

# COMPUTER INFORMATION SYSTEMS

The Computer Information Systems (CIS) program offers a wide variety of courses in Programming, Web design and Office Automation, leading to the degree of Associate in Science and Certificates in CIS, Office Microcomputers and Administrative Assistant. In addition to the major coursework, which emphasizes computer applications in software and programming, CIS combines studies in business management, and meets the needs of students targeting careers that meld knowledge of information systems and the management of business organizations.

For more information, contact:  
Diane Eberhardy, [deberhardy@vcccd.edu](mailto:deberhardy@vcccd.edu)  
805-986-5800, ext. 1993

## Career Opportunities

### A.S./Certificate Level

Office Manager	Word Processor
Office Clerk	Administrative Aide
Receptionist	Data Entry Operator
Medical Office Assistant	Secretary
Junior Programmer	Microcomputer Specialist
Filing Clerk	Systems Analyst
Software Engineer	Tech Support Specialist
Applications Programmer	
Customer Service Support Representative	
Typist/Office Machines Operator	

### B.S. Level

Computer Consultant	Corporate Trainer
Sales	Instructor
Information Systems Manager	

## Faculty

### Full-Time

Hank Bouma	Diane Eberhardy
Carmen Guerrero	Maria Pinto-Casillas

### Part-Time

Richard Carmichael	Billy Davis
Dave Donaldson	Leonard Gilmore
Sandy Iverson	P.J. Manning
Dolly Montalvo	Joe Piantino
Kathlynn Spencer	Ray Tafoya
Cherri Ziegler	Alexandra Zuromski

## ◆ Administrative Assistant

### Associate in Science Degree

#### Certificate of Achievement

This program is designed for students who wish to prepare for positions as administrative assistants or secretaries and work closely with management in a business, professional, educational, or industrial office.

Required Courses:	Units	
CIS R001A/B	Keyboarding I/II	1/1
CIS R002	Keyboarding Speed & Accuracy	2
CIS R003A	Filing	½
CIS R003B	Ten-Key Calculators	½
CIS R003K	Proofreading Skills	2

CIS R008	Machine Transcription	2
CIS R009	Office Procedures	3
CIS R020B	Introduction to the Internet/WWW	1
CIS R021A	Introduction to Windows	1
CIS R023A	Excel I	3
CIS R024A	Access	3
CIS R026B	Microsoft Word	3
BUS R030	Business Mathematics	3
BUS R140	Business Communications	3

#### Complete a minimum of three units from the following:

BUS R001	Preparation for Accounting	3
BUS R101A	Accounting Principles I	3
CIS R023B	Excel II	3
CIS R025A	PowerPoint	2
CIS R026A	WordPerfect	3
BUS R020	Introduction to the Medical Office	1
BUS R021	Medical Terminology	3
BUS R120	Introduction to Business	3

**Total Required Units 32**

## ◆ Computer Information Systems

### Associate in Science Degree

#### Certificate of Achievement

This program is designed for students interested in learning basic computer information systems concepts, principles, and techniques. Students will be prepared to enter the fields of information technology, junior programmer, software engineer, applications programmer, microcomputer specialist, and systems analyst. This program is oriented to applying computer information systems skills to a business, industry, or government environment using microcomputer systems.

#### Required Courses:

Required Courses:	Units	
CIS R024A	Microsoft Access	3
CIS R100	Introduction to Computer Information Systems	3
CIS R101	Programming Principles and Design	3
CIS R112A	JAVA Programming I	3
CIS R120	Systems Analysis & Design	3
CIS R123A	Excel I	3
CIS R123B	Excel II	3
CIS R126	Introduction to the Internet/WWW	3
CIS R127	Web Pages with HTML	3
CIS R129*	Microsoft PowerPoint	3

**Total Core Units 30**

Complete a minimum of three units from the following courses:

BUS R120	Introduction to Business	3
CIS R104*	Introduction to Windows	3
CIS R112B	JAVA Programming II	3
CIS R130*	Microsoft Word	3
CIS R142*	Web Pages with Dreamweaver	3
CIS R144*	Web Pages with Flash	3
ENGT R120	First Half of CCNA Prep	4
ENGT R121	Second Half of CCNA Prep	4
ENGT R127	Cisco Wireless Fundamentals	3
ENGT R142	A+ Certification Preparation	4
ENGT R144	Network+ Certification Preparation	4
ENGT R145	CompTIA Security+ Certification Preparation	3

**Total Required Units 33**

\*Course being developed

## ◆ Office Microcomputers

### Associate in Science Degree Certificate of Achievement

This program is designed for students interested in learning popular computer application systems that are in demand for a variety of professions. Students will be prepared to enter the fields of information technology, microcomputer specialist, help-desk technician, and computer service support technician. This program is oriented to applying computer application systems skills to a business, industry, or government environment using microcomputer systems.

Required Courses:		Units
CIS R020A	Introduction to Microcomputers	3
CIS R024A	Microsoft Access	3
CIS R100	Introduction to Computer Information Systems	3
CIS R123A	Excel I	3
CIS R123B	Excel II	3
CIS R126	Introduction to the Internet/WWW	3
CIS R127	Web Pages with HTML	3
CIS R130*	Microsoft Word	3
CIS R142*	Web Pages with Dreamweaver	3
CIS R144*	Web Pages with Flash	3
Complete one of the following courses:		
CIS R128C	Photoshop I	3
CIS R128D	Photoshop II	3
<b>Total Required Units</b>		<b>33</b>

\*Course being developed

## ◆ Office Occupations Preparation Program

### Certificate of Completion

(Awarded by the Department)

Receive a Certificate of Completion after 15 units! The Office Occupations Program is designed for students interested in obtaining entry-level employment in an office. The program can be completed in 13 weeks!

Keyboarding is a skill needed to succeed in the program. If a student does not type 20 wpm then enrollment in CIS R001A, Keyboarding I is required.

Required Courses:		Units
BUS R041	Basic Business English	3
CIS R026B	Microsoft Word	3
CIS R021	Windows Basics	½
CIS R002	Keyboarding Speed & Accuracy	2
CIS R003A	Filing	½
CIS R003P	Job Skills	2
CIS R003D	Office Communications and Interpersonal Skills	2
CIS R023	Microsoft Excel Basics	½
CIS R003B	Ten-Key Calculators	½
CIS R007L	Office Preparation Lab	1
<b>Total Required Units</b>		<b>15</b>

For additional information on the program call 986-5800, Ext. 1979.

## Computer Information Systems Courses

### CIS R001A—Keyboarding I 1 unit

½ hour lecture, 1½ hours lab weekly

This course is required to receive a Certificate of Completion from the Office Occupations Preparation Program and for the Office Microcomputers and the Administrative Assistant degree and certificate. This course is for the beginning student. This course provides instruction on letter, number, symbol, and special keys and develops fundamental skills in the operation of the keyboard. Course may be taken two times. Formerly BIS R001A. (2)

### CIS R001B—Keyboarding II 1 unit

Prerequisites: CIS R001A.

½ hour lecture, 1½ hours lab weekly

This course is required for the Office Microcomputers and for the Administrative Assistant degree and certificate. This course provides instruction on the formatting of basic business documents—e-mails, reports, letters, envelopes, memos, and tables. It will also provide drill work to improve both speed and accuracy in keyboarding by touch. Formerly BIS R001B. (2)

### CIS R002—Keyboarding Speed and Accuracy 1½ units

Advisory: CIS R001A.

½ hour lecture, 3 hours lab weekly

This course is designed to improve speed and accuracy in using the keyboard through development of proper technique, assessment of keyboarding deficiencies, and through individual practice to improve keyboarding deficiencies. It is for students who know the keyboard by touch but need more work on speed and/or accuracy. Drills for speed development and accuracy will be self-paced. This course may be taken two times. Formerly BIS R002. (2)

### CIS R003A—Filing 1 unit

1½ hours lecture-laboratory weekly

This course is a quick but thorough review of filing procedures and principles. Students will learn alphabetic, numeric, and government filing procedures. Formerly BIS R012A. (2)

### CIS R003B—Ten-Key Calculators 1 unit

½ hour lecture, 1½ hours laboratory weekly

Students will learn to operate the ten-key keyboard by touch. This course includes practical business problems that can be solved using a ten-key calculator. Drill and review will round out the operator's training. Formerly BIS R012B. (2)

### CIS R003K—Proofreading Skills 2 units

Prerequisites: BUS R040 or ENGL R066 or equivalent.

Advisory: CIS R001A and CIS R001B.

2 hours lecture weekly

This course provides skill development in proofreading with emphasis on finding and correcting typographical, grammatical, formatting, and content errors. This course is required for the Administrative Assistant, \*Office Technology Customer Service, and Office Microcomputers certificates and degrees. Formerly BIS R012K. (2)

\*The Office Technology—Customer Service Curriculum program requirements have been temporarily suspended. For further information, please contact the Occupational Ed. & Econ. Dev. division office.

### CIS R007—Office Occupations Preparation 1-15½ units

Lecture and/or lab hours as required by unit formula.

This course is for students with little or no previous office training and who have immediate job goals in mind. The complete course may include training in keyboarding, keyboarding speed and accuracy development, basic knowledge of Windows and Excel, document processing using Word, filing, ten-key, business English, spelling, vocabulary, telephone techniques, e-mail etiquette, Internet research, and job skills. This course can be self-paced and may operate on an open-entry, open-exit enrollment plan if desired. Students may earn from 1 to 15.5 units depending on completion of course work. Upon successful completion of the program a Certificate of Completion will be awarded by the department. Course may be repeated to complete unfinished subjects or learn new skills. Contact the Admissions office or the Office Occupations Preparation Program classroom at 986-5800, Ext. 1979 for vacancy and program information.

Students who successfully complete this cluster course may petition for substitute credit in the following courses: CIS R001A/Keyboarding I, CIS R001B/Keyboarding II, CIS R002/Keyboarding Speed and Accuracy, CIS R003A/Filing, CIS R003B/10-Key Calculators, CIS R003C/Business Vocabulary, CIS R003L/Telephone Techniques, CIS R003P/Job Skills, CIS R021A/Introduction to Windows, CIS R026B/Microsoft Word. Students must contact Business Department faculty for substitute credit petitions. Field trips may be required. Formerly BIS R007. (1)

**CIS R008—Machine Transcription 2 units**

*Prerequisites:* CIS R001B.

*Advisory:* CIS R003K and a typing speed of 40 wpm.  
2 hours lecture weekly

This course teaches transcription of dictation from cassettes to achieve mailable documents. It includes a brief review of grammar and spelling. This course is required for the Administrative Assistant certificate and degree. Formerly BIS R013. (2)

**CIS R009—Office Procedures 3 units**

*Prerequisites:* CIS R001B.

*Advisory:* CIS R003K.  
3 hours lecture weekly

This course provides instruction and practical applications in current office techniques including office organizations, time management, telephone procedures, origination of correspondence, records management, mail handling, job skills, human relations, and stress management. This is a good "finishing course" after having taken separate skill courses. Field trips may be required. Formerly BIS R019. (2)

**CIS R020A—Introduction to Microcomputers 3 units**

*2½ hours lecture, 1½ hours lab weekly*

This course provides an initial introduction to computer technology for students who have no experience or limited experience with computers. A basic introduction of the fundamentals of computers in topics such as computer terminology, the history of computers, the components of computers, the Internet and World Wide Web, computer communications, computer networks, network operating systems, operating system software and application software, storage media, word processing, spreadsheets, database management, presentation software, information privacy, and computer security. Students will obtain hands-on experience with various software applications. Not applicable for degree credit. Formerly BIS R040. (2)

**CIS R020B—Introduction to the Internet/WWW 1 unit**

*1 hour lecture weekly*

This course provides an overview of Internet services, telecommunications services, data services, and wide-area computer networking services. Particular emphasis is placed on electronic mail, commercial data services, and Internet services, and how these services can be accessed and explored by businesses and individuals. Not applicable for degree credit. Formerly BIS R180A. (2)

**CIS R021A—Introduction to Windows 1 unit**

*1 hour lecture weekly*

In this course, students will learn to manage files and to use Windows tools, accessories, and applications. This course is suitable for students wishing to learn more about system software. Not applicable for degree credit. Formerly BIS R041C. (2)

**CIS R022A—Microsoft Office 3 units**

*Advisory:* CIS R021A.

*3 hours lecture weekly*

This is a survey course and is designed to teach the fundamentals of Microsoft Office; Microsoft Word, a word processing program; Microsoft Excel, a spreadsheet program; Microsoft Access, a database program; and Microsoft PowerPoint, a graphic presentations program. This course will also acquaint the student with the proper methods for solving computer applications problems and the integrated solutions to these problems through the use of object linking and embedding (OLE). Formerly BIS R031N. (2)

**CIS R024A—Microsoft Access 3 units**

*Advisory:* CIS R021A.

*3 hours lecture weekly*

Students taking this course will use Access to design forms and reports for the retrieving and viewing of information commonly used to manage organizational data. Students will use built-in templates that enable them to build attractive and useful database objects. Formerly BIS R044C. (2)

**CIS R025A—Microsoft PowerPoint 2 units**

*Advisory:* CIS R021A.

*2 hours lecture weekly*

This course instructs students in the creation of professional looking presentations such as overheads, electronic slides, and 35mm slides on a computer using features such as outlining, graphing, drawing, clip art, presentation management, and Wizards (a tutorial approach to creating presentations). Formerly BIS R031R. (2)

**CIS R026B—Microsoft Word 3 units**

*Advisory:* CIS R021A.

*3 hours lecture weekly*

This course includes instruction and practical experience using basic Microsoft Word functions while learning job-related skills. Students will take advantage of the many new capabilities of word processing in a Windows environment. Formerly BIS R031Q. (2)

**CIS R027A—Web Page Development 1 unit**

*Advisory:* CIS R020B.

*1 hour lecture weekly*

This course provides instruction in the development of personal web pages using Corel Suite, Microsoft Office products, and Internet freeware. (2)

**CIS R028C—Adobe Photoshop 3 units**

*Advisory:* CIS R021A and CIS R027B.

*3 hours lecture weekly*

This course teaches the basic skills needed for web and graphic design using Adobe Photoshop and Image Ready. Students will learn basic image manipulation in a computer environment with an emphasis on mastering the fundamentals of color management, scanning, photo retouching, imaging, special effects, filters and masks. Students will also use the computer to modify and create page and web layouts, pictorial images and designs. Not applicable for degree credit. (2)

**CIS R041—Computer Applications for Legal Assisting 3 units**

*3 hours lecture weekly*

This course trains the legal assistant to use a variety of computer software packages. Students will become familiar with word processing, data bases, and spreadsheets. Retrieval, timekeeping, billing, document search, and time management software packages will be used also. This course covers topics related to a law practice and is best suited to legal assistants or research assistants. Field trips may be required. Formerly BIS R031P. (2)

**CIS R042A—Computerized Accounting 2 units**

*Prerequisites:* BUS R001 and CIS R020A.

*Corequisites:* CIS R042L.

*2 hours lecture weekly*

This course will provide an in-depth study of financial accounting using microcomputer software systems. Students will learn to become occupationally competent in the use of at least one of several general ledger or write-up software systems currently available. Formerly BIS R045. (2)

**CIS R042L—Computerized Accounting Lab 1 unit**

*Corequisites:* CIS R042A.

*3 hours lab weekly*

This course provides laboratory experience to accompany CIS R042A. (2)

**CIS R080—Introduction to Oracle: SQL** 3 units

*Advisory: CIS R021A.*  
3 hours lecture weekly

This course introduces students to relational database concepts and database design techniques, utilizing Oracle's database management product. This course concentrates on the nonprocedural relational database language, SQL (Structured Query Language) and the SQL\*Plus environment. (2)

**CIS R081—Oracle PL/SQL Programming** 3 units

3 hours lecture weekly

This is the second course in a series of courses designed to provide students with classroom and laboratory experience utilizing Oracle's PL/SQL, Programming Language/Structured Query Language. Programming PL/SQL procedures, functions, packages, triggers and object types in Oracle's SQL\*Plus and Procedure Builder environment. (2)

**CIS R098—Short Courses in Computer Information Systems** ½-10 units

Lecture and/or lab hours as required by unit formula

This class offers courses in specialized topics designed to inform or update interested persons in various disciplines within the field of computer information systems. Unit credit determined by length of course. Field trips may be required. (2)

**CIS R100—Introduction to Computer Information Systems** 3 units

3 hours lecture weekly

This course is a comprehensive introduction to computer technology and information systems and their relationship to business and society. Students will be introduced to computer terminology, computer systems, hardware, software, the Internet and World Wide Web, communications and networking, programming languages, information systems, data structures, database management, enterprise computing, computer security, ethics, and privacy, careers in the computer industry, as well as the impact of computers on business and society as a whole. Formerly BIS R151. (2)

*Transfer credit: UC, CSU*

**CIS R101—Programming Principles and Design** 3 units

3 hours lecture weekly

This is an introductory course in computer program design and development. Emphasis is on basic analytical and problem-solving techniques of algorithm development. Students will utilize program specification sheets, structure charts, flowcharts and pseudo-code in developing designs for business applications programs. Structured programming techniques will be stressed throughout the course. This course is recommended prior to or concurrent with the first course taken in a computer programming language. Students are encouraged to take CIS R100 prior to this course. Field trips may be required. Formerly BIS R152. (2)

*Transfer credit: UC, CSU*

**CIS R110A—VISUAL BASIC Programming I** 3 units

*Prerequisites: CIS R021A and CIS R101.*

3 hours lecture weekly

This is a beginning programming course. Students enrolled in VISUAL BASIC Programming I will use an object-oriented/event-driven approach to learning programming concepts. Students will develop objects such as dialog boxes, command buttons, menus, and list boxes commonly used in the Windows environment with an emphasis on creating well-structured program forms. Formerly BIS R153C. (2)

*Transfer credit: UC, CSU*

**CIS R110B—VISUAL BASIC Programming II** 3 units

*Prerequisites: CIS R110A.*

3 hours lecture weekly

Students enrolled in VISUAL BASIC Programming II will use an object-oriented/event-driven approach to learning programming concepts. Students will develop and support objects such as menus, list boxes, forms, financial functions, timer controls, arrays, graphics control, and database control commonly used in the Windows environment. (2)

*Transfer credit: UC, CSU*

**CIS R110C—VISUAL BASIC for ACCESS** 3 units

*Prerequisites: CIS R024A, CIS R100, and CIS R110A.*

3 hours lecture weekly

This course is the study of the principles of design, implementation, and maintenance of a database management system. VISUAL BASIC for ACCESS (VBA) is used to generate application programs for creating, updating, and retrieving data from a microcomputer database management system. Emphasis is on systematic application development in Microsoft ACCESS using VBA statements, as well as writing, debugging, and maintaining multi-user applications. Course coverage includes using event-driven programming and ACCESS events; enhancing ACCESS applications through macros, menus, and toolbars; working with VBA modules, functions, and subroutines; using objects and methods in VBA; and protecting data integrity in a multi-user environment. (2)

*Transfer credit: UC, CSU*

**CIS R112A—JAVA Programming I** 3 units

*Prerequisites: CIS R101.*

3 hours lecture weekly

This course is intended for people who have no previous programming experience. The JAVA programming language is an object-oriented language and is the language of the World Wide Web. Because JAVA supports the programming of graphical interfaces and use of computer networks, students will develop web-based objects for personal and commercial use. Field trips may be required. Formerly BIS R157A. (2)

*Transfer credit: UC, CSU*

**CIS R112B—JAVA Programming II** 3 units

*Prerequisites: CIS R112A.*

2½ hours lecture, 1½ hours lab weekly

Java Programming II introduces students to advanced features of Java object-oriented programming. Students will learn to create applets that run in a web browser as well as add graphics, images, and sound to applets. Additional features such as inheritance, Swing components, exception handling, data management, and threads for animation programs will be introduced to provide a foundation of computer programming skills. Field trips may be required. (2)

*Transfer credit: UC, CSU*

**CIS R120—Systems Analysis & Design** 3 units

*Prerequisites: CIS R100.*

3 hours lecture weekly

This course is a comprehensive introduction to business information systems analysis and design. Students will be introduced to the role of business information systems, the analysis of information systems, the design of information systems, system implementation, and computer-aided systems engineering tools. Field trips may be required. Formerly BIS R161A. (2)

*Transfer credit: CSU*

**CIS R123A—Excel I** **3 units***2½ hours lecture, 1½ hours lab weekly*

This course provides instruction in Microsoft Excel, concentrating on the development of an understanding and working knowledge of the business and practical applications of a spreadsheet. Students will be introduced to topics such as charts, formulas, functions, Web queries, formatting, financial functions, data tables, and hyperlinks. This course is a required course for the Administrative Assistant degree and certificate as well as the Office Microcomputers degree and certificate. Formerly CIS R023A. (2)

*Transfer credit: CSU***CIS R123B—Excel II** **3 units***Prerequisites: CIS R123A.**3 hours lecture weekly*

This course provides instruction in developing advanced Microsoft Excel skills, concentrating on the development of an understanding and working knowledge of the business and practical applications of a spreadsheet. Students will be introduced to topics such as database management, templates, macros, Visual Basic for Applications (VBA), formula auditing, data validation, importing data, and pivot tables. Formerly CIS R023B. (2)

*Transfer credit: CSU***CIS R126—Introduction to the Internet/WWW** **3 units***2½ hours lecture, 1½ hours lab weekly*

Students will be introduced to the various services that make up the Internet. The primary focus for this course will be the World Wide Web. Students will learn the basic components that make up the Internet and how to interact with the World Wide Web. Particular emphasis will be placed on such topics as browser programs, communicating with e-mail, searching the web for information, information resources on the web, downloading and storing data, real-time communication, Internet security, and e-commerce. Formerly CIS R020B. (2)

*Transfer credit: CSU***CIS R127—Web Pages with HTML** **3 units***Advisory: CIS R020B.**3 hours lecture weekly*

This course provides a solid foundation in the design and development of web pages using HTML and scripting. HTML elements including fonts, images, forms, and tables will be studied. Students will learn to integrate text, colors, graphics, sound, and video in developing web sites. The latest technologies in web design will be emphasized throughout the course. Students will develop personal web pages as well as publish web sites on the World Wide Web. Formerly CIS R027B. (2)

*Transfer credit: CSU***CIS R128C—Photoshop I** **3 units***2½ hours lecture, 1½ hours lab weekly*

This course will introduce students to basic topics in using Photoshop digital image editing software. Students will learn to manipulate digital images using such features as basic photo corrections, retouching and repairing digital images, working with image selections, layer basics, masks and channels, correcting and enhancing digital photographs. Formerly CIS R028C. (2)

*Transfer credit: CSU***CIS R128D—Photoshop II** **3 units***Prerequisites: CIS R128C.**2½ hours lecture, 1½ hours lab weekly*

This course will introduce students to advanced topics in Photoshop. Students will learn to manipulate digital images using such features as typographic design, vector drawing, advanced layer techniques, advanced compositing, image links, rollovers, and image animation. Formerly CIS R098M. (2)

*Transfer credit: CSU***CIS R189—Topics in Computer Information Systems** **½-10 units***Lecture and/or lab hours as required by unit formula*

This class offers specialized topics designed to inform or update interested persons in various disciplines within the field of business and computer information systems. Unit credit is determined by length of course. Field trips may be required. (2)

*Transfer credit: CSU***CIS R190A—Internship in Computer Information Systems** **1-3 units***Prerequisites: CIS R110A or CIS R111A.**3-9 hours lab weekly as required by unit formula*

Students will receive hands-on experience in computer operations and programming in the information processing system installation of a local business. Field trips will be required. Course may be taken two times. (1)

*Transfer credit: CSU***CIS R198A-Z—Short Courses in Computer Information Systems** **½-10 units***Lecture and/or lab hours as required by unit formula*

This class offers courses in selected areas of business and computer information systems to meet specific needs of college or community as required or requested by persons whose needs are not met by regular course offerings. (2)

*Transfer credit: CSU***CIS R199—Directed Studies in Computer Information Systems** **1-3 units***Prerequisites: Completion of at least one full semester of a computer programming language or a minimum of 12 units in computer applications.**3-9 hours lab weekly as required by unit formula*

This course is designed for students interested in furthering their knowledge of computer information systems on an independent study basis. Assignments may include writing programs for campus use. Field trips may be required. Course may be taken two times. (1)

*Transfer credit: CSU*

**NOTE:** The courses listed below have been temporarily suspended. For further information, please contact the Occupational Ed. & Econ. Dev. division office.

BIS R163 Data Base Management

CIS R007B Office Preparation, Bilingual

CIS R027C Microsoft FrontPage

CIS R028A Desktop Publishing

CIS R049 Computer Lab

CIS R090A Office Automation Internship

CIS R111A C++ Programming for Business Applications

CIS R114A COBOL Programming I

CIS R114B COBOL Programming II