



AS - Mechanical Engineering 19-20

Recommended Program Sequence

All courses with a + sign indicate a pre-requisite or co-requisite

Term 1 (Semester: Maximum 19 units, 15 units recommended)	Units	Term 5 (Semester: Maximum 19 units, 15 units recommended)	Units
Gen. Ed. Area A CHEM 110+ , General Chemistry	5	ENGR 140+ , Engineering 3D Graphics	3
ENGR 110+ , Engineering Orientation and Basic Skills	3	MATH 230+ , Introduction to Ordinary Differential Equations	4
Gen Ed. Area D2 MATH 150+ , Calculus and Analytic Geometry	5	PHYS 120+ , General Physics	4
		General Education C (Humanities)	3
Total	13	Total	14
Term 2: (Intersession(6/3)-Summer (9/6) Max./Recommended units)		Term 6: (Intersession(6/3)-Summer (9/6) Max./Recommended units)	
Term 3 (Semester: Maximum 19 units, 15 units recommended)	Units	Term 7 (Semester: Maximum 19 units, 15 units recommended)	Units
ENGR 125+ , Programming and Problem Solving in MATLAB	4	ENGR 210+ , Statics	4
MATH 160+ , Calculus and Analytic Geometry	4	MATH 250+ , Calculus and Analytic Geometry	4
Gen. Ed. Area E PHYS 110+ , General Physics	4	General Education Area B (Social Science)	3
General Education Area D1 (English 101+)	3	General Education Area F (Diversity Studies)	3
Total	15	Total	14
Term 4: (Intersession(6/3)-Summer (9/6) Max./Recommended units)		Transfer or Graduate	
ENGR 130+ & 130L, Materials Science & Lab (Summer)	4		

Take Summer or Intersession classes if needed to complete the program in a timely manner.

The state requires all students to have a Comprehensive Educational Plan. Make a counseling appointment as soon as enrollment is established on any term. Come by the Counseling Center or call.

Major Required Courses:	Units	List of Courses
CHEM 110+, General Chemistry	5	HIST 101, 102, 104, 105, 107, 108, 110, 111, 113, 114, 116, 118, 119
ENGR 110+, Engineering Orientation and Basic Skills	3	POLS 101, 103, 200, 201+, 202+, 203+
ENGR 125+, Programming and Problem Solving in MATLAB	3	PSY 101, 201+, 212+, 230+, 232, 233+, 234+, 235+, 236+
ENGR 130+ & 130L, Materials Science & Lab	4	SOC 101, 105, 110, 111, 112, 115, 116+, 120
Area C Humanities: (min. 3 units)		
ENGR 140+, Engineering 3D Graphics	3	ART 100, 101, 102, 103, 104, 106, 110, 113, 120, 132, 135, 136+, 137+, 140,
ENGR 210+, Statics	4	145, 150, 163, 170+, 210+, 213+
MATH 150+, Calculus and Analytic Geometry	5	CHIN 101, 102+, 201+, 202+
MATH 160+, Calculus and Analytic Geometry	4	COMM 103, 112, 114, 214+
MATH 230+, Introduction to Ordinary Differential Equations	4	DA 101
MATH 250+, Calculus and Analytic Geometry	4	DFST 101, 102+, 105, 106, 201+, 202+
PHYS 110+, General Physics	4	ENGL 102, 111+, 112+, 221+, 222+, 225+, 227+, 230+, 231+, 235+, 242+,
PHYS 120+, General Physics	4	253+, 256+, 257+, 259+, 265+, 279+
Units Required for the Major:	48	FREN 101, 102+, 201+, 202+, 203+
<i>other requirements for degree</i>		FTV 101, 103, 107, 108, 201, 203, 241, 251, 261
General Education	21-27	GER 101, 102+, 201+, 202+
Proficiency (See Proficiency Requirements)	*	HIST 115
Electives	0	ID 150, 201
Minimum Units Required for AS Degree		60
Other Requirements:		
<ul style="list-style-type: none"> • Minimum grade of "C" required on each course • Maximum of 12 pass/no-pass units accepted for the Degree • Refer to catalog or online website for course listings and descriptions 		
AS General Education: At least 3 units from each of the following areas below: A, B, C, D1, D2, E, and F. Minimum Total GE Units Required		
Area A Natural Sciences: (min. 3 units)		
ANTH 101, 101L		PHOT 107
ASTR 101+, 101L+		PHTC 101+, 150+, 201+
BIOL 100, 101+, 101L+, 102, 103, 104, 110+, 120+, 201+, 202+, 204+,		SPAN 101, 110SS, 102+, 201+, 202+, 210SS+, 220SS+
CHEM 101+, 102+, 110+		THA 101, 102, 103, 110, 115A, 115B+, 116A+, 116B+, 117A+, 117B+,
ELTE 101		118A+, 118B+, 121A, 121B, 130, 133, 225+, 239
ERSC 101+		Area D Language & Rationality: (min. 3 units from (1) and 3 units from (2))
GEOG 101+, 101L+, 102, 102L+		1. <i>Academic Composition:</i> Courses fulfilling the written composition requirement shall be designed to include both expository and argumentative writing.
GEOL 101+, 101L+, 102+, 102L+		ENGL 101+
PHYS 101, 102+, 110+, 120+, 211+		2. <i>Communication and Analytical Thinking</i>
PSCI 101		BUS 113+
Area B Social & Behavioral Sciences: (min. 3 units)		
AJ 201, 204, 206		CA 103
ANTH 102, 103, 112, 140		CIS 101, 111, 141, 157, 161
BUS 101		COMM 101, 103, 107, 109, 112, 114, 115, 217+, 219+
CFE 102		ENGL 102+, 103+
COMM 217+		GEOG 201, 205
DFST 105		MATH 102+, 110+, 115+, 116+, 120+, 124+, 128+, 135+, 140+, 148+
ECON 100, 101+, 102+, 110		150+, 160+, 220+, 230+, 250+
GEOG 105, 106, 110		PHIL 110, 106, 110, 201+

For an educational plan, please consult with a counselor. To obtain counseling services please call: (661) 722-6338. Antelope Valley College's website: www.avc.edu. To contact the Mathematics, Science, and Engineering Division, please call: 661-722-6300 ext. 6415

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Area E - Additional Breadth: (min. 3 units)

From areas A**, B**, C**, D2, ** or
 CFE 102 NF 100, 102, 103, 110, 150
 COMM 103, 107, 219+ PSY 212
 DFST 105 SOC 111, 116
 HD 100, 101, 102, 103, 105
 HE 101, 120, 201
 ID 100, 120
 KINT 100
 LIB 107, 110
 MUSC 108
 Any DA activity course(s) from DA102-205, except DA 107A-C, 108, 109, and 111.
 Any Kinesiology Fitness (KINF) activity course, Intercollegiate Athletics (IATH) activity course, or up to 4 units for military experience.

**** Courses must be taken from a discipline not previously selected.**

Area F Diversity Studies: (min. 3 units)

ANTH 102, 112	FTV 201, 203
BUS 212	HE 201+
CFE 116+	HIST 110, 111, 113
COMM 114, 217+, 219+	MUSC 107, 108
DFST 105, 106	POLS 202+
ECON 110	SOC 105, 110, 116+
ENGL 250+, 253+, 256+, 257+, 259+	THA 239

Proficiency Requirements

Proficiency requirements exist for the areas of Reading, Writing and Math. Students must demonstrate competency in each of these areas in order to be eligible for the associate degree.

A. READING

Complete ENGL 101 with a "C" or better or completion of READ 099 with a minimum grade of "P" (Pass), or completion of an Associate Degree or higher from a regionally accredited institution of higher education.

B. WRITING

Completion of ENGL 101 with a minimum grade of "C." NOTE: ENGL 101 may be taken with the Pass/No Pass option; however, students are cautioned that other colleges and universities may not accept ENGL 101 courses taken on a Pass/No Pass basis, especially for satisfaction of general education and major requirements. Students planning to transfer should check college catalogs for applicable policies.

C. MATHEMATICS

Completion of MATH 102 or higher or CIS 121 with a satisfactory grade or placement by AVC assessment into a math course higher than MATH 102.

***Fulfilling proficiencies** will not require any extra units if the competencies are demonstrated by including the required courses in the general education, or major requirements, or by satisfying the reading proficiency through AVC's policy.

Electives: The remaining number of units (up to a minimum of 60) are considered electives. Any course that has already been counted toward (1) the general education requirements, or (2) the major, cannot be used as an elective. Any course with a designation of "AVC" at the end of a course description can be used as an **Grade Point Average Requirement:** An overall grade point average of 2.0 ("C" average) is required.

Double Counting: While a course might 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.

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>

Requirements for Two or More Associate Degrees: To be eligible for multiple associate degrees, a student must have completed all of the graduation requirements for each degree.

Transfer: Students planning to continue studies at a four-year college or university after AVC should visit the Transfer Resource Center or the Counseling Center and consult with a counselor as soon as possible to develop a plan of studies. Additional preparation for the major information on official transfer articulation agreements from AVC to many CSU/UC campuses can be found at the following Web site: www.assist.org

The **"Catalog Rights Policy"** sets forth the criteria used for determining the degree requirements under which students may graduate. Please refer to the AVC Catalog for a detailed description or consult with a counselor.

Advisory: A condition of enrollment that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

Prerequisite: A condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a course or educational program. Prerequisites are enforced and a student will be blocked from enrolling or involuntarily dropped after enrolling if the student does not meet the stated prerequisite. A student must complete a course prerequisite with a satisfactory grade of A, B, C or P (pass).

Corequisite: A condition of enrollment consisting of a course that a student is required to simultaneously take in order to enroll in another course. Corequisites are enforced and a student will be blocked from enrolling if the student does not meet the stated co-requisite.