AS - Computer Engineering 21-22
Recommended Program Sequence

ANTELOPE VALLEY COLLEGE

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

GP

Term 1 (Fall/Spring: Max. 19 units, 12-15 u. recommended)	Units
Gen. Ed. Area D2 **MATH 150+, Calculus & Analytic Geometry**	5
%ENGR 110+, Engineering Orientation and Basic Skills	3
Gen. Ed. Area E **CIS 111, Intro. to Progr. & Algorithms (Prog. Elective)**	3
Gen. Ed. Area C **#ART 103**	3
Gen. Ed. Area D1 (English 101+)	3
# Recommended — Total	17

Term 3 (Fall/Spring: Max. 19 units, 12-15 u. recommended)	Units
MATH 250+, Calculus & Analytic Geometry	4
PHYS 120+, General Physics	4
CIS 121, Computer Mathematics	3
Program Elective (3rd Course)	3
Some CIS courses may require an additional prerequisite — Total	14

Term 2 (Fall/Spring: Max. 19 units, 12-15 u. recommended)	Units
MATH 160+, Calculus & Analytic Geometry	4
Gen. Ed. Area A **PHYSICS 110+, General Physics**	4
Program Elective (2nd Course)	3
General Education Area B **#POLS 101**	3
(Summer: Max. 15 units, 12 units recommended) — Total	14
% ENGR 110 has a Math Pre-requisite	

Term 4 (Fall/Spring: Max. 19 units, 12-15 u. recommended)	Units
MATH 230+, Introduction to Ordinary Differential Equations	4
MATH 220+, Linear Algebra	4
ENGR 230+, Circuit Analysis	4
General Education Area F **#HIST 110**	3
Total	15

Transfer or Graduate

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.

Major Required Courses:

MATH 150+, Calculus & Analytic Geometry	5
MATH 160+, Calculus & Analytic Geometry	4
MATH 220+, Linear Algebra	4
MATH 230+, Introduction to Ordinary Differential Equations	4
MATH 250+, Calculus & Analytic Geometry	4
PHYS 110+, General Physics	4
PHYS 120+, General Physics	4
ENGR 110+, Engineering Orientation and Basic Skills	3
CIS 121, Computer Mathematics	4
ENGR 230+, Circuit Analysis	4

Program Electives: Select 3 courses based on selected transfer

CIS 111+, Introduction to Programming & Algorithms	3
CIS 113+, Data Structures (Recommended)	3
CIS 123, Assembly Language & Computer Architecture	3
CIS 161, Introduction to C Programming (Summer) (Recommended)	3
CIS 173+, Introduction to C++ Programming	3
CIS 175+, Java Programming	3
CIS 177+, Introduction to Pythin Programming	4
Units Required for the Major:	**49-50**

other requirements for degree

General Education	15
Proficiency (See Proficiency Requirements)	*
Electives	0
Minimum Units Required for AS Degree	**60**

Other Requirements:
• 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: 21

Area A Natural Sciences: (min. 3 units)
ANTH 101, 101L
ASTR 101+, 101L+
BIOL 100, 101+, 101L+, 102, 103, 104, 110+, 120+, 201+, 202+, 204+,
CHEM 101+, 102+, 110+
ELTE 101
ERSC 101+
GEOG 101+, 101L+, 102, 102L+
GEOL 101+, 101L+, 102+, 102L+
PHYS 101, 102+, 110+, 120+, 211+
PSCI 101

Area B Social & Behavioral Sciences: (min. 3 units)
AJ 201, 204, 206   SOC 101, 105, 110, 111, 112, 115, 116, 120
ANTH 102, 103, 112. 140
BUS 101
CFE 102
COMM 217+
DFST 105
ECON 100, 101+, 102+, 110
GEOG 105, 106, 110
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+

Area C Humanities: (min. 3 units)
ART 100, 101, 102, 103, 104, 106, 110, 113, 120, 132, 135, 136+, 137+, 140, 145, 150, 163+,
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 20-21)
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

Area D Language & Rationality: (min. 3 units from (1) and 3 units from (2))

1. *Academic Composition:* Courses fulfilling the written composition requirement shall be designed to include both expository and argumentative writing.

   ENGL 101+

2. *Communication and Analytical Thinking*
   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+

Area E - Additional Breadth: (min. 3 units)
From areas A**, B**, C**, D2,** or
CFE 102	LIB 107, 110
COMM 103, 107, 219+	MUSC 108
DFST 105	NF 100, 102, 103, 110, 150
HD 100, 101, 102, 103, 105	PSY 212
HE 101, 120, 201	SOC 111, 116
ID 100, 120	

(ID courses no longer offered 20-21)
KINT 100
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.**

For counseling services educational plans call: (661) 722-6338. AVC's website: www.avc.edu. For Math., Science, Engineering, call: 661-722-6300 ext. 6415

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 elective.

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.