



Computer Applications, Networking, & Information Science Certificates

17-18

COUNSELING CENTER ADVISING

- For the Degree program, see Computer Applications, Networking, Information Science Associate Degree
- Requires a minimum grade of "C" on each course
- Maximum of 6 pass/no pass units accepted
- Minimum of 12 units completed in residence at AVC with a minimum of 9

- examination will not be included in these 12 units)
- Substitutions, with prior permission, may be made for certain courses that may not be offered in the two-year period.
- Refer to catalog or online website for course listings, descriptions, and suggested course sequence if available.

Certificate Programs (5)

Business Computer Information Science

Major Required Courses	units
ACCT 201, Financial Accounting	4
BUS 101, Intro. to Business	
or MGT 101, Mgt. Principles	3
BUS 105, Business Mathematics	
or MATH 128, College Algebra for Liberal Arts	
or MATH 140, Precalculus	3-5
CA 103, Intro. to Computers & Dig. Tech.	
or CA 221, Computer Concepts and Applications in Business	
or CIS 101, Intro. to Computer Information Science	3-4
CA 121, Microcomputer Spreadsheets	
or ACCT 121, Microcomputer Accounting	2-3
CA 171, Introduction to Networking	3
CIS 111, Intro. to Programming and Algorithms or CIS 145, Intro. to Visual BASIC.NET Programming	3
CIS 141, Introduction to BASIC Programming	3
Program Electives (see below)	2-6
Units Required for Certificate	30

Program Electives	units
Select any 2-6 units from the following:	
ACCT 121, Microcomputer Accounting	2
BUS 101, Introduction to Business	3
BUS 105, Business Mathematics	3
CA 103, Intro. to Computers & Dig. Tech.	3
CA 121, Microcomputer Spreadsheets	3
CA 199, Occupational Work Experience	1-8
CA 221, Computer Concepts and Applications in Business	4
CIS 111, Introduction to Programming and Algorithms	3
CIS 145, Introduction to Visual BASIC.NET Programming	3
CIS 199, Occupational Work Experience	1-8
MATH 128, College Algebra for Liberal Arts	3
MATH 140, Precalculus	5
MGT 101, Management Principles	3

Consult with a counselor/advisor for availability of courses.

Computer Applications

Major Required Courses	units
CA 103, Intro. to Computers & Dig. Tech.	
or CA 221, Computer Concepts and Applications in Business	3-4
CA 111, Word Processing–Microsoft Word	3
CA 121, Microcomputer Spreadsheets	3
CA 131, Relational Database Management and Design	3
CA 151, Microcomputer Operating	

Systems	3
CA 171, Introduction to Networking	3
CIS 145, Intro. to Visual BASIC.NET Programming or CA 175, Administering Windows Server	
or CIS 157, Intro. to LINUX	3
CIS 141, Intro. to Basic Programming	3
Math 102, Intermediate Algebra	4
Program Elective (see below)	3
Units Required for Certificate	31-32

Program Electives	units
Complete any 3 units from the following:	
CA 103, Intro. to Computers & Dig. Tech.	3
CA 175, Administering Windows Server	3
CA 199, Occupational Work Experience	1-8
CA 221, Computer Concepts and Applications in Business	4
CIS 145, Introduction to Visual BASIC.NET Programming	3
CIS 157, Introduction to LINUX	3
CIS 199, Occupational Work Experience	1-8

Computer Software Developer

Major Required Courses	units
CA 131, Relational Database Management and Design	3
CA 151, Microcomputer Operating Systems	3
CIS 101, Intro. to Computer Info. Science	3
CIS 111, Intro. to Programming and Algorithms	3
CIS 113, Data Structures	3
CIS 121, Computer Mathematics	3
CIS 123, Assembly Language and Computer Architecture	3
CIS 161, Intro. to C Programming	3
MATH 128, College Algebra for Liberal Arts or MATH 150, Calculus and Analytic Geometry or MATH 220, Linear Algebra	3-5
PHIL 110, Intro. to Logic	3
Program Electives (see below)	4-6
Units Required for Major	36

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

Computer Networking (Core & Multi-Platform)

Required Courses	units
CA 107, Microcomputer Hardware and Software Support	3
CA 151, Microcomputer Operating Systems	3
CA 171, Intro. to Networking	3
CA 175, Administering Windows Server	3
CA 176, Windows Server Networking	3
CA 182, Network Security	3
CIS 157, Intro. To LINUX	3
CIS 159, SUSE Linux Server Administration	3
Program Electives (see below)	6
Units Required for Certificate	30

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
CIS 111, Introduction to Programming and Algorithms	3
CIS 113, Data Structures	3
CIS 123, Assembly Language and Computer Architecture	3
CIS 141, Introduction to Basic Programming	3
CIS 145, Intro. to Visual BASIC.NET Programming	3
CIS 161, Introduction to C Programming	3
CIS 173, Introduction to C++ Programming	3
CIS 175, Java Programming	3

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

Requirements for Two or More Certificates

To earn more than one certificate, a course can be used as part of as many certificate requirements as the student wishes to obtain.

Transfer

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.

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.
Advisory: Basic keyboarding skills, and Eligibility for READ 099. (CSU, AVC)

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

BUS 101 *INTRODUCTION TO BUSINESS
Advisory: Eligibility for College Level Reading and ENGL 099. (CSU, UC, 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 099, READ 099 and MATH 070. (CSU, UC, AVC)

CA 107 *MICROCOMPUTER HARDWARE AND SOFTWARE SUPPORT
Advisory: Completion of CA 103, CA 221 or CIS 101, and Eligibility for ENGL 099, 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 099 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 099, READ 099, and MATH 102. (CSU, AVC)

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

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

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

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

CA 182 *NETWORK SECURITY
Advisory: Completion of CA 171 or CA 175, and Eligibility for ENGL 099, 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/ENGL 101SL and MATH 070. (CSU, UC, AVC)

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

CIS 121 *COMPUTER MATHEMATICS
Advisory: Completion of CIS 111, CIS 113, and MATH 128 or MATH 140, and Eligibility for College Level Reading and ENGL 099. (CSU, UC, AVC)

CIS 123 *ASSEMBLY LANGUAGE AND COMPUTER ARCHITECTURE
Advisory: Completion of CIS 111, and Eligibility for ENGL 099, READ 099 and MATH 102. (CSU, UC, AVC)

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

CIS 157 *INTRODUCTION TO LINUX
Advisory: Completion of CA 103, CA 221 or CIS 101, and Eligibility for ENGL 099, READ 099 and MATH 102. (CSU, AVC)

CIS 159 *SUSE LINUX SERVER ADMINISTRATION
Prerequisite: Completion of CA 151, CA 171, or CIS 157. **Advisory:** Eligibility for ENGL 099 and READ 099. (CSU, AVC)

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

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

CIS 175 *JAVA PROGRAMMING
Prerequisite: Completion of CIS 111.
Advisory: Eligibility for ENGL 099, READ 099 and MATH 128. (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 099, 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)

MATH 220 LINEAR ALGEBRA
Prerequisite: Completion of MATH 160. **Advisory:** Eligibility for College Level Reading. (CSU, UC, AVC)

PHIL 110 INTRODUCTION TO LOGIC
Advisory: Eligibility for College Level Reading, ENGL 099 and MATH 070. (CSU, UC, AVC)

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 requisite.