El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Advanced Technology Industrial Manufacturing**
COURSE RUBRIC AND NUMBER	**CETT 1407**
COURSE TITLE	**Fundamentals of Electronics**
COURSE CREDIT HOURS	**4 3 : 3** **Credits Lec Lab**

I. Catalog Description

Applies concepts of electricity, electronics, and digital fundamentals; supports programs requiring a general knowledge of electronics. Studies devices, circuits and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical electronic and computer equipment. **(3:3). Lab Fee.**

II. Course Objectives

A. Unit I. Basic Electronics

Includes passive devices in DC and AC circuit configurations.:

1. Identify components and component values visually.
2. Identify meaning of color codes
3. Cross-reference electronic components
4. Distinguish active-passive resonance filters
5. Build and test series and parallel resistive circuits.
6. Build and test a simple filtered DC power supply.

B. Unit II. Advanced Electronics

Includes active devices in power supply, amplifier, and oscillator configurations.

1. Recognize solid-state devices.
2. Check transistors and diodes using a VOM.
3. Analyze electronic signals.
4. Measure circuit parameters using test equipment.
5. Build and test a simple transistor or linear amplifier circuit.
6. Troubleshoot electronic components.
7. Repair electronic components.
8. Replace electronic components.

C. Unit III. Digital Electronics

Includes gates, flip-flops, and combinational circuits.

1. Construct digital gate circuits and their truth tables.
2. Determine the outputs of flip-flops given their inputs.
3. Draw a block diagram of a computer.

III. THECB Learning Outcomes (WECM)

1. Build and test circuits using analog and digital components.
2. Visually identify components and component values.
3. Build and test series and parallel resistive circuits.
4. Check resistors, diodes, and transistors using a multimeter.

IV. Evaluation

Objectives will be evaluated according to the observed student's class performance in accordance with industrial requirements and appropriate section or sections of referenced materials. The number of examinations and the type of laboratory exercises will be determined by each individual instructor. The following evaluation measures are guidelines. The weight of the knowledge tests and laboratory performance is left to the discretion of each instructor.

Knowledge Tests:	60% of total grade value
Lab Performance:	40% of total grade value

Grading Scale:

90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.