AS-Associate Degree (4)

Computer Applications, Networking, & Information Science 18-19

COUNSELING CENTER ADVISING

- Every course in the major requires a minimum grade of “C”
- Maximum of 12 pass/no pass units accepted
- Minimum of 12 units must be completed at AVC (credit earned by examination will not be included in these 12 units)
- Minimum of 9 units must be completed at AVC for the major

- Refer to catalog or online website for course listings, descriptions, and suggested course sequence if available
- Substitutions, with prior permission, may be made for certain courses that may not be offered in the two-year period
- A maximum of 6 pass/no-pass units for certificates

Business Computer Information Science

<table>
<thead>
<tr>
<th>Major Required Courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201, Financial Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 101, Intro to Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101, Mgt. Principles</td>
<td>3</td>
</tr>
<tr>
<td>MATH 128, College Algebra for Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140, Precalculus</td>
<td>3-5</td>
</tr>
<tr>
<td>CA 103, Intro. to Computers &amp; Dig. Tech.</td>
<td>3</td>
</tr>
<tr>
<td>CA 221, Computer Concepts and Applications in Business</td>
<td>3-4</td>
</tr>
<tr>
<td>CA 111, Word Processing–Microsoft Word</td>
<td>3</td>
</tr>
<tr>
<td>CA 121, Microcomputer Spreadsheets</td>
<td>3</td>
</tr>
<tr>
<td>CA 131, Relational Database Management and Design</td>
<td>3</td>
</tr>
<tr>
<td>CA 151, Microcomputer Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CA 171, Introduction to Networking</td>
<td>3</td>
</tr>
<tr>
<td>CA 145, Intro. to Visual BASIC.NET Programming or CA 175, Administering Windows Server</td>
<td>3</td>
</tr>
<tr>
<td>CA 157, Intro. to LINUX</td>
<td>3</td>
</tr>
<tr>
<td>BUS 101, Intro. to Visual BASIC.NET Programming</td>
<td>3</td>
</tr>
<tr>
<td>MATH 102, Intermediate Algebra Program Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 128, College Algebra for Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140, Precalculus</td>
<td>3</td>
</tr>
<tr>
<td>MGT 101, Management Principles</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140, Precalculus</td>
<td>1-8</td>
</tr>
<tr>
<td>MATH 150, Calculus and Analytical Geometry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 220, Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MGT 101, Management Principles</td>
<td>4</td>
</tr>
<tr>
<td>MATH 128, College Algebra for Liberal Arts</td>
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<tr>
<td>MATH 140, Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150, Calculus and Analytical Geometry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 220, Linear Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

Program Electives units

Complete any 4 to 6 units from the following:
- CIS 157, Introduction to LINUX 3
- CIS 173, Introduction to C++ Programming 3
- CIS 174, Introduction to C#.NET Programming 3
- CIS 175, Java Programming 3
- CIS 199, Occupational Work Experience 1-8
- MATH 128, College Algebra for Liberal Studies 3
- MATH 140, Precalculus 5
- MATH 150, Calculus and Analytical Geometry 5
- MATH 220, Linear Algebra 4

other requirements for degree

General Education 21-27
Proficiency (See Proficiency Requirements) * Electives 0-3

Minimum Units Required 60

Computer Software Developer

<table>
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<tr>
<th>Major Required Courses</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 131, Relational Database Management and Design</td>
<td>3</td>
</tr>
<tr>
<td>CA 151, Microcomputer Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CA 101, Intro. to Computer Info. Science</td>
<td>3</td>
</tr>
<tr>
<td>CA 111, Intro. to Programming and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CA 113, Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CA 121, Computer Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CA 123, Assembly Language and Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>CA 161, Intro. to C Programming</td>
<td>3</td>
</tr>
<tr>
<td>MATH 128, College Algebra for Liberal Arts or MATH 150, Calculus and Analytic Geometry or MATH 220, Linear Algebra</td>
<td>3-5</td>
</tr>
<tr>
<td>PHIL 110, Intro. to Logic</td>
<td>3</td>
</tr>
<tr>
<td>Program Electives (see below)</td>
<td>4-6</td>
</tr>
</tbody>
</table>

Units Required for Major 36

Program Electives units

Complete 6 units from the following networking program electives.
- CA 103, Intro. to Computers & Dig. Tech. 3
- CA 131, Relational Database Management and Design 3
- CA 132, Oracle SQL Database Management 3
- CA 153, Windows Installation and System Support 3
- CA 111, Introduction to Programming and Algorithms 3
- CA 133, Data Structures 3
- CA 123, Assembly Language and Computer Architecture 3
- CA 144, Introduction to Basic Programming 3
- CA 145, Intro. to Visual BASIC.NET Programming 3
- CA 161, Introduction to C Programming 3
- CA 173, Introduction to C++ Programming 3
- CA 175, Java Programming 3

other requirements for degree

Program Electives (see below) 9

Units Required for Certificate 30

*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.

# Consult with a counselor/advisor for availability of courses.
General Education Requirements

At least 3 units from each of the following areas below: A, B, C, D1, D2, E, and F.

A. READING

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

   ENGL 101

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.

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.

Residence Requirement

Of the required 60 units, "at least 12 semester units must be completed in residence at the college granting the degree." Title 5, Section 54000 et seq. Title 5 of the California Code of Regulations is available at http://ccr.oal.ca.gov and in the Antelope Valley College Library.

Requirements for Two or More Associate Degrees

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

Transferability of courses to the CSU or UC systems is indicated at the end of a course description by the notation ("UC, CSU."). For the transferability of courses to all other universities, please consult with a counselor or the Transfer Resource Center.

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.

For an educational plan, please consult with a counselor. To obtain counseling services please call: (661) 722-6338

Prerequisite Completion

If a course is listed as a prerequisite for another course, that prerequisite course must be completed with a satisfactory grade in order to enroll in the next course. According to Title 5, Section 55200(d), 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.

Antelope Valley College's website: www.avc.edu

To contact the Career Technical Education Division, please call: 661-722-6300 ext. 6370
ACCT 121 *MICROCOMPUTER ACCOUNTING
Prerequisite: Completion of ACCT 201 or ACCT 111 within the past five years. Advisor: Basic keyboarding skills, and Eligibility for READ 099. (CSU, AVC)

ACCT 201 *FINANCIAL ACCOUNTING
Advisory: Completion of ENGL 101, and Eligibility for MATH 115, MATH 116 or MATH 124. (CU, AVC)

BUS 101 *INTRODUCTION TO BUSINESS
Advisory: Eligibility for College Level Reading and ENGL 100A. (CSU, AVC)

BUS 105 *BUSINESS MATHEMATICS
Advisory: Eligibility for READ 099 and MATH 070. (AVC)

CA 103 * INTRODUCTION TO COMPUTERS & DIGITAL TECHNOLOGY. Advisory: Eligibility for ENGL 100A, READ 099 and MATH 070. (AVC)

CA 111 *WORD PROCESSING-MICROSOFT WORD. Advisory: Completion of CA 103 or CA 221 and OT 101, and the Ability to type 30 wpm, and Eligibility for ENGL 100A and READ 099. (CSU, AVC)

CA 121 *MICROCOMPUTER SPREADSHEETS
Advisory: Completion of CA 103 or CA 221, and Eligibility for READ 099 and MATH 070. (CSU, AVC)

CA 131 *RELATIONAL DATABASE MANAGEMENT AND DESIGN
Advisory: Completion of CA 103 or CA 221, and Eligibility for READ 099 and MATH 070. (CSU, AVC)

CA 132 *ORACLE SQL DATABASE MANAGEMENT. Advisory: Completion of CA 103, CA 121, CA 131, or CIS 101, and Eligibility for ENGL 100A, READ 099, and MATH 102. (CSU, AVC)

CA 151 *MICROCOMPUTER OPERATING SYSTEMS. Advisory: Completion of CA 103 or CA 221, and Eligibility for ENGL 100A and READ 099. (CSU, AVC)

CA 153 *WINDOWS INSTALLATION AND SYSTEM SUPPORT. Advisory: Completion of CA 103 or CIS 101, Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, AVC)

CA 171 *INTRODUCTION TO NETWORKING
Advisory: Completion of CA 103 or CA 221, and Eligibility for ENGL 100A, READ 099 and MATH 070. (CSU, AVC)

CA 175 *ADMINISTERING WINDOWS SERVER
Advisory: Completion of CA 103 or CA 221 or CIS 101, and Eligibility for ENGL 100A and READ 099. (CSU, AVC)

CA 176 *WINDOWS SERVER NETWORKING
Prerequisite: Completion of CA 175. Advisor: Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, AVC)

CA 182 *NETWORK SECURITY
Advisory: Completion of CA 171 or CA 175, and Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, AVC)

CA 199 *OCCUPATIONAL WORK EXPERIENCE
Prerequisite: To participate in work experience, students must have a job or internship which is either paid or voluntary and have the approval of the supervisor and instructor supervising work experience in the specific subject area. Prior to enrolling, students must attend a scheduled orientation or meet individually with the supervising instructor for an individual orientation. (CSU, AVC)

CA 221 *COMPUTER CONCEPTS AND APPLICATIONS IN BUSINESS
Advisory: Completion of ACCT 201, and Eligibility for College Level Reading, ENGL 101 and MATH 070. (CSU, AVC)

CIS 101 *INTRODUCTION TO COMPUTER INFORMATION SCIENCE. Advisory: Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, UC, AVC)

CIS 111 *INTRODUCTION TO PROGRAMMING AND ALGORITHMS. Advisory: Completion of CA 103 or CA 221 or CIS 101, and Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, UC, AVC)

CIS 113 *DATA STRUCTURES
Prerequisite: Completion of CIS 111 or CIS 161. Advisory: Completion of CIS 121 and MATH 128 or MATH 140, and Eligibility for ENGL 100A, READ 099. (CSU, UC, AVC)

CIS 121 *COMPUTER MATHEMATICS
Advisory: Completion of CIS 111, Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, UC, AVC)

CIS 141 *INTRODUCTION TO BASIC PROGRAMMING. Advisory: Completion of CA 103 or CA 221 or CIS 101, and Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, UC, AVC)

CIS 145 *INTRODUCTION TO VISUAL BASIC.NET PROGRAMMING
Advisory: Completion of CIS 141 and either CIS 111 or CIS 173, and Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, AVC)

CIS 151 *INTRODUCTION TO LINUX
Advisory: Completion of CA 103, CA 221 or CIS 101, and Eligibility for ENGL 100A, READ 099 and MATH 102. (CSU, AVC)

CIS 157 *INTRODUCTION TO LINUX ADMINISTRATION. Prerequisite: Completion of CA 151, CA 171, or CIS 157. Advisory: Eligibility for ENGL 100A and READ 099. (CSU, AVC)

CIS 161 *INTRODUCTION TO C PROGRAMMING
Advisory: Completion of CIS 101, and Eligibility for ENGL 100A, READ 099 and MATH 128. (CSU, UC, AVC)

CIS 173 *INTRODUCTION TO C++ PROGRAMMING. Prerequisite: Completion of CIS 161. Advisory: Eligibility for ENGL 100A, READ 099 and MATH 128. (CSU, UC, AVC)

CIS 175 *JAVA PROGRAMMING
Prerequisite: Completion of CIS 111. Advisory: Eligibility for ENGL 100A, READ 099 and MATH 126. (CSU, UC, AVC)

CIS 199 *OCCUPATIONAL WORK EXPERIENCE
Prerequisite: To participate in work experience, students must have a job or internship which is either paid or voluntary and have the approval of the supervisor and instructor supervising work experience in the specific subject area. Prior to enrolling, students must attend a scheduled orientation or meet individually with the supervising instructor for an individual orientation. (CSU, AVC)

MGT 101 *MANAGEMENT PRINCIPLES
Advisory: Eligibility for ENGL 100A, READ 099 and MATH 065. (CSU, AVC)

MATH 102 *INTERMEDIATE ALGEBRA
Prerequisite: Eligibility for MATH 102 (AVC assessment) or Completion of MATH 070. Advisory: Eligibility for READ 099. (AVC)

MATH 140 *PRECALCULUS
Prerequisite: Eligibility for MATH 140 (AVC Assessment) or Completion of MATH 105 and MATH 135. Advisory: Eligibility for College Level Reading. (CSU, UC, AVC)

MATH 150 CALCULUS AND ANALYTIC GEOMETRY. Prerequisite: Eligibility of MATH 150 (AVC Assessment test) or Completion of MATH 140. Advisory: Eligibility for College Level Reading. (CSU, UC, AVC)