

26-27 A.S. Electrical Engineering (ENRE)



ABOUT THIS MAJOR

The Associate in Science in General Engineering provides students with a broad foundation in the principles of engineering, mathematics, and physical sciences. This degree is designed to support students who are exploring multiple engineering disciplines or who intend to transfer to a university program that does not align precisely with a single engineering track. The program enhances students' problem-solving abilities, critical thinking, and technical skills.

Students completing this degree will be prepared for junior-level coursework in a variety of engineering fields, including but not limited to Mechanical, Aerospace, Electrical, Civil, and Computer Engineering. The curriculum includes core courses common to most engineering transfer programs, allowing students to tailor their education to their interests while remaining within an eligible program of study. For more information on Engineering, visit the [Mathematics, Sciences, and Engineering](#) division.

TO EARN A DEGREE A STUDENT MUST COMPLETE THE FOLLOWING:

- [1] Completion of a minimum of 60-semester units or 90 quarter units of degree applicable courses
- [2] A minimum of 18-semester units in a major
- [3] Completion of 21 units AVC General Education Requirements
- [4] Minimum overall grade point average of 2.0
- [5] A "C" or better in all courses required for the major

AS- Electrical Engineering (ENRE)

[Total Units Required for the Major: 35-38]

Required CALC Courses, (a total of 5 units)

MATH150 OR MATH 150H - Calculus & Analytic Geometry/ Honors	5
Prerequisite: Math 140 or Math 149 or placement by multiple measures.	

Required Courses, complete ALL 31 units from the following:

ENGR230 - Circuit Analysis	4
Prerequisite: PHYS 120 and completion of or concurrent enrollment in MATH 230	
MATH160 - Calculus and Analytic Geometry	4
Prerequisite: Completion of MATH 150 or MATH 150H or placement by multiple measures	
MATH230 - Introduction to Ordinary Differential Equations	4
Prerequisite: Completion of MATH 160	
MATH250 - Calculus and Analytic Geometry	4
Prerequisite: Completion of MATH 160	
PHYS110 - General Physics	4
Prerequisite: Completion of or concurrent enrollment in MATH 150 or MATH 150H	
PHYS120 - General Physics	4
Prerequisite: PHYS 110. Completion of or concurrent enrollment in MATH 160.	

Programming Courses (a total of 3-4 units)

The following computer course has prerequisites: Completion of or concurrent enrollment in; MATH 150/H OR completion of CS 110 OR successful completion of one year of Calculus in high school OR successful completion of one year of programming in high school.	
CS120 - Programming and Algorithms in C++	3
CS121 - Programming and Algorithms in Java	3
CS122 - Programming and Algorithms in Python	3
ENGR125 - Programming and Problem-Solving in MATLAB	4
Prerequisite: Completion of MATH 150	

Program Elective (total 3-5)

ENGR110 - Introduction to Engineering	3
ENGR185 - Digital Logic and Design	4
Prerequisite: Completion of MATH 140 or placement by multiple measures	
MATH220 - Linear Algebra	4
Prerequisite: Completion of MATH 160	
PHYS211 - General Physics	5
Prerequisite: PHYS 110. Completion of or concurrent enrollment in MATH 160	

RECOMMENDED PATHWAY

A.S. Electrical Engineering

The Recommended Plan of Study is determined by the discipline faculty. Take classes in Summer or Intersession if needed to complete your degree in a timely manner!

Fall/Spring: Max 19 units | Summer: Max 9 units | Intersession: Max 6 units

SEMESTER 1	
Course	Units
AVC GE AREA 1B: ORAL COMM & CRITICAL THINK.	3
MATH 150 OR MATH 150H (AVC GE AREA 2)	5
AVC GE AREA 4: SOCIAL & BEHAV. SCIENCES	3
AVC GE AREA 1A: ENGLC1000	4
Total Units	15

SEMESTER 2	
Course	Units
ENGR 185	4
MATH 160	4
PHYS 110 (AVC GE AREA 5)	4
CS 120 OR CS 121 OR CS 122 OR ENGR 125	3-4
Total Units	15-16

SEMESTER 3	
Course	Units
MATH 250	4
PHYS 120	4
AVC GE AREA 3:ARTS & HUMANITIES	3
GENERAL ELECTIVE	3
Total Units	14

SEMESTER 4	
Course	Units
ENGR 230	4
MATH 230	4
AVC GE AREA: ETHNIC STUDIES	3
GENERAL ELECTIVE	3
GENERAL ELECTIVE	2
Total Units	16
TOTAL UNITS	60-61

Counseling Notes

HONORS COURSES: MATH 150H

Students may take either MATH 150H OR MATH 150. Duplicate credit will not be awarded. This honors course is intended for students in the Honors Transfer Program. For more information about Honors Transfer Alliance Program visit: <https://www.avc.edu/academics/programs-and-pathways/honors>

2026-2027 AVC General Education Requirements

Advising Form Effective Fall 2026 - Summer 2027

GE AREA	COMPLETED	IN PROGRESS	NEED	The requirements for an AA or AS degree include the following: 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. An overall grade point average (GPA) of 2.0 ("C" average) is required. 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. 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. <u>Complete at least 3 semester units from each of the following areas below: 1A, 1B, 2, 3, 4, 5, and 6. Completion of 1a requires a minimum grade of "C" or "P". Minimum Total GE Units Required 21 semester units or 28-31.5 quarter units.</u>
				AREA 1: ENGLISH COMPOSITION, ORAL COMMUNICATION, AND CRITICAL THINKING 2 courses required, one from Area A and one from Area B, 6 semester or 8 quarter units
1A				Group A: English Composition: ENGL C1000, ENGL C1000H
1B				Group B: Oral Communication and Critical Thinking: COMM C1000, C1000H; ENGL C1001, C1001H, C1002, C1002H; PHIL 201
				AREA 2: Mathematical Concepts and Quantitative Reasoning 1 course, 3 semester or 4 quarter units
2				MATH 103, 110, 116, 124, 128, 140, 148, 149, 150, 150H, 160, 220, 230, 250; STAT C1000, C1000H
				AREA 3: ARTS AND HUMANITIES 1 courses, 3 semester units or 4 quarter units
3				ART 100, 103, 104, 106, 113, 132, 135, 137, 140, 145, 163, 170, 213; ARTH C1100, C1100H, C1200, C1200H; CHIN 101, 102, 201, 202; DFST 101, 102, 201, 202; COMM 112, 114, 217, 219; DA 101, 113; ENGL 114, 221, 222, 225, 227, 230, 231, 235, 242, 253, 253H, 256, 257, 259, 265, 279, C1002, C1002H; FREN 101, 102, 201, 202, 203; FTV 101, 107, 108, 201, 203, 251, 261; GER 101, 102, 201, 202; HIST 104, 105, 110, 110H, 111, 111H, 113, 115, 119, C1001, C1001H, C1002, C1002H; LATN 101, 102, 201; MUS 101, 101H, 105, 106, 110, 111, 120, 151; MUSC 102, 103, 107, 108, 109; PHIL 105, 105H, 106, 108, 109, 230, 240; NF 150; PHOT 107; PHTC 101, 150, 201; SPAN 101, 102, 110SS, 201, 202, 203, 210SS, 220SS; THA 101, 101H, 102, 103, 104, 106, 110, 111, 130, 225, 239, 239H, 240
				AREA 4: SOCIAL AND BEHAVIORAL SCIENCE 1 course, 3 semester units or 4 quarter units
4				AJ 206; ANTH 102, 103, 110, 112, 112H, 140; BUS 212; CFE 102, 103; DFST 105, 106, 110; ECON 100, 110, C2001, C2001H, C2002, C2002H; GEOG 105, 106, 110; HIST 104, 105, 110, 110H, 111, 111H, 113, 114, 116, 118, 119, C1001, C1001H, C1002, C1002H; POLS 103, 200, 201, 202, 203, C1000, C1000H; PSY 200, 201, 212, 230, 232, 233, 234, 235, 236; PSYC C1000, C1000H; SOC 105, 110, 111, 112, 115, 116, 120, 200; SOCI C1000, C1000H
				AREA 5: NATURAL SCIENCES 1 course, 3 semester units or 4 quarter units
5				ANTH 101, 101H; ASTR C1001, C1001H; BIOL 100, C1001#, 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 # Students must register separately for the required lab component of BIOL 101L
				AREA 6: ETHNIC STUDIES 1 course, 3 semester units or 4 quarter units
6				ETHN 101, 102, 110, 111, 112, 113, 114; ENGL 257 or ETHN 257EN

COUNSELING NOTE SECTION

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)

Application for Graduation:

Antelope Valley College awards degrees three times annually following the Fall, Spring, and summer semesters. Students must apply for graduation to earn their degree or certificate. Applications are due by September 6 for spring/summer graduates and by February 14 for fall graduates.

AVC 26-27 CATALOG: [ACADEMIC POLICIES](#)

INFORMATION and RESOURCES

Tutoring Assistance
Transfer Center
Basic Needs

Career Center
Office of Students with Disabilities
Financial Aid

AVC Student Health Services
Palmdale Center
Counseling Division