CENTER FOR INNOVATIVE TECHNOLOGIES
MASTER COURSE DOCUMENT

CSA 112 Computer Repair 2

Course Description: A continuation of CSA 111. Topics include: demonstrations, lab exercises, diagnostic evaluations, and troubleshooting to the board/component level of personal computer systems while using diagnostic software and instrumentation to isolate failures and restore systems to normal operation.

Prerequisites(s): CSA 111 **Co-requisite(s):** None

Lecture Hours: 2	Lab Hours: 3	Credit Hours: 3
Lab Fee: 105	Supplemental Fee: 0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lecture/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web	□ Hybrid	☒ Classroom
Semesters Offered: ☒ Fall	□ Spring	□ Summer

Course Primary Text:

Title: Upgrading and Repairing Pcs	Edition: Twentieth
Author(s): Meuller	
Publisher: Que	

Supplemental Materials:

Lab Computers and Peripheral Devices

Course Outcomes:

1	The student will be able to apply knowledge, skills and abilities in basic theory, operation, and fault diagnosis of personal based computer systems.
2	The student will be able to apply knowledge, skills, and abilities in basic theory, operation, and fault diagnosis of peripheral devices.
3	The student will demonstrate the ability to communicate technical information.
4	The student will demonstrate a commitment to quality, timeliness, and continuous improvement.

Course Topics:

Week 1	Review of latest technology CPU, Memory, system boards and interfaces System assembly
Week 2	Magnetic storage principles
Week 3	Hard disk storage : Hard drive definition, form factor, operation, analogy, Formatting, Components, Features, performance and reliability
Week 4	The ATA/IDE Interface: Overview of the IDE interface, ATA standards PATA interface specifications and cabling, SATA interfacing and Cabling ATA features and Capacity limitations GPT and the 2.2tb barrier PATA / SATA Raid , SCSI interfacing
Week 5	Exam
Week 6	Optical Storage: Optical technology and construction, writeable Cd's multi read specifications, DVD technology and construction, DVD Capacity Recordable DVD standards, Blu-Ray, Optical disc formats and file systems, ripping and copying , Performance specifications, Reliability and troubleshooting
Week 7	Video Hardware: Video Display adapters, integrated video/ motherboard chipsets, video ram, video display interfaces, 3d graphics Accelerators, Apis, Monitors display specifications, Lcd technology, CRT Technology, Multiple monitors, driver installation, troubleshooting
Week 8	Audio Hardware: concepts and terms, Direct x and audio APIs, hardware features, drivers, motherboard integration speakers and microphones
Week 9	Internet Connectivity modems, Broadband access types comparisons and Security
Week 10	Exam
Week 11	Local Area Networking: Types of networks, client server, Peer to peer, architecture Wireless types, cabling, Topologies, Hardware, and Network Protocols
Week 12	Building upgrading systems :system components, hardware and software resources, system assembly and disassembly, system startup, OS installation troubleshooting
Week 13	PC diagnostics , testing and Maintenance: Diagnostics software, the POST, peripheral diagnostics, OS diagnostics , The boot process, PC Maintenance tools, Preventative maintenance, Troubleshoot tips and techniques
Week 14	Virus, malware, and security issues
Week 15	Exam

Methods of Evaluation/Assessment:

Exams	85.00%
Lab Assignments	10.00%
Attendance	5.00%

Course Keeper: Jeff Vetter Date Completed: April 6, 2019