# 2020-2021
# Catalog Addendum

Antelope Valley Community College District

(661) 722-6300    www.avc.edu

Antelope Valley College

3041 West Ave K    Lancaster, CA 93536

Palmdale Center

1529 East Palmdale Boulevard    Palmdale, CA 93550

# Computer Engineering

Required Courses:

*General Core Courses for Engineering Majors*

MATH 150, Calculus and Analytic Geometry (5)

MATH 160. Calculus and Analytic Geometry (4)

MATH 250, Calculus and Analytic Geometry (4)

MATH 230, Introduction to Ordinary Differential Equations (4)

Phys 110, General Physics (4)

PHYS 110 General Physics (4)

**Total Units: 25**

Required Courses:

*Computer Engineering*

ENGR 110, Engineering orientation and Basic Skills (3)

CIS 121, Computer Mathematics

ENGR 230, Circuit Analysis (4)

MATH 220, Linear Algebra (4)

**Total Units: 14**

**Degree Total: 60 units**

# Computer Aided Drafting and Manufacturing Certificate

The certificate program includes coursework to help prepare students for CAD and CAM use in industry. Students who complete this program will have the necessary skill set to be employed by industry and in a variety of positions. Current engineers will find the program helpful for advanced skill building. Technicians will use this program to strengthen their skill set and technical communications skills.

Required Courses:

AM 100, Geometric Dimensioning and Tolerance (GD&T) (3)

AM 105, introduction to 2D CAD (3)

AM 135A, Solid modeling I using CATIA/3D Experience (3) or AM 135B 3D Solid Modeling I using Solidworks

AM 145, Introduction to CAM I

AM 235 A 3D Solid Modeling II using CATIA/3D Experience or AM 235B 3D Solid Modeling II using Solidworks

AM 245 Introduction to CAM II

**Total Units: 18**

# Vocational Nursing Certificate

**Required Courses:**

*BIOL 100, Elementary Human Anatomy and Physiology (3)

(This course must be completed before applying to the program)

*NF 100, Nutrition (3)

*PSY 101, General Psychology (3)

VN 109, Fundamentals of Patient Care for Vocational Nurses (2.25)

VN 110, Fundamentals of VN and Pharmacology (12.25)

VN 111, Vocational Nursing in the Child-Bearing Family and Pediatric Patient (5.25)

VN 112, Medical-Surgical Nursing for the Adult and Child (14)

VN 113, Nursing Leadership in Medical-Surgical Nursing (8.25)

**Total units 51**

* Students must take these courses prior to entering the program. Students who want to pursue the associate degree in registered nursing should consider completing BIOL 201and BIOL 202.

# Associates Degree for Transfer Computer Science

**Program Learning Outcomes**

1. Design, create and test a program in a high-level, object-oriented, programming language based on a given set of specifications.
2. Design, create and test a program in assembly language based on a given set of specifications.
3. Solve common problems in the Binary and Hexadecimal numbering systems.

**Program Description**

Computer science is the study of the theory and methods of processing information in digital computers, the design of computer software and hardware, and the applications of computers. Courses cover programming fundamentals, data structures, discrete mathematics, and computer architecture, along with specific programming languages. The Associate in Science in Computer Science for Transfer degree is offered for those students desiring a major in computer science at a California State University.

**Required Courses**

CIS 111, Introduction to Programming and Algorithms

CIS 113, Data Structures

CIS 121, Computer Mathematics

CIS 123, Assembly Language and Computer Architecture

MATH 150, Calculus and Analytic Geometry

MATH 160, Calculus and Analytic Geometry

PHYS 110, General Physics

BIOL 110, General Molecular Cell Biology *or* BIOL 120, General Organismal, Ecological, and Evolutionary Biology *or* CHEM 110, General Chemistry

**Recommended Plan of Study**

**First Semester**
CIS 111, Introduction to Programming and
Algorithms
CIS 123, Assembly Language and Computer
Architecture
MATH 150, Calculus and Analytic Geometry
General ED, A2 – Written Communication

**Second Semester**
MATH 160, Calculus and Analytic Geometry
CIS 113, Data Structures
General ED, C2 – Humanities
General Ed, D8 – Political Science, Government
and Legal Institutions

**Third Semester**
CIS 121, Computer Mathematics
General Ed, A1 – Oral Communications
General Ed, A3 – Critical
General Ed, AE – Additional Breadth

**Fourth Semester**
BIOL 110, General Molecular Cell Biology *or*
BIOL 120, General Organismal, Ecological, and
Evolutionary Biology *or* CHEM 110, General
Chemistry *or* Phys 120, General Physics
General Ed, D2 - Economics
General Ed, D6 - History
General Ed, C1 - Arts, Dance, Music, Theater
General Ed, C2 - Humanities