

26-27 Engineering Fundamentals Certificate (ENF)

ABOUT THIS MAJOR



A student completing the Engineering Fundamentals Certificate will gain a solid grounding in the basic principles that underlie all engineering disciplines. This certificate provides both academic preparation for, and a pathway to, internships. When combined with further study, it will lead to an Engineering Associate in Science Degree and/or transfer. This certificate is intended to be completed at the beginning of a student's course of study, while they are at the freshman level. For more information, visit the [Social and Behavioral Sciences](#) division.

TO EARN A Certificate A STUDENT MUST COMPLETE THE FOLLOWING:

- [1] Completion of Major & Program Electives Courses
- [2] Minimum grade point average of 2.0
- [3] A C or better in all courses required for the major

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[Total Units Required in the Major 22-25]

Required Courses, complete ALL courses (16 units)	
ENGR110 - Introduction to Engineering	3
MATH150 or MATH 150H - Calculus and Analytic Geometry/HONORS <i>Prerequisite: Math 140 or Math 149 or placement by multiple measures.</i>	5
MATH160 - Calculus and Analytic Geometry <i>Prerequisite: Completion of MATH 150 or MATH 150H or placement by multiple measures</i>	4
PHYS110 - General Physics <i>Prerequisite: Completion of or concurrent enrollment in MATH 150 or MATH 150H</i>	4
Program Electives: Complete (6-9 units) from the following:	
CHEM110 OR CHEM 110H - General Chemistry/HONORS <i>Prerequisite: Completion of Intermediate Algebra or higher or placement by multiple measures</i>	5
CS110 - Intro to Programming Concepts and Methodologies	3
CS120 - Programming and Algorithms in C/C++	3
CS121 - Programming and Algorithms in Java	3
CS122 - Programming and Algorithms in Python	3
ENGR125 - Programming and Problem-Solving in MATLAB <i>Prerequisite: Completion of MATH 150</i>	4

RECOMMENDED PATHWAY

Engineering Fundamentals Certificate

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
ENGR 110	3
MATH 150 OR MATH 150H	5
Total Units	8

SEMESTER 2	
Course	Units
MATH 160	4
PHYS 110	4
Program Elective: choose from list	3-5
Program Elective: choose from list	3-5
Total Units	14-18
Total Certificate Units	22-25

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	Career Center	AVC Student Health Services
Transfer Center	Office of Students with Disabilities	Palmdale Center
Basic Needs	Financial Aid	Counseling Division