

COURSE ELT2070: COMPUTER TECHNOLOGY**Level:** Intermediate**Theme:** Computer Logic Systems**Prerequisite:** None**Description:** Students develop the knowledge and skills required to install and configure a disc operating system and to set up a computer network.**Parameters:** A working computer, modem, printer, cables, software, basic hand tools and related resources.**Supporting Course:** ELT2060 Digital Technology 2**Curriculum and Assessment Standards**

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • disassemble/assemble a working computer, and perform basic troubleshooting procedures 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • identifying the various subsystems of a computer • disassembling a computer into its subsystems • assembling a computer from the above parts • setting the system configurations switches • installing monitor/keyboard • demonstrating basic computer troubleshooting techniques • demonstrating consumer maintenance • reformatting a hard disk drive. <p><i>Assessment Tool</i> <i>ELTLAB-1: Laboratory Practice, Parts 2, 3 and 4</i></p> <p><i>Standard</i> <i>Performance rating of 2 for each applicable task</i></p>	<p>30</p>

COURSE ELT2070: COMPUTER TECHNOLOGY (continued)

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • set up a computer network • demonstrate established laboratory procedures and safe work practices • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • observed performance in: <ul style="list-style-type: none"> – connecting a modem to a computer – connecting more than one printer to a network – connecting several computers to form a network. <p><i>Assessment Tool</i> <i>ELTLAB-1: Laboratory Practice, Part 3</i></p> <p><i>Standard</i> <i>Performance rating of 2 for each applicable task</i></p> <ul style="list-style-type: none"> • observed performance in following: <ul style="list-style-type: none"> – established laboratory procedures including: <ul style="list-style-type: none"> • protective covering on power supplies • working with metal jewelry • using personal grounding systems. <p><i>Assessment Tool</i> <i>ELTPSP: Assessment Checklist: Laboratory Procedures and Safety Practices</i></p> <p><i>Standard</i> <i>Performance rating of 2 for each applicable task</i></p> <ul style="list-style-type: none"> • observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>10</p> <p>5</p> <p>Integrated throughout</p>

Concept	Specific Outcomes	Notes
<p>Safety/Resource Management</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • recognize the purpose of the protective covering on computer power supply and understand voltage and current levels • describe grounding methods when working on computers and use personal grounding systems, such as ankle, wrist straps. 	<p>Remove metal jewelry while working on the computer.</p>

COURSE ELT2070: COMPUTER TECHNOLOGY (continued)

Concept	Specific Outcomes	Notes
Fundamentals	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • research the history of computer and processors • research the various operating systems of computers • define the following terms: <ul style="list-style-type: none"> – central processing unit – bus – arithmetic logic unit – execute/fetch – instruction set – instruction cycle – memory: RAM, EPROM, ROM – software – microprocessor – data (8-bit versus 16-bit versus 32-bit bus) – macro instruction – micro instruction – mnemonics – operating code – address – assembler • describe the environmental, social, economic and political contribution that computers have made to our social fabric • use a disk operating system user’s guide. 	

COURSE ELT2070: COMPUTER TECHNOLOGY (continued)

Concept	Specific Outcomes	Notes
System Identification	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • identify the following parts of a computer: <ul style="list-style-type: none"> – power supply – system board (mother board) – random access memory (RAM) – read only memory (ROM) – jumpers – config switches – video adapter – disk controller card – floppy disk – hard drive – signal cable (disk drive) – monitor – keyboard – printer – video control card – power cable • assemble a computer from the above parts • set the system configuration switches • install computer operating system • install monitor/keyboard • test out computer • demonstrate basic computer troubleshooting techniques • use a system board flow chart to locate a system board fault • list symptoms of hard disk drive failure • demonstrate consumer maintenance • explain the use of debug, Fdisk and format • reformat a hard disk drive. 	
System Application	<ul style="list-style-type: none"> • connect a modem to a computer • connect more than one printer to a network • connect several computers to form a network 	

COURSE ELT2070: COMPUTER TECHNOLOGY (continued)

Concept	Specific Outcomes	Notes
System Application (continued)	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • install an operating system • perform simple operating system commands • create a config.sys file • create an autoexec.bat batch file • describe basic commands • create a basic program. 	<p>DOS-format commands:</p> <ul style="list-style-type: none"> • Xcopy • Comp. <p>MAC:</p> <ul style="list-style-type: none"> • System folder • Start-up item • Extension • Control panels.
Real-world Applications	<ul style="list-style-type: none"> • define a computer clone • name eight basic hardware courses that make up a computer • identify the system and explain its layout • explain the different sizes and types of expansion boards • identify and compare serial and parallel ports • identify a multi-input/output option adapter cards • explain memory expansion methods • explain the operation of a hard drive • explain how a floppy diskette operates • name the types of cathode-ray tube (CRT) video monitors • define and describe various purposes of software • explain the computer's initialization process • differentiate between start-up procedures. 	