

Angelina College
Technology and Workforce Division
CPMT 1311 Introduction to Computer Maintenance
Instructional Syllabus

I. BASIC COURSE INFORMATION

A. Course Description:

A study of the information for the assembly of a microcomputer system. Emphasis is on the evolution of the microprocessor and microprocessor bus structures. The student will identify modules that make up a computer system and its operation; identify each type of computer bus structure; and assemble/setup microcomputer systems, accessory boards, and install/connect associated peripherals. Prerequisite : or concurrent enrollment in TECM 1303. Textbook must be purchased from Angelina College Bookstore. Two lecture and two lab hours each week. Lab fee.

B. Intended Audience:

First year, first semester

C. Instructor:

Name: Robyn Segrest

Office Location: Lufkin High School E-119

Office Hours: 7:30 a.m. - 9:30 a.m. M - F and by appt.

E-mail Address: rsegrest@lufkinisd.org or rsegrest@angelina.edu

II. INTENDED STUDENT OUTCOMES:

A. Core Objectives Required for this Course

- 1. Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- 2. Communication:** to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- 3. Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

B. Course Learning Outcomes for all Sections

1. Be familiar with basic terms, concepts, and functions of system modules, including how each module should work during normal operation and during the boot process.
2. Implement basic procedures for adding and removing field replaceable modules for both desktop and portable systems.
3. Describe common peripheral ports, associated cabling, and their connectors.
4. Demonstrate proper procedures for installing and configuring IDE/EIDE and SATA devices.
5. Identify proper procedures for installing and configuring peripheral devices.
6. Determine preferred hardware methods of upgrading system performance, procedures for replacing basic subsystem components, unique components and when to use them.
7. Itemize common symptoms and problems associated with each module and how to troubleshoot and isolate the problems.
8. Identify basic troubleshooting procedures and show how to elicit problem symptoms from customers.
9. Explain the purpose of various types of preventative maintenance products and procedures and when to use and perform them.
10. Categorize issues, procedures and devices for protection within the computing environment, including people, hardware and the surrounding workspace.
11. Distinguish between the popular CPU chips in terms of their basic characteristics.
12. Recognize the categories of RAM (Random Access Memory) terminology, their locations, and explain their physical characteristics.
13. Name the most popular type of motherboards, their components, and their architecture (bus structures and power supplies).
14. Know the purpose of CMOS (Complementary Metal-Oxide Semiconductor), what it contains and how to change its basic parameters.

15. Relate basic concepts, printer operations and printer components.
16. Describe care and service techniques and common problems with primary printer types.
17. Define basic networking concepts, including how a network works and the ramifications of repairs on the network.

III. ASSESSMENT MEASURES OF STUDENT LEARNING OUTCOMES:

A. Assessments for the Core Objectives:

1. Critical Thinking: Students will troubleshoot a computer making assessments of problems using concepts discussed in class.
2. Communication: Students are required to develop a presentation to discuss the operation of an assigned data bus or a computer peripheral. A standard rubric is used to assess this objective.
3. Teamwork: Students will work together in small teams to work through real world issues with various computer systems.

B. Assessments for Course Learning Outcomes:

1. Be familiar with basic terms, concepts, and functions of system modules, including how each module should work during normal operation and during the boot process.
2. Implement basic procedures for adding and removing field replaceable modules for both desktop and portable systems.
3. Describe common peripheral ports, associated cabling, and their connectors.
4. Demonstrate proper procedures for installing and configuring IDE/EIDE and SATA devices.
5. Identify proper procedures for installing and configuring peripheral devices.
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16. Describe care and service techniques and common problems with primary printer types.
17. Define basic networking concepts, including how a network works and the ramifications of repairs on the network.

IV. INSTRUCTIONAL PROCEDURES:

A. Methodologies common to all sections

Time allocation: 64 contact hours

1. Lecture: Twenty (20) hours.
2. Lab: Thirty two (32) hours.
3. Tests: Twelve (12) hours

V. COURSE REQUIREMENTS AND POLICIES:

A. Required Textbooks, Materials, and Equipment –

1. Digital multimeter
2. Screw driver, 1/8" slotted, 3" long
3. Screw driver, 3/16" slotted, 4" long
4. Screw driver, Phillips #0, 5" long
5. Screw driver, Phillips #1, 5" long
6. Long nose pliers, 5"
7. Storage case for tools
8. Two (2) number 2 lead pencils
9. Spiral bound notebook – 80 pages
10. 1-1/8" mini plug stereo headset/earbuds.

Textbook: Online lessons Aries Pc Maintenance and Repair: Hardware, 5th Edition, ISBN# 978-0-9829035-0-6

B. Assignments –

1. Eleven (11) lesson modules.
2. Eleven (11) unit tests.
3. Mid Term exam – first 6 units.
4. Hands on labs to support lesson modules.
5. End of term exam – last 5 units.
6. Final exam.

C. Course Policies – (This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.)

Academic Assistance – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Sellestine Hunt, Room 208 of the Student Center. At a post-secondary institution, you must self-identify as a person with a disability; Ms. Hunt will assist you with the necessary information to do so. To report any complaints of discrimination related to disability, you should contact Dr. Patricia McKenzie, Administration Building, Room 105 or 936-633-5201.

Attendance – Students are required to attend all lectures and laboratory classes regularly and punctually. Responsibility for work missed because of illness or extracurricular activity is placed upon the student. Excessive absences are defined as three or more consecutive absences or four or more cumulative absences from regularly scheduled class periods.

VI. COURSE OUTLINE:

1. Assignments are due on the date assigned. Assignments turned in late will not receive credit.
2. All tests and supporting lab work for midterm is due by end of class October 18, 2017.
3. All lab work to be graded must be turned in before end of class period on December 4, 2017.
4. Tests must be taken prior to end of class on December 11, 2017. Special arrangements must be made before the day of the test for exceptions covered under the college catalog.
5. Cell phones, pagers and all other personal communications devices will be turned off during class.
6. Smoking, dipping snuff, and eating in the classroom are prohibited.
7. No personal use of lab computers.

VII. EVALUATION AND GRADING:

A. Grading Criteria

- a. The final grade will be composed of:
 1. 20% - Lab assignments are pass/fail.
 2. 20% - Unit tests. Unit tests may be taken a maximum of two (2) times.
 3. 10% - Mid and End term tests. Mid and end term tests may be taken a maximum of two (2) times.
 4. 50% - Final exam. Final exam may be taken a maximum of two (2) times.

B. Determination of Grade

The final grade will be awarded on the basis of:

1. 90% -100% =A
2. 80% - 89% =B
3. 70% - 79% =C
4. 60% - 69% =D
5. 0% - 59% =F

- C. The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made.
- D. As a student enrolled in a Technology & Workforce program, you will encounter certain risks while you are in a classroom, laboratory experience, or in a clinical or practicum setting. In the event that you sustain an injury and/or require any medical testing or care, all resulting medical expenses (hospital, ambulance, or physician fees), are your financial responsibility and not the responsibility of Angelina College or the clinical/practicum site.
- E. Effective August 27, 2012 Angelina College prohibits the use of tobacco products on campus, except in your personal vehicle. This measure was approved by the College Board of Trustees, and includes smoking and smokeless products.