

COURSE TOPICS	<u>CONTACT HOURS</u> PER TOPIC
I. Introduction to Computer Repair	5
II. Motherboard Concepts	5
III. System Configuration	5
IV. Disassembly/Reassembly	5
V. Basic Electronics & Power	5
VI. Logical Troubleshooting	5
VII. Memory	10
VIII. Hard Drives	10
IX. Peripheral Devices	5
X. Hands-on Testing	5

PROGRAM TITLE: Computer Engineering Technology
 COURSE TITLE: Computer Peripherals and Interfacing
 CIP NUMBER: 0615.040200

LIST PERFORMANCE STANDARDS ADDRESSED:

NUMBER(S): TITLES(S):

01.0 DEMONSTRATE PROFICIENCY IN COMPUTER SYSTEMS ARCHITECTURE—The student will be able to:

- 01.01 Draw and explain systems configurations in block detail.
- 01.02 Interpret computer acronyms.
- 01.03 Identify and define priorities and interrupts at system level.
- 01.04 Define and list direct memory access handling systems.
- 01.05 Define functions of advanced memory techniques (e.g. virtual, pipeline, cache).
- 01.06 Troubleshoot a microcomputer system.

02.0 DEMONSTRATE PROFICIENCY IN SOFTWARE FUNDAMENTALS—The student will be able to:

- 02.09 Analyze firmware concepts.

05.0 DEMONSTRATE PROFICIENCY IN CUSTOMER SITE REQUIREMENTS AND CONSIDERATIONS—The student will be able to:

- 05.03 Calculate and determine power requirements.
- 05.04 Calculate and determine environmental requirements.

11.0 DEMONSTRATE PROFICIENCY IN THE ANALYSIS AND DESIGN OR PERHIPHERAL EQUIPMENT USED IN COMPUTER SYSTEMS—The student will be able to:

- 11.02 Analyze various types of disk drives and disk drive controllers.
- 11.05 Describe the use of RAM (Random-Access Memory) and ROM (Read-Only Memory) for font generation in video display systems.
- 11.08 Pointing devices for computer systems.

12.0 DEMONSTRATE APPROPRIATE COMMUNICATION SKILLS—The student will be able to:

- 12.02 Read and understand graphs, charts, diagrams, and tables commonly used in this industry /occupation area.
- 12.03 Read and follow written and oral instructions.

PROGRAM TITLE: Biomedical Engineering Technology
COURSE TITLE: Computer Peripherals and Interfacing
CIP NUMBER: 1615.040101

LIST PERFORMANCE STANDARDS ADDRESSED:

NUMBER(S): TITLES(S):

03.0 APPLY BASIC SOFTWARE SKILLS RELATED TO BIOMEDICAL ENGINEERING TECHNOLOGY - The student will be able to:

- 03.01 Understand word processing software functions.
- 03.02 Understand database software functions.
- 03.03 Understand spreadsheet software functions.
- 03.04 Understand Computer Aided Design (CAD) software functions.
- 03.05 Understand Internet functions.
- 03.06 Demonstrate proficiency in using word processors for written reports and communication.
- 03.07 Demonstrate proficiency in searching and working with databases.
- 03.08 Demonstrate proficiency in using spreadsheets for basic data analysis.
- 03.09 Demonstrate proficiency in using CAD to analyze basic biomedical systems.
- 03.10 Demonstrate proficiency using CAD to troubleshoot basic biomedical systems.
- 03.11 Demonstrate proficiency in utilizing Internet resources.

07.0 UNDERSTAND BASIC ELECTRONICS/COMPUTER PRINCIPLES - The student will be able to:

- 07.01 Understand basic electrical signals.
- 07.02 Understand basic linear/nonlinear DC analysis.
- 07.03 Understand basic linear AC analysis.
- 07.04 Understand basic digital analysis.
- 07.05 Utilize electrical passive, active, linear, and non-linear components.
- 07.06 Understand electrical diagrams.
- 07.07 Understand microprocessors and microcontrollers.
- 07.08 Understand power systems.
- 07.09 Understand data acquisition techniques.
- 07.10 Understand computer interface concepts.
- 07.11 Understand biomedical instrumentation.
- 07.12 Demonstrate proficiency in reading electrical diagrams.
- 07.13 Demonstrate proficiency in analyzing basic electrical systems.
- 07.14 Demonstrate proficiency in troubleshooting basic electrical systems.
- 07.15 Demonstrate proficiency in repairing basic electrical systems.
- 07.16 Demonstrate proficiency in electrical measurements.
- 07.17 Demonstrate proficiency in computer interfacing research, manufacturing, and hospital applications.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

Section 1	
COURSE PREFIX AND NUMBER: <u>CET 2172</u>	SEMESTER CREDIT HOURS: <u>3</u>
COURSE TITLE: <u>Computer Peripherals and Interfacing</u>	

Section 2

TYPE OF COURSE: (Click on the box to check all that apply)

<input type="checkbox"/> AA Elective	<input type="checkbox"/> AS Required Professional Course	<input type="checkbox"/> College Prep
<input type="checkbox"/> AS Professional Elective	<input checked="" type="checkbox"/> AAS Required Professional Course	<input type="checkbox"/> Technical Certificate
<input type="checkbox"/> Other _____		
<input type="checkbox"/> General Education: (For General Education courses, you must also complete Section 3 and Section 7)		

Section 3 (If applicable)

INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:

<input type="checkbox"/> Communications	<input type="checkbox"/> Social & Behavioral Sciences	<input type="checkbox"/> Mathematics
<input type="checkbox"/> Natural Sciences	<input type="checkbox"/> Humanities	

Section 4

INTELLECTUAL COMPETENCIES:

<input checked="" type="checkbox"/> Reading	<input checked="" type="checkbox"/> Speaking	<input checked="" type="checkbox"/> Critical Analysis	<input checked="" type="checkbox"/> Quantitative Skills	<input type="checkbox"/> Scientific Method of Inquiry
<input checked="" type="checkbox"/> Writing	<input checked="" type="checkbox"/> Listening	<input type="checkbox"/> Information Literacy	<input checked="" type="checkbox"/> Ethical Judgment	<input checked="" type="checkbox"/> Working Collaboratively

Section 5	LEARNING OUTCOMES	METHOD OF ASSESSMENT
•	The student can accurately identify common computer ports and explain their purpose.	Hands-on exercises, written quizzes and tests.
•	The student can accurately identify common computer parts and explain their purpose.	Hands-on exercises, written quizzes and tests.
•	The student can disassemble and reassemble a computer and verify its operation.	Hands-on exercises, written quizzes and tests.
•	The student understands common computer terms.	Hands-on exercises, written quizzes and tests.
•	The student can upgrade a BIOS.	Hands-on exercises, written quizzes and tests.
•	The student can document the parts of the computer.	Hands-on exercises, written quizzes and tests.
•	The student understands the purpose of an IRQ, I/O address, DMA channel, and memory address, identify which resources are being used, and be able to control these resources	Hands-on exercises, written quizzes and tests.
•	The student can install an adapter, verify the resources being used, and manipulate resources being used.	Hands-on exercises, written quizzes and tests.
•	The student can document the system resources used in a system.	Hands-on exercises, written quizzes and tests.
•	The student understands the purpose and types of power supplies.	Hands-on exercises, written quizzes and tests.

Section 6 Name of Person Completing This Form: <u>Ernie Friend</u>	Date: <u>03/09/06</u>
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