



# AS - Mechanical Engineering 20-21

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

**Take Summer 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. Online Counseling is available: <https://www.avc.edu/student-services/counseling>

Major Required Courses:	
CHEM 110+, General Chemistry	5
ENGR 110+, Engineering Orientation and Basic Skills	3
ENGR 125+, Programming and Problem Solving in MATLAB	4
ENGR 130+ & 130L, Materials Science & Lab	4
ENGR 140+, Engineering 3D Graphics	3
ENGR 210+, Statics	4
MATH 150+, Calculus and Analytic Geometry	5
MATH 160+, Calculus and Analytic Geometry	4
MATH 230+, Introduction to Ordinary Differential Equations	4
MATH 250+, Calculus and Analytic Geometry	4
PHYS 110+, General Physics	4
PHYS 120+, General Physics	4
<b>Units Required for the Major:</b>	<b>48</b>
<i>other requirements for degree</i>	
General Education	21-27
Proficiency (See Proficiency Requirements)	*
Electives	0
<b>Minimum Units Required for AS Degree</b>	<b>60</b>

HIST 101, 102, 104, 105, 107, 108, 110, 111, 113, 114, 116+, 118, 119
POLS 101, 103, 200, 201+, 202+, 203+
PSY 101, 201+, 212+, 230+, 232, 233+, 234+, 235+, 236+
SOC 101, 105, 110, 111, 112, 115, 116, 120
<b>Area C Humanities: (min. 3 units)</b>
ART 100, 101, 102, 103, 104, 106, 110, 113, 120, 132, 135, 136+, 137+, 140, 145, 150, 163+, 170+, 210+, 213+
CHIN 101, 102+, 201+, 202+
COMM 103, 112, 114, 214+
DA 101
DFST 101, 102+, 105, 106, 201+, 202+
ENGL 102, 111+, 112+, 221+, 222+, 225+, 227+, 230+, 231+, 235+, 242+, 253+, 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 115
ID 150, 201 (ID courses no longer offered)
LATN 101, 102+, 201+
MUS 101, 105, 111, 131, 132+, 151+, 153+, 185+, 231+, 232+, 251A+, 251B+, 253A+, 253B+
MUSC 102, 103, 107, 108
PHIL 105, 106, 108, 109
PHOT 107
PHTC 101, 150+, 201+
SPAN 101, 110SS, 102+, 201+, 202+, 210SS+, 220SS+
THA 101, 102, 103, 110, 115A, 115B+, 116A+, 116B+, 117A+, 117B+, 118A+, 118B+, 121A, 121B, 130, 133, 225+, 239
<b>Area D Language &amp; Rationality: (min. 3 units from (1) and 3 units from (2))</b>
1. <i>Academic Composition:</i> Courses fulfilling the written composition requirement shall be designed to include both expository and argumentative writing.
ENGL 101+
2. <i>Communication and Analytical Thinking</i>
BUS 113+
CA 103
CIS 101, 111, 141, 157, 161
COMM 101, 103, 107, 109, 112, 114, 115, 217+, 219+
ENGL 102+, 103+
GEOG 201, 205
MATH 102+, 110+, 115+, 116+, 120+, 124+, 128+, 135+, 140+, 148+
150+, 160+, 220+, 230+, 250+
PHIL 101, 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](http://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 (ID courses no longer offered)  
 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 Writing and Math. Students must demonstrate competency in each of these areas in order to be eligible for the associate degree.

#### A. 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.

#### B. 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](http://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.