6/10/2025	DATE	TEC	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☑	ELECTIVE COURSE	☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	EET-060	**TITLE:** *(30 Characters Max)*	Computer Hardware								
SEM CR HRS:	3.0	**Lecture:**	2.0	**Lab:**	2.0	**ICCB Lab:**	2.0	**ECH:**	4.0		
Course Level:	☐ Gen Ed/IAI ☐ Baccalaureate/Non-IAI ☑ Career/Technical ☐ Dev Ed/Not in Degree Audit			**Clinical Practicum:**	0.0	**Work-based Learning:**	0.0	**WBL ECH:**	0.0		
Course PCS & CIP:	12 - 15.1203	**IAI Code:**	N/A	**Contact Hours (Minutes/Week)**							
Repeatable (Y/N):	N	**Pass/Fail (Y/N):**	N	**Variable Credit (Y/N):**	N	**Min:**		**Max:**		**16 Wks**	200	**8 Wks**	400
Prerequisites:	None										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course is designed to teach the fundamentals of computer hardware and give students hands-on experience in assembling, upgrading and troubleshooting basic computer systems and hardware.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Electricity and power supplies	6	2		
Motherboards	2	2		
Managing memory	2	2		
Floppy drives	2	2		
Hard drives	2	2		
Supporting I/O	2	2		
Multimedia devices	2	2		
Modems	2	2		
PCs on a network	2	2		
Notebooks, tablet PCs and PDAs	2	2		
Troubleshooting	6	10		
TOTAL	30	30	0	0

EVALUATION							
QUIZZES	☑	**EXAMS**	☑	**ORAL PRES**	☐	**PAPERS**	☐
LAB WORK	☑	**PROJECTS**	☑	**COMP FINAL**	☑	**OTHER**	☐

COURSE MATERIALS		
TITLE:	A+ Guide to Managing & Maintaining Your PC	
AUTHOR:	Jean Andrews	
PUBLISHER:	Thomson	
VOLUME/EDITION/URL:	8th edition	
COPYRIGHT DATE:	2014	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Electricity and power supplies	8	1. Describe basic safety, AC, DC, hot, neutral and ground. 2. Describe common electrical components. 3. Describe static electricity, EMI and surge protection. 4. Describe the types of power supplies and motherboards in relation to form factor. 5. Measure power supply voltages, use basic hand tools and a volt ohm meter.
Motherboards	4	1. Compare the types of motherboards, the CPU and chipset, buses and expansion slots. 2. Remove, install and setup a motherboard.

Managing memory	4	1. Describe static and dynamic in terms of memory, error checking basics. 2. Dsecribe CAS and CAS latency. 3. Explain the different types of memory and memory speeds. 4. Remove and install memory in the PC.
Floppy drives	4	1. Explain how data is stored both physically and logically. 2. Describe the formatting process. 3. Remove and install a floppy drive.
Hard drives	4	1. Describe the types of hardware interfaces. 2. Describe how a hard drive works and calculate drive capacity. 3. Describe partitions and logical drives. 4. Use F disk to partition a drive. 5. Format a drive. 6. Set hard drive jumpers. 7. Remove and install a hard drive.
Supporting I/O	4	1. Describe serial and parallel ports, USB, PCI and ISA expansion slots. 2. Demonstrate basic maintenance and installation of keyboards, mice, monitors and video cards.
Multimedia devices	4	1. Compare CPUs used for multimedia, soundcards, digital cameras, MP3 players, video capture cards, and optical storage (CD-ROM, CD-R, CD-RW, DVD). 2. Discuss fault tolerance and RAID. 3. Remove and install a sound card and CD-ROM drive.
Modems	4	1. Discuss how modems are rated. 2. Install and configure a modem.
PCs on a network	4	1. Summarize ethernet, wireless LAN and token ring. 2. Explain how a NIC works. 3. Discuss router and switch basics. 4. Connect the computer to a network.
Notebooks, tablet PCs and PDAs	4	1. Evaluate the differences between a desktop or tower PC and compare to notebook, tablet and PDAs in regard to power management, connecting peripheral devices and upgrading memory.
Troubleshooting	16	1. Apply basic diagnostic software and hardware. 2. Troubleshoot a variety of PC problems.
	60	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	PC Components	Identify the major components of a typical PC.
Course Outcome 2	Windows OS Versions	Distinguish the differences between the various versions of Windows operating systems.
Course Outcome 3	InOutput Device Mngr	Explain how to access input and output device information using Device manager.
Course Outcome 4	Magnetic Princ Data	Describe how magnetic principles are used for storing data.
Course Outcome 5	Data Comm Princ	Summarize the basic principles of data communications.
Primary Laker Learning Competency	Information & Technology Literacy: Students evaluate information effectively using the appropriate technological tools.	

Secondary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.

**Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.*