

A.S. Electrical Engineering 24-25



ABOUT THIS MAJOR

The Associate in Sciences in Electrical Engineering will provide students with a fundamental knowledge of Electrical Engineering, to enhance their computational and problem solving skills, sharpen their critical thinking, and

to ensure proper preparation for junior level Electrical Engineering coursework at a university. Students completing this degree should realize that there are many sub disciplines in Electrical Engineering and most require a similar core education, but not all. For more information, visit the [Mathematics, Sciences, and Engineering](#) division.

TO EARN A DEGREE A STUDENT MUST COMPLETE THE FOLLOWING:

- [1] Completion of a minimum of 60 degree applicable units
- [2] Completion of General Education
- [3] Minimum grade point average of 2.0
- [4] A "C" or better in all courses required for the major and ENGL 101

Residency: Minimum of 12 units completed at AVC with a minimum of 9 of those units completed from the certificate/major. (credit earned by examination will not be included in these 12 units) Title 5, Section 54000: <http://ccr.oal.ca.gov>

AS-Electrical Engineering [Total Units 48]

Required Courses (21 units)	
ENGR110 - Introduction to Engineering	3
ENGR125 - Programming and Problem-Solving in MATLAB	4
ENGR185 - Digital Logic and Design	4
ENGR230 - Circuit Analysis	4
MATH150 - Calculus and Analytic Geometry	5
MATH160 - Calculus and Analytic Geometry	4
MATH230 - Introduction to Ordinary Differential Equations	4
MATH250 - Calculus and Analytic Geometry	4
PHYS110 - General Physics	4
PHYS120 - General Physics	4
PHYS211 - General Physics	5

Computer Programming Electives- Choose one of the following (3 units)	
C/C++ Programming: CS120 - Programming and Algorithms in C/C++	3
OR	
Java Programming: CS121 - Programming and Algorithms in Java	3
OR	
Python Programming: CS122 - Programming and Algorithms in Python	3

RECOMMENDED PATHWAY AS-Electrical Engineering

The Recommended Plan of Study is determined by the discipline faculty. All **Program Electives** for the Major and **General Education** Courses, Areas A-F, are recommended only. Except for ENGL 101, you can make other selections for this area if you choose ([See back page for options](#)).

- [*] = Courses will fulfill the completion requirements for Major & Gen Ed I
- [#] recommended courses may select other options.
- **Electives** are courses that count toward your credits for graduation, but not specific to degree of study
- Take classes in **Summer** or **Intersession** if needed to complete your degree in a timely manner!
- Fall/Spring: Max 19 units, 12-15 units Recommended.

TERM 1	
Course	Units
ENGR 110	3
AVC Gen-Ed- AREA D2: * MATH 150	5
AVC Gen-Ed- AREA D1: ENGL 101	3
AVC Gen Ed- AREA B: #POLS 101	3
Total Units	14

TERM 2	
Course	Units
ENGR 125	4
MATH 160	4
AVC Gen Ed- AREA A: * PHYS 110	4
AVC Gen Ed- AREA E: * CS 120 or *CS 121 or *CS 122	3
Total Units	15

TERM 3	
Course	Units
ENGR 185	4
MATH 250	4
PHYS 120	4
AVC Gen Ed- AREA C: # THA 101	3
Total Units	15

TERM 4	
Course	Units
ENGR 230	4
MATH 230	4
PHYS 211	5
AVC Gen Ed-Area F: #FTV 201	3
Total Units	16

COUNSELING NOTE SECTION		
Consult with Counselor regarding Math Placement		
Mathematics Calculus Sequence and prerequisites:		
MATH 135 → MATH140 → MATH 150 → MATH 160 → MATH 220, MATH 250, MATH 230. (Trigonometry) (Precalc) (Calc 1) (Calc 2) (Linear Alg.) (Diff.Eq.) (Calc 3)		
Prerequisite: If a course is listed as a prerequisite for another course, that prerequisite course must be completed with a satisfactory grade to enroll in the next course. A satisfactory grade is a grade of "A," "B," "C" or "P". Students who enroll in classes for which they do not meet the prerequisites will be involuntarily dropped. Students will be notified of this involuntary drop. Title 5, Section 55200(d)		
AVC 24-25 CATALOG: ACADEMIC POLICIES		
INFORMATION and RESOURCES		
Tutoring Assistance	Career Center	AVC Student Health Services
Transfer Center	Office of Students with Disabilities	Palmdale Center
Basic Needs	Financial Aid	Counseling Division

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2024-2025 AVC General Education Requirements

Advising Form Effective Fall 2024 - Summer 2025

GE AREA	COMPLETED	IN PROGRESS	NEED	
				<p>The requirements for an AA or AS degree include the following:</p> <ol style="list-style-type: none"> 1. A minimum of 60 semester units; with at least 12 semester units completed in residence at AVC for an AA/AS degree (credit earned by examination will not be included in these 12 units); maximum of 12 pass/no-pass credit units can be accepted towards an AA/AS degree. 2. Refer to each individual program for major requirements. All major courses as specified in the AVC catalog <u>must</u> be completed with a grade of "C" or better. 3. Completion of the requirements for the associate degree with a minimum cumulative grade point average (GPA) of 2.0 in the degree-applicable courses. <p>Double counting: While a course may satisfy more than one general education requirement, it may not be counted more than once for these purposes. A course may be used to satisfy both a general education requirement and a major or area of emphasis requirement.</p> <p>Prerequisite: If a course is listed as a prerequisite for another course, that prerequisite course must be completed with a satisfactory grade in order to enroll in the next course. A satisfactory grade is a grade of "A," "B," "C" or "P". Students who enroll in classes for which they do not meet the prerequisites will be involuntarily dropped. Students will be notified of this involuntary drop.</p> <p>Complete at least 3 units from each of the following areas below: A, B, C, D1, D2, E, and F. Minimum Total GE Units Required: 21</p> <p>Legend: () = Newly Approved, Effective Fall 2024</p>
<p>AREA A: NATURAL SCIENCES Select at least 3 units</p>				
A				<p>ANTH 101, (101H); ASTR 101, (101H); BIOL 100, 101*#, 101L*#, 102, 103, 104, (104H), 110, 120, 201, 202, 204, 205; CHEM 101, 102, 110, 120, 210, 220; ELTE 101; ERSC 101; GEOG 101, 102; GEOL 101, (101H), 102; PHYS 101, 102, 110, 120, 211; PSCI 101</p> <p>*# BIOL 101 & 101L must be taken concurrently</p>
<p>AREA B: SOCIAL & BEHAVIORAL SCIENCES Select at least 3 units</p>				
B				<p>AJ 201, 204, 206; ANTH 102, 103, 110, 112, (112H), 140; BUS 101, 212; CFE 102, 103; COMM 217; DFST 105, 106, 110; ECON 100, 101, (101H), 102, (102H), 110; GEOG 105, 106, 110; HIST 101, 102, 104, 105, 107, (107H), 108, (108H), 110, (110H), 111, (111H), 113, 114, 116, 118, 119; POLS 101, (101H), 103, 200, 201, 202, 203; PSY 101, (101H), 200, 201, 212, 230, 232, 233, 234, 235, 236; SOC 101, (101H), 105, 110, 111, 112, 115, 116, 120, 200, THA 240</p>
<p>AREA C: HUMANITIES Select at least 3 units</p>				
C				<p>ART 100, 101, (101H), 102, 103, 104, 106, 110, 113, 120, 132, 135, 136, 137, 140, 145, 150, 163, 170, 210, 213; CHIN 101, 102, 201, 202; COMM 112, 114, 214, 217, 219; DA 101; DFST 101, 102, 105, 106, 201, 202; ENGL 102, 111, 112, 221, 222, 225, 227, 230, 231, 235, 242, 253, (253H), 256, 257, 259, 265, 279 ; FREN 101, 102, 201, 202, 203; FTV 101, 103, 107, 108, 201, 203, 241, 251, 261; GER 101, 102, 201, 202 ; HIST 101, 102, 104, 105, 107, (107H), 108, (108H), 110, (110H), 111, (111H), 113, 115, 118, 119; LATN 101, 102, 201; MUS 101, (101H), 105, (106), (110), 111, 121, 131, 132, 151, 153, 185, 231, 232, 251A, 251B, 253A, 253B; MUSC 102, 103, 107, 108, 109; NF 150; PHIL 105, (105H), 106, 108, 109, (130), (140); PHOT 107; PHTC 101, 150, 201; SPAN 101, 1105S, 102, 201, 202, 2105S, 2205S; THA 101, (101H), 102, 103, 110, 115A, 115B, 116A, 116B, 117A, 117B, 118A, 118B, 121A, 121B, 130, 133, 225, 239, (239H)</p>
<p>AREA D: LANGUAGE AND RATIONALITY Select 3 units from (1) and 3 units from (2). Grade of "C" or better required in Area D1</p>				
D1				<p>D1 Academic Composition: ENGL 101, (101H)</p>
D2				<p>D2 Communication and Analytical Thinking: BUS 113; CA 103; CS 100, 110, 120, 121, 122, 123; COMM 101, (101H), 107, 109, 112, 114, 115, 201, 217, 219; ENGL 102, (102H), 103, (103H); GEOG 201, 205; MATH 103, 110, 115, (115H), 116, 120, 124, 128, 131, 135, 140, 148, 150, (150H), 160, 220, 230, 250; PHIL 101, 106, 110, 201, (210)</p>
<p>AREA E: ADDITIONAL BREADTH Select 3 units from Areas A, B, C, D2, or E *Courses must be taken from a discipline not previously selected</p>				
E				<p>HD 100, 101, 102, 103, 105; HE 101, 120, 110, 201; KINT 100; LIB 107, 110; NF 100, 102, 103, 110, 150; Any DA activity course(s) from DA 102-205, <u>except</u> DA 107A-C, 108, 109, and 111 Any Kinesiology Fitness (KINF) activity course, Intercollegiate Athletics (IATH) activity course, or DD214 for 4 units</p>
<p>AREA F: DIVERSITY STUDIES Select 3 units</p>				
F				<p>ANTH 102, 112 (112H); BUS 212; CFE 116; COMM 114, 217, 219; DFST 105, 106, 110; ECON 110; ENGL 250, 253, (253H), 256, 257, 259; ETHN (110), (111), (112), (113), 257EN; FTV 201, 203; HE 110, 201; HIST 110, (110H), 111, (111H), 113; MUSC 107, 108; POLS 202; SOC 105, 110, 116; THA 239, (239H), 240</p>