routing. 	Oral questions Written questions Self- test Online end of chapter exam
3	IP v4 addressing: <ul style="list-style-type: none"> ○ IP v4 addresses. ○ Different type of IP address in the network. ○ Specifying IP addresses for network devices. ○ Subnet Mask. ○ Addresses calculation-sub network. ○ Commands for testing network layer. 	Oral questions Written questions Self- test Online end of chapter exam
2	Data link layer: <ul style="list-style-type: none"> ○ Accessing the medium. ○ Techniques for accessing the medium. ○ Data addressing and encapsulation. ○ Frame format. 	Oral questions Written questions Self- test Online end of chapter exam

2	<p>Physical layer:</p> <ul style="list-style-type: none"> ○ Tasks of physical layer. ○ Signals and bit representation. ○ Copper cables. ○ Fiber cables. ○ Wireless media. ○ Connectors. 	<p>Oral questions Written questions Self- test Online end of chapter exam</p>
2	<p>Ethernet:</p> <ul style="list-style-type: none"> ○ General view. ○ Communication through LAN. ○ Ethernet frame. ○ Accessing CSMA/CD. ○ Physical layer of Ethernet. ○ Switch and Hub devices. ○ ARP protocol. 	<p>Oral questions Written questions Self- test Online end of chapter exam</p>
2	<p>Planning and connecting network:</p> <ul style="list-style-type: none"> ○ Choosing the network devices. ○ Devices connection. ○ IP distribution. ○ Sub network calculation. 	<p>Oral questions Written questions Self- test Online end of chapter exam</p>
2	<p>Preparing and testing the network:</p> <ul style="list-style-type: none"> ○ Preparing Cisco devices. Principle of IOS. ○ Basic configuration of IOS. ○ Connectivity test. ○ Network monitoring and logging. 	<p>Oral questions Written questions Self- test Online end of chapter exam</p>

Detailed Practical Contents		
Hours	Contents	Assessment Tools
2	Network and daily communication services: <ul style="list-style-type: none"> ○ Network orientation. ○ Examples of daily network services. 	Direct notice (practical performance) Oral questions Written questions, Self- test, Projects, Case studies
4	Communication using network: <ul style="list-style-type: none"> ○ Communication infrastructure. ○ LAN and WAN. ○ Protocols. ○ Using multiple layer samples. ○ Network addressing. 	Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies
5	Task of application layer protocols: <ul style="list-style-type: none"> ○ Application- User interface. ○ Protocols and application layer services. ○ DNS service. ○ WWW and HTTP service. ○ Email service. ○ File sharing. ○ Remote access. ○ FTP. 	Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies
4	Transport layer: <ul style="list-style-type: none"> ○ Rules of transport layer. ○ TCP- the trusted communication. ○ Managing TCP sessions. ○ UDP. 	Direct notice (practical performance) Oral questions Written questions Self- test, Projects Case studies
5	Network layer: <ul style="list-style-type: none"> ○ Ipv4 protocol. ○ Network segmentation. ○ Subnetting the subnet. ○ Static routing. ○ Dynamic routing. 	Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies
5	IP v4 addressing: <ul style="list-style-type: none"> ○ IP v4 addresses. ○ Different type of IP address in the network. ○ Specifying IP addresses for network devices. ○ Subnet Mask. ○ Addresses calculation-sub network. ○ Commands for testing network layer. 	Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies
5	Data link layer: <ul style="list-style-type: none"> ○ Accessing the medium. ○ Techniques for accessing the medium. ○ Data addressing and encapsulation. ○ Frame format. 	Direct notice (practical performance) Oral questions, Written questions Self- test Projects Case studies

5	<p>Physical layer:</p> <ul style="list-style-type: none"> ○ Tasks of physical layer. ○ Signals and bit representation. ○ Copper cables. ○ Fiber cables. ○ Wireless media. ○ Connectors. 	<p>Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies</p>
5	<p>Ethernet:</p> <ul style="list-style-type: none"> ○ General view. ○ Communication through LAN. ○ Ethernet frame. ○ Accessing CSMA/CD. ○ Physical layer of Ethernet. ○ Switch and Hub devices. ○ ARP protocol. 	<p>Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies</p>
5	<p>Planning and connecting network:</p> <ul style="list-style-type: none"> ○ Choosing the network devices. ○ Devices connection. ○ IP distribution. ○ Sub network calculation. 	<p>Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies</p>
5	<p>Preparing and testing the network:</p> <ul style="list-style-type: none"> ○ Preparing Cisco devices. Principle of IOS. ○ Basic configuration of IOS. ○ Connectivity test. ○ Network monitoring and logging. 	<p>Direct notice (practical performance) Oral questions Written questions Self- test Projects Case studies</p>
References	<p>CCNA Exploration 1, Online Curriculum. Cisco Networking Academy Program, First Year - Student Companion Guide, Cisco Press.</p>	

Department	Computer and Info. Technology			Major	Computing Technology		
Course Name	Computer client O.S.			Course Code	CMT 124		
Prerequisites	CMT 127						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours			4				
Contact Hours (hours per week)	L		2				
	W		4				
	T		0				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course provides the essential concepts of computer operating by training on installing the right operating system and dealing with on different types of operating system's messages and characteristics</p> <p>This course with its skills represents the programming part of the A+ and IT Essential 1 Certification.</p>							
General Objective:							
This Course aims to provide trainees with basic skills in Computer operating and operating system installation.							
Specific Objectives	Required Performance Specifications	NOSS Related tasks					
		From The Criterion	Task No.				
A. Procedural Objectives: Trainee should be able to:							
1. Installs the Operating System.	Starts the operating system after installation	Computer's user technician assistant	C7				
		Networks technician	C3, C4, F				
		Systems administrator	A				
2. Network configuration	Configures the PC to join the network	Computer's user technician assistant	E2, E3, E4, E5				
		Networks technician	C3, C4, F				
		Systems administrator	A				
3. Installs and software .	Installs some software	Computer's user technician assistant	C6, C7,				
		Networks technician	C3, C4,F				
		Systems administrator	A				
4. Installs, changes, and configures network Card	Installs network card by following the steps in the manual	Computer's user technician assistant	D3, D4, D5, D6, D11, D12, F2, E2, F3, G3				
		Networks technician	C3, C4, F				
		Systems administrator	A				
5. Test PC performance	Computer function normally	Computer's user technician assistant	C2, C3, C4, C5				
		Networks technician	-				
		Systems administrator	-				
6. Scan disk for errors	Defines a specific problem in the configuration	Computer's user technician assistant	B3, B4, B5, B6, B7, C3, C5				
		Networks technician	-				
		Systems administrator	-				
7. Installs and manages printers	Prints a test page after installation	Computer's user technician assistant	D4				
		Networks technician	-				
		Systems administrator	-				

B. Behavioural and Cognitive Objectives: Trainee should be able to:			
1. Differentiates between different types of operating system.	List some operating system specifications	Computer's user technician assistant	C7
		Networks technician	C3, C7, F
		Systems administrator	A
2. Defines Operating system 's installation steps.	List installation steps	Computer's user technician assistant	C7
		Networks technician	C3, C4, F
		Systems administrator	A
3. Differentiates between different network cards.	States some of network card's features	Computer's user technician assistant	D3, D4, D5, D6, D11, D12, F2, E2, F3, G3
		Networks technician	C3, C4, F
		Systems administrator	C7
4. Defines printer specifications.	List main printer's specifications	Computer's user technician assistant	C3, C7, F
		Networks technician	A
		Systems administrator	C7
Safety conditions:			
<ul style="list-style-type: none"> • Keep devices safe. • Follow the safety instructions when using tools. • Follow the safety instructions of location. • Tide up the place when finishing work. 			
Theoretical and Practical Topics:	NOSS Related tasks		
	Because this course is shared between all courses of Computer Technology so the following tasks from the professional standard for a career were adapted.		
	Professional Standard	Task	Task Description
○ Advance personnel computer:	Computer's users Technician supporter	G2	Participates in training courses.
		G3	Follow up reading in specialized books, journals and newsletters.
		D4	Ensures the conformity with the standard.
		C7	Upgrades OS and software.
	Network computer's technician	C3	Performs the main configuration of network devices.
	Systems administrator	A	Prepares systems and software.
○ Advanced operating systems:	Computer's users Technician supporter	D4	Ensures the conformity with the standard.
		C7	Upgrades OS and software.
	Network computer's technician	C3	Installs network operating system.
		C4	Performs the main configuration of network devices.
		F	Works for the uninterrupted network function.
	Systems administrator	A	Prepares systems and software.
○ Laptops and small mobile devices:	Computer's users Technician supporter	C2	Uses Software inspection.
		C4	Makes backup copy of computer data.
		F3	Update protection programs.
		F4	Alerts user automatically in emergency cases.
		F5	Erases unnecessary software and files.
	Network computer's technician	C3	Installs network operating system.
		F	Works for an uninterrupted network function.
		A	Prepares systems and software.

○ Advanced printers and scanners:	Computer's users Technician supporter	D4	Ensures the conformity with the standard.
	Network computer's technician	C3	Installs network operating system.
		C4	Performs the main configuration of network devices.
		F	Works for an uninterrupted network function.
	Systems administrator	A	Prepares systems and software.
○ Advanced computer network:	Computer's users Technician supporter	D4	Ensures the conformity with the standard.
		E2	Checks network configuration.
		E3	Checks network cards.
		E4	Checks network cable.
		E5	Checks network points.
	Network computer's technician	C3	Installs network operating system.
		C4	Performs the main configuration of network devices.
		F	Works for an uninterrupted network function.
	Systems administrator	A	Prepares systems and software.
	○ Advanced computer security:	Computer's users Technician supporter	C2
C4			Makes backup copy of computer data.
F3			Update protection programs.
Network computer's technician		C3	Installs network operating system.
		C4	Performs the main configuration of network devices.
		F	Works for an uninterrupted network function.
Systems administrator		A	Prepares systems and software.

Detailed Theoretical Contents		
Hours	Contents	Assessment Tools
4	Advance personnel computer: <ul style="list-style-type: none"> • General overview of computer maintenance technician 's tasks. • Changing computer components. • Upgrading computer components. • Maintained prevention of personnel computer. • Repairing personnel computer's faults. 	Oral questions Written questions Homework Self- test Online end of Chapters
5	Advanced operating systems: <ul style="list-style-type: none"> • Choosing network operating system. • Installing network operating system. • Upgrading operating system. • Maintaining operating system. • Repairing operating system's faults. 	Oral questions Written questions Homework Self- test Online end of Chapters
4	Advanced laptops and mobile devices: <ul style="list-style-type: none"> • Wireless communication. • Repairing laptops and mobile devices. • Choosing laptop's components. • Maintenance prevention procedures of laptops. • Repairing laptop's faults . 	Oral questions Written questions Homework Self- test Online end of Chapters
4	Advanced printers and scanners: <ul style="list-style-type: none"> • Safety procedures. • Installing and configuring local printer and scanner. • Installing and configuring network printer and scanner. • Upgrading printer and scanner. • Maintenance prevention. • Repairing scanners and printers faults. 	Oral questions Written questions Homework Self- test Online end of Chapters
5	Advanced computer network: <ul style="list-style-type: none"> • Safety procedures. • Designing a network based on client requirement. • Network components. • Network installation. • Network upgrade. • Installing and configuring email server. • Network Maintenance prevention. • Repairing network's faults 	Oral questions Written questions Homework Self- test Online end of Chapters
4	Advanced computer security: <ul style="list-style-type: none"> • Client's Security needs. • Security elements based on client request. • Applying security policies for the client. • Maintenance prevention. • Repairing computer security's faults. 	Oral questions Written questions Homework Self- test Online end of Chapters

detailed Practical Contents		
Hours	Contents	Assessment Tools
10	<p>Advance personnel computer:</p> <ul style="list-style-type: none"> • General overview of computer. maintenance technician 's tasks. • Changing computer components. • Upgrading computer components. • Maintained prevention of personnel computer. • Repairing personnel computer's faults. 	<p>Direct notice (practical performance) Imitation Oral questions Written questions Self- test Projects Case studies</p>
10	<p>Advanced operating systems:</p> <ul style="list-style-type: none"> • Choosing network operating system. • Installing network operating system. • Upgrading operating system. • Maintaining operating system. • Repairing operating system's faults. 	<p>Direct notice (practical performance), Imitation Oral questions Written questions Self- test, Projects Case studies</p>
8	<p>Advanced laptops and mobile devices:</p> <ul style="list-style-type: none"> • Wireless communication. • Repairing laptops and mobile devices. • Choosing laptop's components. • Maintenance prevention procedures of laptops. • Repairing laptop's faults. 	<p>Direct notice (practical performance), Imitation Oral questions Written questions Self- test, Projects Case studies</p>
8	<p>Advanced laptops and mobile devices:</p> <ul style="list-style-type: none"> • Wireless communication. • Repairing laptops and mobile devices. • Choosing laptop's components. • Maintenance prevention procedures of laptops. • Repairing laptop's faults. 	<p>Direct notice (practical performance), Imitation Oral questions Written questions Self- test, Projects Case studies</p>
8	<p>Advanced computer network:</p> <ul style="list-style-type: none"> • Safety procedures. • Designing a network based on client requirement. • Network components. • Network installation. • Network upgrade. • Installing and configuring email server. • Network Maintenance prevention. • Repairing network's faults. 	<p>Direct notice (practical performance) Imitation Oral questions Written questions Self- test Projects Case studies</p>
8	<p>Advanced computer security:</p> <ul style="list-style-type: none"> • Client's Security needs. • Security elements based on client request. • Applying security policies for the client. • Maintenance prevention. • Repairing computer security's faults. 	<p>Direct notice (practical performance), Imitation Oral questions Written questions Self- test, Projects Case studies</p>
References	<p>IT Essentials I v4.0 : PC Hardware and Software , Chapters (11-16) Cisco Academy Networking Program, Student Companion Guide, Cisco Press</p>	



TECHNICAL SUPPORT COURSES

1430H – 2010G

Department	Computer and Info. Technology		Major	Technical Support		
Course Name	Fundamentals of Electronics		Course Code	SUP 113		
Prerequisites						
Trimester	1	2	3	4	5	6
Credit Hours		4				Cooperative
Contact Hours (hours per week)	L	2				
	W	4				
	T	0				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
This course introduces the basic rules and concepts that used in electrical circuits analysis, and basically views electronics elements including some training on its applications plus an approach about digital systems, logical gates and assembly lines.						
General Objective:						
This course aims to provide trainees with basic skills in electricity and electronics to understand how simple and complicated digital circuits functions.						
Specific Objectives		Required Performance Specifications		NOSS Related tasks		
				Task No.		
A. Procedural Objectives: Trainee should be able to:						
1. Creates a simple circuit with stable voltage to measure voltage difference and power to check results with AOM rule.		Checking AOM rule		knowledge 7, B3		
2. Creates a rotation resistors circuit with stable voltage to measure the total resistance and power of all circuit elements.		Measuring total resistance of a group of resistors connected rotationally		knowledge 7, B3		
3. Creates a parallel resistors circuit with stable voltage to measure the total resistance and power of all circuit elements.		Measuring total resistance of a group of parallel resistors		knowledge 7, B3		
4. Creates a parallel and rotated resistors circuit with stable voltage to measure the total resistance and power of all circuit elements.		Measuring total resistance of a group of parallel and rotated resistors		knowledge 7, B3		
5. Creates half-wave circuit with mobile voltage to check the half-wave correction.		Checking half-wave correction		Knowledge 8, B3		
6. Creates full-wave circuit to check the correction and compare it with the half-wave correction measure.		Checking full-wave correction		Knowledge8, B3		
7. Using circuits with gates : AND & OR & NOT.		Creates true tables of gates: AND OR NOT		knowledge 7, B3		

8. Using circuits with gates & NAND & NOR & XOR.	Creates true tables of gates: NAND .NOR XOR.	knowledge 7, B3
9. Installs circuits : D & T.	Installs and tests circuits: D T	knowledge 7, B3
10. Installs circuits : RS & JK.	Installs and tests circuits: RS JK	knowledge 7, B3
B. Behavioural and Cognitive Objectives: Trainee should be able to:		
1. Determines the quantity and electrical elements.	Identifies some electrical quantities and elements such as electrical voltage, charge, power and resistance.	Knowledge7
2. Recognize AOM and WAT rules.	Recognize AOM and WAT rules and using them to determine voltage and current value.	Knowledge7 G1 G2
3. Being able to connect resistors in a parallel or rotated way or with both .	.Recognize the resistors parallel and rotated connections	Knowledge7 G1, G2
4. Recognize (Kreshov) Voltage rules.	Measures resistors voltage in parallel and rotated circuits according to (Kreshov) rules.	Knowledge7 G1 G2
5. Measures voltage distributing circuits..	Doing an exercise on voltage distributing circuits	Knowledge7 , G1, G2
6. Creates electrical analysis about the three previous circuits	Identify the three circuits. How to measure the total resistance. Identify voltage in each type.	Knowledge7 G1, G2
7. Determines the importance of condensers in electrical circuits and their types	Describes electrical condenser basic structure and specifications. Describes condenser charge/discharge process. Measures condenser capacity to parallel, rotated and parallel/rotated circuits	Knowledge7 G1 G2
8. Determines periodic current specification	Identify current changes	Knowledge8 G1 , G2
9. Explain how half-wave and full-wave circuits functioning.	Identify the DIOD element	Knowledge8 G1 , G2
10. Identify the differences among data and digital systems and creates tables for gates AND – OR - NOT	Identifies numeration ways and the tables of gates: AND &OR &.NOT	knowledge in B3 G1, G2
11. Creates tables for gates : NOR & NAND & XOR	Identifies tables of gates: NAND &NOR & XOR	knowledge in B3, G1, G2
12. Explains gates RS & JK	Identify gates RS &JK	knowledge in B3 G1, G2
13. Explains gates D & T	Identify gates D &T	knowledge in B3 G1, G2
Safety conditions:		
<ul style="list-style-type: none"> ○ Maintain measurement tools. ○ Never touch any unfamiliar devices. 		

- Maintain Safety when using tools.
- Correct setup of measurement tools.
- Inform about any bared cables..
- Wear gloves and static discharge bracers when dealing with electricity
- Disconnect power from electrical circuits before changing any element.
- Disconnect power after doing any test.

Theoretical and Practical Topics:	NOSS Related tasks	
	Criterion of Computer's user technician supporter.	
	Task	Task Description
○ Electrical elements and quantities definition:	Knowledge7	The Knowledge of the principles of electronic principles.
	B3	Makes the examination on the computer.
○ AOM Rule:	Knowledge7	The Knowledge of the principles of electronic principles.
○ Resistors Circuits:	Knowledge7	The Knowledge of the principles of electronic principles.
○ Condensers:	Knowledge7	The Knowledge of the principles of electronic principles.
○ Diverted Currents:	Knowledge7	The Knowledge of the principles of electronic principles.
○ Unifiers Applications:	Knowledge8	The Knowledge of electricity.
○ Digital Circuits Approach:	Knowledge8	The Knowledge of electricity.
○ Numerical and code systems:	Knowledge8	The Knowledge of electricity.
○ Logical Circuits functions:	Knowledge8	The Knowledge of electricity.
○ Flip-Flip Circuits:	Knowledge8	The Knowledge of electricity.

Detailed Theoretical Contents		
Hours	Contents	Assessment Tools
4	<p>Electrical elements and quantities definition</p> <p>Electrical charge definition:</p> <ul style="list-style-type: none"> ○ Electrical Current. ○ Resistance and Voltage. ○ AOM rule and its use in measuring voltage and resistance. ○ Electrical power used in circuits. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
4	<p>Stable circuits that contain resistors:</p> <ul style="list-style-type: none"> ○ Connects resistors rotationally, Kirshov rule of voltage, Rotated circuit power, voltage distribution. ○ Connects resistors in a parallel way, Kirshov rule of voltage, paralleled circuit power, voltage distribution. ○ Parallel and rotated resistors circuits analysis. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
2	<p>Electrical resistors:</p> <ul style="list-style-type: none"> ○ The purpose of using condensers, Charge/discharge condensers. ○ Condenser types. ○ Connects condensers rotationally and in a parallel form. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
2	<p>Indirect current circuits:</p> <ul style="list-style-type: none"> ○ Indirect volt, Pocket form. ○ Indirect current resistors circuit analysis. ○ Calculation of indirect current of these circuits. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
3	<p>Unifiers applications:</p> <ul style="list-style-type: none"> ○ Semi-Connectors and PN connector ○ Unifiers functions. ○ Half-Wave unifier circuit. ○ Full-wave unifier circuit. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
2	<p>Digital circuits:</p> <ul style="list-style-type: none"> ○ Digital quantities. ○ Digital signals. ○ Digital measurement tools. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>
3	<p>Numerical systems and codes:</p> <ul style="list-style-type: none"> ○ Decimal system. ○ Binary system. ○ Hexameter system. ○ BCD Code. ○ ASCII Code. 	<p>Oral questions</p> <p>Written questions</p> <p>Self- test</p>



3	Logical digital circuits: <ul style="list-style-type: none">○ Barriers and commutations.○ AND Gates.○ OR gates.○ NOT Gates.○ NAND Gates.○ NOR Gates.○ XOR Gates.	Oral questions Written questions Self- test
3	Flip-Flops Circuits: <ul style="list-style-type: none">○ D Flip-Flops Circuits.○ T Flip-Flops Circuits.○ RS Flip-Flops Circuits.○ JK Flip-Flops Circuits.	Oral questions Written questions Self- test

Detailed Practical Contents		
Hours	Contents	Assessment Tools
2	Safety Instructions: <ul style="list-style-type: none"> ○ Workshops/Labs safety Instructions. ○ Electrical effects on humans. ○ Electrical resistance of the human body. ○ Electrical shock protection. 	Direct notice (practical performance) Oral questions Written questions Self- test
10	Welding Skills and printed circuit forming: <ul style="list-style-type: none"> ○ Printed circuit developing. ○ Printed circuit testing. ○ Welding skills acquisition. 	Direct notice (practical performance) Oral questions, Written questions, Self- test
6	AOM rule and direct current resistors circuits: <ul style="list-style-type: none"> ○ Establishing AOM Rule. ○ Voltage, power and current measurement in parallel and rotated circuits. 	Direct notice (practical performance) Oral questions, Written questions, Self- test
6	Circuits includes parallel and rotated resistors: <ul style="list-style-type: none"> ○ Measuring total resistance of a parallel/rotated circuit. ○ Determines voltage resistance in parallel/rotated circuits. 	Direct notice (practical performance) Oral questions Written questions Self- test
6	Direct current circuits: <ul style="list-style-type: none"> ○ Doing measurements on resistors. circuit using signal reader tools. 	Direct notice (practical performance) Oral questions, Written questions, Self- test
8	Unifier applications: <ul style="list-style-type: none"> ○ Measuring unifier curve. ○ Connects a half-wave unifier circuit and measure the average of output voltage. ○ Connects a full-wave unifier circuit and measure the average of output voltage. 	Direct notice (practical performance) Oral questions Written questions Self- test
8	XOR gates:	Direct notice (practical performance) Oral questions, Written questions, Self- test
6	Testing Flip-Flop circuits: <ul style="list-style-type: none"> ○ D Flip-Flop circuits. ○ T Flip-Flop circuits. ○ RS Flip-Flop circuits. ○ JK Flip-Flop circuits. 	Direct notice (practical performance) Oral questions, Written questions Self- test

References	<ol style="list-style-type: none"> 1. Jimmie J Cathey, Electronic Devices and Circuits, 2nd edition, McGraw – Hill companies, June 2002. 2. Tomas L. Floyed, Electronic Devices, 8th edition, Printice Hall, March 2007. 3. Tomas L. Floyed, Principle of Electric Circuits, 7th edition, Prentice Hall, April 2002. 4. Tomas L. Floyed, Electric Circuit Fundamentals, 7th edition, Prentice Hall, March 2006. Tomas L. Floyed, Digital Fundamentals, 9th edition, Prentice Hall, July 2005.
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Department	Computer and Info. Technology			Major	Technical Support		
Course Name	Technical Support Skills			Course Code	SUP 222		
Prerequisites	CMT 102						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours			3				
Contact Hours (hours per week)	L		2				
	W		2				
	T		0				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course is about training on basic concepts of Technical support skills including overall and planned maintenance, Tech. support workshop management, skills in internet search and remote desktop applications.</p> <p>Training also works on improving the trainees communication and interaction skills with clients.</p>							
General Objective:							
This course aims to provide trainees with basic knowledge and skills required for technical support field.							
Specific Objectives	Required Performance Specifications			NOSS Related tasks			
				Task No.			
A. Procedural Objectives: Trainee should be able to:							
1. Remote control desktops	Controls files and folders of remote desktops (create, change, share .. etc)			E			
2. Use Ping , Telnet	Searches remote PC for data			F			
3. Transmit files with FTP protocol	Downloads files using FTP			C4,C3			
4. Use virtual desktop	Searches for specified files						
5. Record Help desk requests	Records and maintenance requests			A1,B1 A2,A3, G4			
6. Analyze Technical problems	Suggests solutions			A3			
7. Manage help desk	Events logging			B			
8. Search the internet	Searches Internet for solutions			G4,G5,G3			
9. Use product guides and manuals	Searches guides for solutions			G3,F2			
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Specify the concepts of tech. support and help desk.	Specify the concepts of tech. support and help desk			General Knowledge and Skills 1			
2. Use tech. support forms.	Fills the tech support forms			General Knowledge and Skills 6			
3. Specify communication skills and difficulties.	Lists communication elements			General Knowledge and Skills 2			
4. List Maintenance types.	List Maintenance types			Worker Behaviors 14			
5. Communicate with users in a fashioned way.	Skills in communications.			General Knowledge and Skills 5			

6. List the standard specifications of tech support employee.	List the standard specifications of tech support employee..	General Knowledge and Skills 2
7. Classify planned and total maintenance.	Classify planned and total maintenance	General Knowledge and Skills 1
8. Classify Telnet and FTP protocols.	Classify Telnet and FTP protocols	General Knowledge and Skills 1
9. List the steps of solving problems.	List the steps of solving problems	General Knowledge and Skills 1
10. Bring up creative ideas.	Creates personal suggestion about some troubles	G

Safety conditions:

- Apply Safety instructions in device manuals.
- Apply safe set rules.
- Apply safety instructions when using tools.

Theoretical and Practical Topics:	NOSS Related tasks	
	Criterion of Computer's user technician supporter.	
	Task	Task Description
○ Technical Support Approach: ○	General Knowledge and Skills 1	Understanding English technical expressions.
	Worker Behaviors 12	Good in dealing with colleagues and users.
	B1	Receives the maintenance request.
○ Creativity skills:	A4	Asks users to apply the suggested solutions.
	G	Continues to improve his work abilities.
	General Knowledge and Skills 6	The ability of technical analysis.
○ Internet searching:	G4	Follows the newest changes in the market.
○ Telnet and FTP usage:	F	Performs the periodic maintenance.
○ Remote control desktops:	E	Prepares the computer for network operation.
○ Use tech. support forms:	A	Solves the simple technical problems through telephone.
○ Planned and total maintenance concept:	General Knowledge and Skills 2	The proficiency of problem solving.
○ Help desk and tech support management:	B	Troubleshoots the technical problems at the user's site.
	E	Prepares the computer for network operation.
○ Tech support staff skills in communications:	General Knowledge and Skills 5	The ability of good communications with others.
	Worker Behaviors 6	Bearing work pressure.
○ Creativity:	G	Continues to improve his work abilities.

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
3	Tech support Approach: <ul style="list-style-type: none"> ○ Tech support definition. ○ Tech support advantages. ○ Tech support terms. ○ Levels of tech support forms. ○ Help desk definition. ○ Customer service concepts. ○ Advantages of good customer services. ○ Practical studies. 	Oral questions Editing Questions Self Practice Test Cases Study
3	Scientific thinking skills: <ul style="list-style-type: none"> ○ Importance. ○ Properties. ○ Methods: <ul style="list-style-type: none"> ● Assign problem reasons. ● Assign objectives. ● Assign possible solutions. ● Applying appropriate solutions. ○ Practical studies. 	Oral questions Simulation Editing Questions Self Practice Test Cases Study
3	Personal skills: <ul style="list-style-type: none"> ○ Communication skills. <ul style="list-style-type: none"> ● Direct. ● By phone. ● By Email. ● By Messages. ○ Communication troubles. ○ Practical studies. 	Notice (Practical performance) Editing Questions Self Practice Test Cases Study
6	Behavioral skills: <ul style="list-style-type: none"> ○ General skills in customer communications. <ul style="list-style-type: none"> ● Communication skills. ● Skills in recording important info. ● Skills in customer complains discussions. ● Skills in reporting troubles to customers. ● Skills in processing trouble solving. ● Punctuality. ○ Being Patient. <ul style="list-style-type: none"> ● Maximum patience. ● Islamic skills in patience. ● Modern Psychological concepts to 	Oral questions Notice (Practical performance) Simulation Self Practice Test Cases Study

	<p>improve patience.</p> <ul style="list-style-type: none"> • Patience advantages. ○ Temper in dealing with angry customers. ○ Manners: <ul style="list-style-type: none"> • Being nice with customers. • Positive thinking. • Creativity. • Being professional. ○ Practical studies. 	
4	<p>Full maintenance concept:</p> <ul style="list-style-type: none"> ○ Full maintenance definition. ○ Basic specifications of the full maintenance. ○ Full maintenance basis. ○ Planned maintenance Concept. ○ Planned maintenance specification: <ul style="list-style-type: none"> • Early defects recovery. • Shortening maintenance time. • Avoid same defects in future. • Create standers for Help desk jobs. • Teamwork style. ○ Maintenance types: <ul style="list-style-type: none"> • Periodic maintenance. • Urgent maintenance. 	<p>Oral questions Notice (Practical performance) Simulation Self Practice Test Cases Study</p>
3	<p>Organizing The help desk:</p> <ul style="list-style-type: none"> ○ Recording all events. ○ Spare parts. ○ Maintenance tools. ○ Training. ○ Work environment. 	<p>Oral questions Notice (Practical performance) Self Practice Test Cases Study</p>
4	<p>Creativity:</p> <ul style="list-style-type: none"> ○ Creativity definition. ○ Creativity specifications. ○ Methodological Creativity. ○ How to create maximum Solutions. ○ Creativity improving. ○ Practical studies. 	<p>Oral questions Simulation Editing Questions Self Practice Test Cases Study</p>

Detailed Practical Contents		
Hours	Contents	Evaluation Tools
4	<p>Searching the Internet:</p> <ul style="list-style-type: none"> ○ Search engines introduction. ○ Search engines definition. ○ Search engines parts. ○ Top Arabic and international search engines. ○ Advanced searching techniques. ○ Product manuals and guides usage in help desk jobs. ○ Practical issues in using Internet search engines to solve troubles. 	<p>Notice (Practical performance) Self Practice Test</p>
8	<p>Remote desktop connection:</p> <ul style="list-style-type: none"> ○ Remote desktop connection concept. ○ Remote desktop connection usage. ○ Remote desktop connection settings: <ul style="list-style-type: none"> ● Remote desktop connection setup. ● Remote desktop activation and access list. ● Remote desktop deactivation. ● Security settings when connecting to a remote desktop. ○ Remote desktop connection settings with WEB: <ul style="list-style-type: none"> ● Remote desktop with WEB setup. ● Create/delete Remote desktop with WEB. ○ Print a document remotely to a Local printer. ○ Software installation and file transferring between computers remotely: ○ File sharing. ○ Practical studies. 	<p>Notice (Practical performance) Self Practice Test</p>
5	<p>Telnet, Ping and FTP usage:</p> <ul style="list-style-type: none"> ○ Telnet concept. ○ Telnet usage. ○ FTP concept. ○ FTP usage. ○ Ping concept. ○ FTP software. ○ Information and privacy security. ○ Practical studies. 	<p>Notice (Practical performance), Editing Questions, Oral questions Self Practice Test</p>
8	<p>Using a specialized software to record and manage maintenance requests:</p>	<p>Notice (Practical performance), Editing Questions, Oral questions Self Practice Test</p>
References	<ol style="list-style-type: none"> 1. Introduction To TPM, Seiichi Nakajima, 1988, Productivity Press • Cambridge, MA, USA 2. Course Technology. A guide to customer service skills for help desk professional 2002 	

Department	Computer and Info. Technology			Major	Technical Support		
Course Name	Computer Hardware Maintenance			Course Code	SUP 137		
Prerequisites	CMT 127						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours			4				
Contact Hours (hours per week)	L		2				
	W		4				
	T		0				
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
This course introduces the theoretical and practical training on all computer accessories (Removable/Hard Drives – Opticals – Monitors – Scanners .. Etc) and its maintenance.							
General Objective:							
This course aims to provide trainees with basic skills in computer accessories installation and maintenance.							
Specific Objectives		Required Performance Specifications				NOSS Related tasks	
						Task No.	
A. Procedural Objectives: Trainee should be able to:							
1. Install/connect floppy disks drive..		Test the drive performance				B3, B4, B5	
2. Installs hard disk.		Apply installation instructions Confirms				B3, B4, B5	
3. Scans and format hard disks.		Format and create partitions as required				B3, B4, B5	
4. Installs SCSI Card.		Installs SCSI Card as in factory manual				B3, B4, B5	
5. Installs DVD and laser drives.		Installs DVD drivers as required and check their performance				B3, B4, B5	
6. Plugs Mouse and keyboard.		Install Mouse and keyboard in the appropriate inputs				B3, B4, B5	
7. Plug/Unplug and installs scanners.		Installs scanners as required and check their performance				B3, B4, B5	
8. Installs Modem, Sound and LAN card.		Plug the card in the appropriate input				B3, B4, B5	
9. Installs VGA card.		Check performance				B3, B4, B5	
10.Plugs monitors.		Apply security rules when installing monitors and checking performance.				B3, B4, B5	
11.Plugs printers.		Refer to factory manual when installing printers, print a test page				B3, B4, B5	
12.Install printer drivers.		Install printer drivers to work properly				B3, B4, B5	
13.Laptops maintenance.		Change battery and add memory appropriately				B3, B4, B5	
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Configures BIOS settings for floppy drive.		List Format and settings steps				B3, B4, B5	
2. Configures and execute F-Disk process.		List the process steps				B3, B4, B5	

3. Assures SCSI compatibility with hardware.	List main specifications of SCSI.	B3, B4, B5
4. Selects Drivers software.	Installs required software	B3, B4, B5
5. Lists some cards and their installation steps.	List computer cards	B3, B4, B5
6. List security instructions for monitors.	List security instructions for monitors	B3, B4, B5
7. List printer installation requirements.	List printer installation steps	B3, B4, B5
8. List ports/plugs types.	List Mouse and keyboard .. etc plugs	B3, B4, B5
9. List I/Q and IRQ titles.	List installation steps	B3, B4, B5
10. List scanners specifications.	List some scanner specifications	B3, B4, B5
11. Lists some Laptop brand names.	List 2 well known brand names	B3, B4, B5

Safety conditions:

- Apply Safety instructions in device manuals.
- Apply safe set rules.
- Apply safety instructions when using tools.

Theoretical and Practical Topics:	NOSS Related tasks	
	Criterion of Computer's user technician supporter.	
	Task	Task Description
○ Floppy drives:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Hard disks:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ CD drives:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Mouse and Keyboard:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Scanners:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Accessories cards:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ VGA card:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Monitors:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ LCD Monitors:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
○ Printers:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions
○ Laptop:	B3	Makes the examination on the computer
	B4	Determines the possible solutions
	B5	Applies the possible solutions

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
2	Floppy drives: <ul style="list-style-type: none"> ○ Install floppy drive. ○ Connectors and Data. ○ Capacity. ○ Floppy disk format. ○ Solving floppy drive troubles. 	Oral questions Written questions Self- test
3	Hard disks: <ul style="list-style-type: none"> ○ Hard disk structure and installation. ○ Hard disk functions. ○ Hard disk Connectors. ○ Hard disk file system, format and partitions. ○ Hard disk trouble fixing. 	Oral questions Written questions Self- test
2	CD drives: <ul style="list-style-type: none"> ○ CD drive types. ○ CD drive installation. ○ Multiple CD drives. ○ DVD. ○ CD drive connectors. 	Oral questions Written questions Self- test
2	Mouse and Keyboard: <ul style="list-style-type: none"> ○ Keyboard installation. ○ Keyboard types. ○ Keyboard socket types. ○ Mouse types. ○ Mouse socket types. ○ Mouse and keyboard troubles solving. 	Simulation Oral questions Written questions Self- test Projects
2	Scanners: <ul style="list-style-type: none"> ○ Scanning process. ○ Scanner standards. ○ Scanner function. ○ Ideas about other scanning devices. ○ Scanner to computer connection. ○ Scanner troubleshooting. 	Simulation Oral questions Written questions Self- test Projects
3	Expansionary sockets: <ul style="list-style-type: none"> ○ Ports types. ○ Inputs. ○ Outputs. ○ SCSI Cards. ○ Modems. ○ LAN Card. ○ Sound Card. ○ Expansionary sockets troubleshooting. 	Simulation Oral questions Written questions Self- test

2	VGA card: <ul style="list-style-type: none"> ○ VGA card function. ○ VGA card standards. ○ VGA card specifications. ○ VGA card types. ○ VGA card plugging. ○ VGA card troubleshooting. 	Oral questions Written questions Self- test
2	Monitors: <ul style="list-style-type: none"> ○ Monitor standards. ○ LCD Monitor installation. ○ LCD function. ○ LCD visuals. ○ LCD troubleshooting. 	Simulation Oral questions Written questions Self- test
2	LCD Flatrons: <ul style="list-style-type: none"> ○ LCD. ○ LCD specifications. ○ One touch systems. ○ LCD trouble solving. 	Oral questions Written questions Self- test
4	Printers: <ul style="list-style-type: none"> ○ Printer standards. ○ Printer types and functions. ○ Printer languages. ○ Printer computer connection. ○ Printer maintenance and troubleshooting. 	Simulation Oral questions Written questions Self- test
2	Laptops: <ul style="list-style-type: none"> ○ Differences between desktop and Laptop computers. ○ Motherboards and main chips. ○ Basic knowledge about laptops. ○ Laptops maintenance. 	Oral questions Written questions Self- test

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
2	Floppy drives: <ul style="list-style-type: none"> ○ Install floppy drive. ○ Connectors and Data. ○ Capacity. ○ Floppy disk format. ○ Solving floppy drive troubles. 	Notice (Practical performance) Oral questions Written questions Self- test
10	Hard disks: <ul style="list-style-type: none"> ○ Hard disk structure and installation. ○ Hard disk functions. ○ Hard disk Connectors. ○ Hard disk file system, format and partitions. ○ Hard disk trouble fixing. 	Notice (Practical performance) Oral questions Written questions Self- test
3	CD drives: <ul style="list-style-type: none"> ○ CD drive types. ○ CD drive installation. ○ Multiple CD drives. ○ DVD. ○ CD drive connectors. 	Notice (Practical performance) Oral questions Written questions Self- test Projects
3	Mouse and Keyboard: <ul style="list-style-type: none"> ○ Keyboard installation. ○ Keyboard types. ○ Keyboard socket types. ○ Mouse types. ○ Mouse socket types. ○ Mouse and keyboard troubles solving. 	Notice (Practical performance) Oral questions Written questions Self- test Projects
4	Scanners: <ul style="list-style-type: none"> ○ Scanning process. ○ Scanner standards. ○ Scanner function. ○ Ideas about other scanning devices. ○ Scanner to computer connection. ○ Scanner troubleshooting. 	Notice (Practical performance) Oral questions Written questions Self- test Projects
6	Expansionary sockets: <ul style="list-style-type: none"> ○ Ports types. ○ Inputs. ○ Outputs. ○ SCSI Cards. ○ Modems. ○ LAN Card. ○ Sound Card. ○ Expansionary sockets troubleshooting. 	Notice (Practical performance) Oral questions Written questions Self- test Projects

4	VGA card: <ul style="list-style-type: none"> ○ VGA card function. ○ VGA card standards. ○ VGA card specifications. ○ VGA card types. ○ VGA card plugging. ○ VGA card troubleshooting. 	Notice (Practical performance) Oral questions Written questions Self- test
4	Monitors: <ul style="list-style-type: none"> ○ Monitor standards. ○ LCD Monitor installation. ○ LCD function. ○ LCD visuals. ○ LCD troubleshooting. 	Notice (Practical performance) Oral questions Written questions Self- test Projects
6	LCD Flatrons: <ul style="list-style-type: none"> ○ LCD. ○ LCD specifications. ○ One touch systems. ○ LCD trouble solving. 	Notice (Practical performance) Oral questions Written questions Self- test
10	Printers: <ul style="list-style-type: none"> ○ Printer standards. ○ Printer types and functions. ○ Printer languages. ○ Printer computer connection. ○ Printer maintenance and troubleshooting. 	Notice (Practical performance) Oral questions Written questions Self- test Projects

References	1. Scott Mueller, Upgrading and Repairing PCs, 17th edition, Que, March 2006. 2. All – in –one A+ certification Exam Guide, 5th edition.
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Department	Computer and Info. Technology			Major	Technical Support		
Course Name	Fundamentals of Computer Security			Course Code	SUP 267		
Prerequisites	124 SUP						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours					4		
Contact Hours (hours per week)	L				2		
	W				4		
	T				0		
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
This course introduces the basic concepts of computer and networks security through theoretical and practical studies, including study of information security importance and difficulties and how to block computer hackers and setup security levels and permissions. Wireless network security also included.							
General Objective:							
This course aims to provide trainees with basic skills in information and computer security field and how to deal with security issues.							
Specific Objectives			Required Performance Specifications		NOSS Related tasks		
					Task No.		
A. Procedural Objectives: Trainee should be able to:							
1. Creates security certificates.			Creates/Delete/Change required cert.		C		
2. Applies Info. Security standards.			Applies Info. Security standards		C		
3. Secures wireless networks.			Creates access limits		E2		
4. Creates secure passwords			Creates high secured passwords Passwords with expiry date Retrieve lost passwords		Safety instructions in C, D, E, F		
5. Blocks Hacking attempts.			Detects intrusion attempts. Creates defense lines Installs and updates Anti-Virus software		C2,C3, C5, F3, F5, C7		
6. Uses standard encryption methods.			Uses standard encryption methods		Safety instructions in C, D, E, F		
7. Sets access levels.			Sets users access levels.		Safety instructions in C, D, E, F		
8. Manages security software.			Installs and updates Anti-Virus software		F3, C2		
9. Installs VPN.			Installs VPN		E2		
10. Creates data backups.			Creates/restore Backups		C4		
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Discuss the security issue.			Importance/Difficulties of information security		C		
2. Participates in setting security cert.			Execute/arrange/delete .. etc		C		
3. Lists info security standards.			Lists info security standards		C		

4. Lists wireless network security means.	Lists wireless network security means	E2
5. Shows how to generate secured passwords.	Shows how to generate secured passwords	Safety instructions in C, D, E, F
6. Discusses Hacking attempts and protection procedures.	Discusses Hacking attempts and protection procedures	C2,C3, C5, F3, F5, C7
7. Discusses Encryption types.	Discusses Encryption types	Safety instructions in C, D, E, F
8. Lists security levels.	Lists security levels	Safety instructions in C, D, E, F
9. Lists VPN properties.	Lists VPN properties	E2
10. Get updates about info security.	Get updates about info security	G4
11. Lists data backup steps.	Lists data backup steps	C4
Safety conditions:		
<ul style="list-style-type: none"> ○ Maintain the devices. ○ Maintain safety instruction when using tools. ○ Make test on Peer to peer network. ○ Never Upload any Virus before informing the trainer. 		
Theoretical and Practical Topics:	NOSS Related tasks	
	Criterion of Computer's user technician supporter.	
	Task	Task Description
○ Information security basics:	C	Performs the basic support for the application. programs and operating systems
	G4	Follows the newest changes in the market.
○ Passwords:	Safety instructions in C, D, E, F	keep informantion secured.
○ Hacking protection Techniques:	C2	Uses the inspection programs.
	C3	Determines the possible solutions.
	C5	Applies the suitable solution.
	F3	Updates the security programs.
	F5	Removes the unnecessary files & programs.
	C7	Upgrades the programs and operating systems.
○ VPN:	E2	Examines the network settings.
○ Cryptography:	Safety instructions in C, D, E, F	keep informantion secured.
○ Backup/restore data:	C2	Uses the inspection programs.
	C4	Back up the computer data.

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
1	Information Security Basics: <ul style="list-style-type: none"> ○ Why info security is important?. ○ Why info security is hard?. ○ Info security terms. ○ Info security updates. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
3	Passwords: <ul style="list-style-type: none"> ○ Passwords importance and policy: <ul style="list-style-type: none"> ● Avoid general words. ● Letters and numbers passwords. ● Password length. ● Password change. ○ Password techniques: <ul style="list-style-type: none"> ● Single word technique. ● Location technique. ● Scramble technique. ● Footnote technique. ● Letters technique. ● Personal technique. ○ Password protection and secret questions. ○ Info security updates. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
8	Hacking protection Techniques: <ul style="list-style-type: none"> ○ Attack Defending Techniques. ○ Hacking attempts must be blocked. <ul style="list-style-type: none"> ● Viruses. ● Worms. ● Trojan Horse. ● Spyware. ● Root kits. ● DOS. ● Time bomb. ● Network virus. ● New threats. ○ Anti-Virus software. ○ Firewall. <ul style="list-style-type: none"> ● Firewall types. ● Firewall updates. ○ DMZ. ○ Intrusion detection techniques: <ul style="list-style-type: none"> ● NetStat. ● RegEdit. ○ Security Logs. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study

	<ul style="list-style-type: none"> ○ Windows Auditing: <ul style="list-style-type: none"> ● Auditing planning. ● Auditing application. ● Logs reading. 	
6	<p>VPN:</p> <ul style="list-style-type: none"> ○ What's VPN and its security advantages?. ○ SSH (Secure Shell). ○ SSL (Secure Socket Layer). ○ PPTP (Point To Point Tunneling Protocol) and IPSec. ○ Open VPN. ○ Software -VPN : Hamachi , ,. ○ Security issues with wireless network. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
4	<p>Cryptography:</p> <ul style="list-style-type: none"> ○ Encryption function. ○ Public Key Encrypt/decrypt. ○ Private Key Encrypt/decrypt. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
4	<p>Backup/restore data:</p> <ul style="list-style-type: none"> ○ Using helping tools with backups. ○ Data backup. ○ Data restore. ○ ASR usage. ○ Backup types. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study

Detailed Practical Contents		
Hours	Contents	Evaluation Tools
6	<p>Passwords:</p> <ul style="list-style-type: none"> ○ Passwords importance and policy. <ul style="list-style-type: none"> ● Avoid general words. ● Letters and numbers passwords. ● Password length. ● Password change. ○ Password techniques: <ul style="list-style-type: none"> ● Single word technique. ● Location technique. ● Scramble technique. ● Footnote technique. ● Letters technique. ● Personal technique. ○ Password protection and secret questions. ○ Info security updates. 	<p>Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study</p>
10	<p>Hacking protection Techniques:</p> <ul style="list-style-type: none"> ○ Attack Defending Techniques. ○ Hacking attempts must be blocked. <ul style="list-style-type: none"> ● Viruses. ● Worms. ● Trojan Horse. ● Spyware. ● Root kits. ● DOS. ● Time bomb. ● Network virus. ● New threats. ○ Anti-Virus software. ○ Firewall: <ul style="list-style-type: none"> ● Firewall types. ● Firewall updates. ○ DMZ. ○ Intrusion detection techniques: <ul style="list-style-type: none"> ● NetStat. ● RegEdit. ○ Security Logs. ○ Windows Auditing: <ul style="list-style-type: none"> ● Auditing planning. ● Auditing application. ● Logs reading. 	<p>Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study</p>

10	VPN: <ul style="list-style-type: none"> ○ What's VPN and its security advantages?. ○ SSH (Secure Shell). ○ SSL (Secure Socket Layer). ○ PPTP (Point To Point Tunneling Protocol) and IPSec. ○ Open VPN. ○ Software -VPN : Hamachi , ,. ○ Security issues with wireless network. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
6	Cryptography: <ul style="list-style-type: none"> ○ Encryption function. ○ Public Key Encrypt/decrypt. ○ Private Key Encrypt/decrypt. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study
10	Backup/restore data: <ul style="list-style-type: none"> ○ Using helping tools with backups. ○ Data backup. ○ Data restore. ○ ASR usage. ○ Backup types. 	Notice (Practical performance) Oral questions Editing Questions Self Practice Test Cases Study

References	<ol style="list-style-type: none"> 1. SECURITY + STUDY GUIDE AND DVD TRAINING SYSTEM SYNGRESS SHINDER BOOKS. 2. DESIGNING NETWORK SECURITY – MERILE KAE0. 3. MASTERING NETWORK SECURITY – CHRIS BRENTON. 4. COMPUTER SECURITY AND PRIVACY O'REILLY. 5. MCSE MCSA Microsoft Windows XP Arabic scientific publishers. 6. Computer security ; by Dieter Gollman. 7. Principles of information security ; by Michael Whitman. 8. Introduction to Computer security. 9. http:// www.grc.com. 10. http://www.cert.org. 11. http://netsecurity.about.com. 12. http://en.wikipedia.org/wiki/Computer security.
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Department	Computer and Info. Technology			Major	Technical Support		
Course Name	LAN Support			Course Code	SUP 247		
Prerequisites	NET 107						
Trimester	1	2	3	4	5	6	Cooperative
Credit Hours					4		
Contact Hours (hours per week)	L				2		
	W				4		
	T				0		
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>							
Course description:							
<p>This course concerns about basic skills in using and operating Local Network devices including wireless local network.</p> <p>Training is on Switches, and access points in wireless networks and managing/designing the networks through theoretical and practical study.</p>							
General Objective:							
This course aims for providing trainees with skills in operating switches and panels of the network and controlling the network access.							
Specific Objectives	Required Performance Specifications	NOSS Related tasks					
		Task No.					
A. Procedural Objectives: Trainee should be able to:							
1. Configures Router.	Configures Router	E					
2. Uses switches with LANs.	Uses switches with LANs	E					
3. Installs Ethernet LANs.	Installs Ethernet LANs	E					
4. Installs VLANs.	Installs VLANs	E					
5. Installs WLAN access points.	Installs WLAN access points	E					
6. Installs WLAN bridges.	Installs WLAN bridges	E					
7. Selects appropriate antennas for WLANs.	Selects appropriate antennas for WLANs	E					
8. WLAN security.	WLAN security	E					
B. Behavioural and Cognitive Objectives: Trainee should be able to:							
1. Lists LAN and WLAN properties.	Lists LAN and WLAN properties	E					
2. Lists Ethernet LAN properties.	Lists Ethernet LAN properties	E					
3. Lists WLAN security properties.	Lists WLAN security properties	E					
Safety conditions:							
<ul style="list-style-type: none"> ○ Maintain the devices. ○ Maintain safety instruction when using tools. 							
Theoretical and Practical Topics:	NOSS Related tasks						
	Criterion of Computer's user technician supporter.						
	Task	Task Description					
○ Routing Fundamentals:	E	Prepares the computer for network operation					
○ LAN Switching:	E	Prepares the computer for network operation					



○ VLANs:	E	Prepares the computer for network operation
○ WLANs 802.11b/g/a:	E	Prepares the computer for network operation
○ Access Points:	E	Prepares the computer for network operation
○ Wireless Bridges:	E	Prepares the computer for network operation
○ Antennas:	E	Prepares the computer for network operation
○ WLAN Security:	E	Prepares the computer for network operation

Detailed theoretical Contents		
Hours	Contents	Evaluation Tools
4	Routing Fundamentals: <ul style="list-style-type: none"> ○ Router Contents. ○ Routers Protocols. ○ RIP. 	Oral questions Written questions Self- test
4	LAN Switching: <ul style="list-style-type: none"> ○ Switching basics. ○ Conflict and spread points. ○ LAN Segmentation. ○ Switch types. ○ Fast Ethernet and Gigabit Ethernet. 	Oral questions Written questions Self- test
4	VLANs: <ul style="list-style-type: none"> ○ VLANs types. ○ VLANS basics. ○ VLAN Routing. 	Oral questions Written questions Self- test
1	WLAN 802.11b/g/a: <ul style="list-style-type: none"> ○ Standard 802.11b. ○ Standard 802.11g. ○ Standard 802.11a. 	Oral questions Written questions Self- test
3	Access Points: <ul style="list-style-type: none"> ○ Access point types. ○ Access points. ○ Roaming. ○ Access points settings. 	Oral questions Written questions Self- test
3	Wireless Bridges: <ul style="list-style-type: none"> ○ Wireless Bridges types. ○ Access point to point connection. ○ Access point to multi-points connection. ○ Wireless Bridges Settings. 	Oral questions Written questions Self- test
3	Antennas: <ul style="list-style-type: none"> ○ Antennas Properties. ○ One line Antennas. ○ Multi-lines antennas. ○ Frequency-Height-Distance-Power. Properties. 	Oral questions Written questions Self- test
4	WLAN Security: <ul style="list-style-type: none"> ○ WLAN Security basics. ○ Cryptography. ○ WEP Protocol. ○ Advanced security Protocols. 	Oral questions Written questions Self- test

Detailed Practical Contents		
Hours	Contents	Evaluation Tools
8	Routing Fundamentals: <ul style="list-style-type: none"> ○ Router Contents. ○ Routers Protocols. ○ RIP. 	Notice (Practical performance) Oral questions Written questions Self- test
8	LAN Switching: <ul style="list-style-type: none"> ○ Switching basics. ○ Conflict and spread points. ○ LAN Segmentation. ○ Switch types. ○ Fast Ethernet and Gigabit Ethernet. 	Notice (Practical performance) Oral questions Written questions Self- test
8	VLANs: <ul style="list-style-type: none"> ○ VLANs types. ○ VLANS basics. ○ VLAN Routing. 	Notice (Practical performance) Oral questions Written questions Self- test
4	WLAN 802.11b/g/a: <ul style="list-style-type: none"> ○ Standard 802.11b. ○ Standard 802.11g. ○ Standard 802.11a. 	Notice (Practical performance) Oral questions Written questions Self- test
6	Access Points: <ul style="list-style-type: none"> ○ Access point types. ○ Access points. ○ Roaming. ○ Access points settings. 	Notice (Practical performance) Oral questions Written questions Self- test
6	Wireless Bridges: <ul style="list-style-type: none"> ○ Wireless Bridges types. ○ Access point to point connection. ○ Access point to multi-points connection. ○ Wireless Bridges Settings. 	Notice (Practical performance) Oral questions Written questions Self- test
6	Antennas: <ul style="list-style-type: none"> ○ Antennas Properties. ○ One line Antennas. ○ Multi-lines antennas. ○ Frequency-Height-Distance-Power. Properties. 	Notice (Practical performance) Oral questions Written questions Self- test
6	WLAN Security: <ul style="list-style-type: none"> ○ WLAN Security basics. ○ Cryptography. ○ WEP Protocol. ○ Advanced security Protocols. 	Notice (Practical performance) Oral questions Written questions Self- test

References	Wireless Network Fundamentals, Cisco Networking Academy Program, Student Companion Guide, Cisco Press.
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Department	Computer and Info. Technology		Major	Technical Support		
Course Name	Preparation for Professional Certificates		Course Code	SUP 290		
Prerequisites	NET 107 and CMT 137					
Trimester	1	2	3	4	5	6
Credit Hours					1	Cooperative
Contact Hours (hours per week)	L				0	
	W				2	
	T				0	
<i>L = Lecture Hours, W = Workshop/Laboratory Hours, T = Tutorial Hours</i>						
Course description:						
<p>This course provides the necessary skills to train the trainee to get the professional certificate in computer maintenance A+. It also give the trainee a details description about the professional certificates needed in the job market, which endorse his knowledge about the different level of certificate and how to prepare for them.</p> <p>It is advisable to give full mark to the trainee who gets A+ certificate.</p>						
General Objective:						
This course aims at gaining the trainee the necessary skills to pass and get A+ certificate.						
Specific Objectives	Required Performance Specifications		NOSS Related tasks			
			Task No.			
A. Procedural Objectives: Trainee should be able to:						
B. Behavioural and Cognitive Objectives: Trainee should be able to:						
1. Defines the professional certificate in computer field.	Enumerates the professional certificate in computer field		G2, G3			
2. Defines the professional certificate in technical support.	Enumerates the professional certificate in technical support		G2, G3			
3. Defines the job perspective based on professional certificate in network technology of specialized company.	Defines the job perspective based on specialized technical support company		G2, G3			
4. Enroll for the A+ certificate exam.	Fills the form of A+ exam and define the prerequisite of the exam		G2, G3			
Safety conditions:						
<ul style="list-style-type: none"> ○ Preserve network devices ○ Follow (Maintain) safety instructions when using tools 						
Theoretical and Practical Topics:	NOSS Related tasks					
	Criterion of Computer's user technician supporter.					
○ Introduction to professional certificate in computer field:	Task	Task Description				
	G2	Joins the training sessions.				
○ Professional certificate in technical support:	G3	Looks into specialized books, journals and newsletters.				
	G2	Joins the training sessions.				
	G3	Looks into specialized books, journals and newsletters.				

○ Job perspective based on professional certificate in technical support of specialized company:	G2	Joins the training sessions.
	G3	Looks into specialized books, journals and newsletters.
○ A+ certificate:	G2	Joins the training sessions.
	G3	Looks into specialized books, journals and newsletters.
○ Preparing for A+ Exam:	G2	Joins the training sessions.
	G3	Looks into specialized books, journals and newsletters.

Detailed Practical Contents		
Hours	Contents	Assessment Tools
2	Introduction to professional certificate in computer field: <ul style="list-style-type: none"> ○ Professional certificates in Network technology. ○ Professional certificates in network management. ○ Professional certificates in maintaining and operating computer. ○ Professional certificates in information security. 	Direct notice (practical performance) Imitation Written questions Self- test Projects Case studies
3	Professional certificate in technical support: <ul style="list-style-type: none"> ○ Professional certificates in technical support technology. ○ Professional certificates in technical support. ○ Professional certificates in maintenance and operation of computer. ○ Professional certificates in security information. 	Direct notice (practical performance) Imitation Written questions Self- test Projects Case studies
2	Job perspective based on professional certificate of specialized company in technical support:	Direct notice (practical performance), Imitation, Written questions, Self- test, Projects, Case studies
8	A+ Certificate for computer maintenance: <ul style="list-style-type: none"> ○ Exam method. ○ Number of questions. ○ How to enroll for the exam. ○ How to do the exam. ○ Exam blueprint. ○ Pass mark. 	Direct notice (practical performance) Imitation Written questions Self- test Projects Case studies
11	Preparing for A+ Exam: <ul style="list-style-type: none"> ○ Moral and psychological preparation. ○ Exam sampling. 	Direct notice (practical performance), Imitation, Written questions, Self- test, Projects, Case studies

References	Todd Lammale. CCNA Study Guide, Sybex 6 th edition.
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