

Electronics Engineering Technology

Award Type: **Associate in Applied Science**

Effective First Year/Term: 2004 Fall

Overall G.P.A.: 2.00

Initiating College: **Mesa Community College**

Program Availability: College Specific

Total Credits: **70**

Major Code: **3224**

Faculty Initiator: Joseph Neglia

CIPS Code: 15.03.03

Instructional Council: Applied Technology (57)

Development Date: 3-9-04

District Curriculum Committee Online Agenda Date: 4-26-04 to 4-29-04

MCCCD Governing Board Approval Date: 5-25-04

Description: The Associate in Applied Science (AAS) in Electronic Engineering Technology work as engineering assistants, field engineers, prototype designers, specification writers, technical representatives, etc. They work for firms involved in electronic design, manufacturing, service, or development. The Electronic Engineering Technology program of study at Mesa Community College (MCC) is designed to provide the student with an AAS degree and at the same time allow for the maximum number of transfer credits to four year institution.

Program Notes:

+indicates course has prerequisites and/or corequisites.

Students must earn a grade of "C" or better in all courses within the program.

Admission Criteria: None

Program Prerequisites: Credits: 3-5

MAT120	Intermediate Algebra (5) OR	
MAT121	Intermediate Algebra (4) OR	
MAT122	Intermediate Algebra (3) OR	
	Equivalent or satisfactory score on a placement exam	3-5

Required Courses: Credits: 47

ECE102	Engineering Analysis tools and Techniques	2
ECE103	Engineering Program Solving and Design	2
ELE113	DC Circuit Analysis	4
ELE114	AC Circuit Analysis	4
ELE121	Solid State Devices and Circuits I	4
ELE131	Digital Logic and Circuits	3
ELE181	Computer Programming for Technology	3
ELE222	Solid-State Devices and Circuits II	4
ELE241	Microprocessor Concepts	4
MAT220	Analytic Geometry & Calculus I	5
MAT231	Calculus with Analytic Geometry II	4
PHY111	General Physics I	4
PHY112	General Physics II (4) OR	4

CHM130	Fundamental Chemistry (3) AND	
CHM130LL	Fundamental Chemistry Laboratory (1)	4

Restricted Electives: Credits: None

Free Elective: None

General Education: Credits: 23-26

CORE: Credits: 18-20

First-Year Composition

+	ENG101	First Year Composition (3) AND	
	ENG111	Technical Writing (3)	6

Oral Communication

COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3) OR	
COM230	Small Group Communication (3)	3

Critical Reading

CRE101	Critical and Evaluative Reading I (3) OR	
	Equivalent as indicated by assessment	3

Mathematics

MAT150	College Algebra / Functions (5) OR	
MAT151	College Algebra / Functions (4) OR	
MAT152	College Algebra / Functions (3)	3-5
MAT182	Plane Trigonometry	3

DISTRIBUTION Credits: 5-6

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts Area	2-3
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Social and Behavioral Sciences

Any approved general education course from the Social and Behavioral Sciences area	3
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Natural Sciences

Met by PHY111 AND PHY112 OR CHM130 AND CHM130LL in required courses area	0
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Program Competencies

1. Utilize computer programs and modeling to analyze engineering problems that will result in a design. (ECE102)
2. Apply the fundamentals of the design process and problem solving skills in a team environment to solve problems. (ECE103)
3. Apply Ohms and Kirchoff's laws to the solution of DC circuits and networks. (ELE113)
4. Apply Kirchoff's Laws in conjunction with phasor concepts to solve AC circuits and networks. (ELE114)
5. Apply small signal linear analysis to bipolar and field-effect transistor circuits, and multistage amplifiers. (ELE121)
6. Apply the concept of Boolean algebra to the generation and reduction of logic circuits. (ELE131)
7. Use computer programs to solve technology related problems. (ELE181)
8. Use the operational amplifier as a linear functional block. (ELE222)

9. Use assembly language to program a microprocessor. (ELE241)
10. Perform the operation of differentiation and integration on functions of one variable. (MAT220)
11. Use elements of analytic geometry, sequences and series in performing the operation of differentiation and integration. (MAT231)
12. Apply physics concepts and principles to problems involving mechanics, fluid, sound and heat. (PHY111)
13. Apply fundamental physical science concepts of chemistry or electricity, magnetism and optics in the solution of associated problems. (PHY112 OR CHM130 AND CHM130LL)

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