9-2013

ITS 280.01: Computer Repair and Maintenance

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Missoula College UM
Department of Applied Computing and Electronics

Course Number and Title: **ITS 280 Computer Repair and Maintenance**
Term: **Fall 2013**
Semester Credits: **3**
Prerequisites: **ITS 150 *CCNA 1: Exploration*, or consent of instructor**

Faculty Contact Information

Faculty
Steven (Steve) L. Stiff
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Office
GH08-I
MC East Campus

Office Hours
M: 11:10 AM – 12:00 PM
T, R: 1:10 PM – 2:00 PM
or by appointment

Class Meeting Times and Final

Section 01 (CRN 70533)
Day, Time, and Location
Lecture TR, 3:40pm – 4:300pm, HB01
Lab W, 11:10am – 1:00pm, HB03
Final Exam
M, 12/09/13, 3:20pm – 5:20pm, HB01

Section 02 (CRN 71558)
Day, Time, and Location
Lecture TR, 3:40pm – 4:300pm, HB01
Lab F, 11:10am – 1:00pm, HB03
Final Exam
M, 12/09/13, 3:20pm – 5:20pm, HB01

Course Description:

This course provides an in-depth study of personal computer hardware with the focus on field replaceable units (FRUs). Topics include: system boards, processors, memory, storage devices, I/O ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.

Course Overview:

Personal computer systems have changed dramatically since the release of the original IBM PC in 1981. The role of the PC technician has had to evolve to addresses improvements in motherboard technologies, microprocessing power, RAM memory, flash memory, audio, video, printing, and networking. This course focuses on providing a solid foundation in current PC hardware, while the course labs provide a hands-on look inside the PC. In addition, the course reviews legacy computer system hardware, as well as looking at emerging technologies. In addition to preparing the technician for field work, it also prepares the technician for the hardware portion of CompTIA's industry-standard A+ Certification.

Course Objectives:

Upon completion of this course students will:

- Identify basic terms, concepts, functions, and operations of personal computer (PC) system components.
- Identify and describe the functionality of field replaceable units (FRUs) found in a personal computer.
- Identify common peripheral ports, associated cabling, and their connectors.
- Identify hardware methods of upgrading system performance.
- Analyze common symptoms and problems associated with PC components and provide solutions to troubleshoot and isolate the problems.
- Identify the purpose of various types of preventive maintenance products and procedures.
- Analyze issues, procedures, and devices for protection in the PC environment, including people, hardware, and the surrounding workspace.
- Complete installations of memory modules, system boards, processors, power supplies, adapter boards, storage devices, and multimedia devices.

Required Materials:

- *Mike Meyer's CompTIA A+ Guide to Managing and Troubleshooting PCs, 4th Edition*, Michael Meyers, McGraw-Hill, 2012
  ISBN-13: 9780071795913

Other Optional Materials:

- Belkin 36 Piece PC Tool Kit (TigerDirect.com #B20-1503)
- Ultra Antistatic Wrist Strap (TigerDirect.com # ULT31418)

Evaluation and Grading Criteria:

Assessment	
Assignments, quizzes, projects, etc.	35.0%
Laboratories	30.0%
Exams	35.0%
Attendance (Bonus)	2.0%

Grading Scale	
100% - 90%	A
90% - 80%	B
80% - 70%	C
70% - 60%	D

Course Policies

Online Component:

Various components of the course will be delivered via UMOnline (**http://umonline.umt.edu/**) using the Moodle Course Management Software. It is the responsibility of the student to become familiar with and work in Moodle. Moodle training is also available through UMOnline.

Attendance:

- Regular classroom attendance is expected and attendance is taken.
- Students more than 10 minutes late for class will not be given credit for attendance.

Assignments and Exams:

- All assigned work is due at the assigned time on the assigned date.
- All exams are to be taken at the assigned time on the assigned date.
- **All late or missed work receives a score of 0**. Late work is accepted only in extraordinary circumstances, and is accepted and graded at the instructor's discretion.

Electronic Communication Devices Policy:

- All electronic communication devices must be secured, muted, or tuned off prior to the start of class.
- Any use of an electronic communication device during an exam is considered cheating and will be handled at the instructor's discretion (refer to *Student Conduct*).
- Audio and/or video recording of class sessions is not permitted without prior approval of the instructor (refer to *Students with Disabilities*).

Student Conduct:

- *All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University.*
- *Student conduct is governed by the Student Conduct Code. All students need to be familiar with the Student Conduct Code. It is available for review or can be downloaded at* **http://life.umt.edu/vpsa/student_conduct.php**.

Students with Disabilities:

- Eligible students with disabilities will receive appropriate accommodations in this course when requested in a timely manner. Please be prepared to provide me a copy of your *Letter of Verification* supplied by your *Disability Services for Students* (DSS) Coordinator for my records. Refer to **http://life.umt.edu/dss** or call **406-243-2243** (voice/text) for information regarding your rights.
- When requesting accommodations, please contact me after class or in my office to discuss your needs. This is done in order to maintain your privacy and minimize class disruptions.
- For students requesting examination accommodations, you must supply me the completed *Academic Support Center* (ASC) scheduling form for my signature at least 3 days prior to the scheduled test date (the ASC requires the signed form at least two days prior to testing). ASC contact information is available at **http://www.cte.umt.edu/academics/academicsupport/**.

Policies for Dropping and Adding Courses, Changing Sections, Grading, and Credit Status:

- The University Policy for dropping courses or requesting grading/credit status changes can be found in the academic catalog or on the web at **http://www.umt.edu/catalog/acad/acadpolicy/default.html**. All students should be familiar with this policy.
- If you are having difficulty with the course for any reason and decide not to continue, please complete a drop or withdrawal form. A properly completed and approved drop or withdrawal form will prevent you from receiving a failing grade on your college transcript.
- Please note: if you are receiving financial aid, dropping or withdrawing from a course may affect your financial aid status.

Changes to Syllabus:

NOTE: The instructor reserves the right to modify the syllabus and assignments as needed based on faculty, student, and/or environmental circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class.

Course Outline (tentative)

Unit 1 Intro to PC Hardware

1.1 CompTIA A+ and the PC Tech

1.2 The Visible PC, Visible Windows and Visible Networks

1.3 Microprocessors

1.4 RAM

1.5 BIOS

Unit 2 More PC Hardware - 1

2.1 Motherboards

2.2 Power Supplies

2.3 Hard Drives

2.4 Removable Media

Unit 3 More PC Hardware - 2

3.1 Video

3.2 Networking

3.3 Multimedia

Unit 4 Finishing PC Hardware; Wrapping Up

4.1 Portable Computing

4.2 Mobile Devices

4.3 Printers

4.4 Computer Security

4.5 The PC Tech