

Computer information systems

**COMPUTER INFORMATION SYSTEMS – CIS**

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San Ramon Campus

**Possible career opportunities**

Training in computer information systems prepares students for a broad range of roles. Some possible career options include webmaster, web developer, web designer, executive assistant, office manager, office assistant, entrepreneur, data-base analyst, database designer, computer trainer, project manager, and team member in a startup.

**Program-level student learning outcomes**

Program learning outcomes are subject to change. The most current list of program learning outcomes for each program is published on the DVC website at [www.dvc.edu/slo](http://www.dvc.edu/slo).

**Associate in science degree  
Computer information systems**

**Students completing the program will be able to...**

- A. perform the duties of Information Technologies and Management workers as identified by the Bureau of Labor Statistics
- B. provide technical assistance and training to computer system users.
- C. investigate and resolve computer software and hardware problems of users.
- D. perform the professional duties demanded in any modern office environment.
- E. design and maintain static and dynamic web sites.
- F. integrate elements such as graphics, animation and streaming media on web sites.
- G. develop and implement database systems for stand alone or internet based deployment.
- H. use technology to manage multi-faceted projects.
- I. demonstrate basic graphical user interface operations in a computer environment.
- J. produce spreadsheets, documents and presentations by using basic to advanced software operations.

The computer information systems associate in science program prepares the student for jobs in business and government as information technologies and management workers. Principal areas of study are computer software applications, internet technologies, database systems, project management systems and basic network principles. These CIS courses prepare students for a career path in computer information systems and technologies. These courses teach terminology and provide hands-on laboratory experience with operating and network systems and stand alone and internet based applications.

In order to obtain an associate in science degree, students must complete the courses required for the core certificate of achievement and a minimum of one area of technical specialization, and complete all general education requirements as listed in the Diablo Valley College catalog. To earn a degree, students must complete each course used to meet a major requirement with a "C" grade or higher and maintain an overall GPA of 2.5 or higher in the coursework required for the major. Other electives and course substitutions not listed below are possible with department chairperson approval.

Students are limited to one associate in science degree regardless of the number of specializations completed. Multiple certificates may be awarded.

<i>major requirements:</i>		<i>units</i>
<i>core courses:</i>		
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2

<i>plus at least 2 units from:</i>	
CIS-100	Microsoft Windows - Comprehensive .....
CIS-101	Apple Mac Operating System.....

<i>plus at least 4 units from:</i>		
CIS-117	Microsoft Access - Comprehensive .....	
CIS-119	Microsoft Outlook - Comprehensive .....	
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	
<b>Core courses units subtotal</b>		<b>12</b>

*Choose one of the following four technical specialization areas:*

**database management - required courses:**

CIS-107	Introduction to Web Databases .....	2
CIS-117	Microsoft Access - Comprehensive .....	2
CIS-160	Introduction to MySQL.....	2

**project management - required courses:**

CIS-180	Introduction to Project Management.....	3
CIS-181	Project Management Fundamentals/ PMI PMP Preparation.....	3

**project management - recommended electives:**

CIS-182	Project Risk Management.....	3
CIS-185	Project Management Tools .....	2

**web graphics - required courses:**

CIS-130	Adobe Photoshop Elements .....	2
CIS-132	Adobe Premiere Elements - Comprehensive....	2
CIS-133	Developing Video Content for the Web .....	2

**web technology - required courses:**

CIS-105	Introduction to Web Design .....	2
CIS-106	Adobe Dreamweaver - Comprehensive.....	2
CIS-107	Introduction to Web Databases .....	2

**web technology - recommended electives:**

CIS-108	Introduction to WordPress.....	2
CIS-117	Microsoft Access - Comprehensive .....	2
CIS-120	iPhone and iPad App Development for Beginners .....	2
CIS-160	Introduction to MySQL.....	2

**total minimum required units** **18**

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**Certificate of achievement  
Computer information systems - core**

- Students completing the program will be able to...
- A. demonstrate basic graphical user interface operations in a computer environment.
  - B. produce spreadsheets, documents and presentations by using basic to advanced software operations.

<i>required courses:</i>		<i>units</i>
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2

<i>plus at least 2 units from:</i>	
CIS-100	Microsoft Windows - Comprehensive .....
CIS-101	Apple Mac Operating System.....

<i>plus at least 4 units from :</i>		
CIS-117	Microsoft Access - Comprehensive .....	
CIS-119	Microsoft Outlook - Comprehensive .....	
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	
<b>total minimum required units</b>		<b>12</b>

**Certificate of achievement  
Computer information systems - database management**

- Students completing the program will be able to...
- A. demonstrate basic graphical user interface operations in a computer environment.
  - B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
  - C. apply database syntax, properties, operators, and functions.

<i>required courses:</i>		<i>units</i>
CIS-107	Introduction to Web Databases .....	2
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-117	Microsoft Access - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2
CIS-119	Microsoft Outlook - Comprehensive .....	2
CIS-160	Introduction to MySQL.....	2
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	2

<i>plus at least 2 units from:</i>		
CIS-100	Microsoft Windows - Comprehensive .....	
CIS-101	Apple Mac Operating System.....	
<b>total minimum required units</b>		<b>18</b>

**Certificate of achievement  
Computer information systems - project management**

- Students completing the program will be able to...
- A. demonstrate basic graphical user interface operations in a computer environment.
  - B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
  - C. apply the principles of the Project Management Institute (PMI) processes of project management.

<i>required courses:</i>		<i>units</i>
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2
CIS-180	Introduction to Project Management.....	3
CIS-181	Project Management Fundamentals/ PMI PMP Preparation.....	3

<i>plus at least 2 units from:</i>	
CIS-100	Microsoft Windows - Comprehensive .....
CIS-101	Apple Mac Operating System.....

<i>plus at least 4 units from:</i>		
CIS-117	Microsoft Access - Comprehensive .....	
CIS-119	Microsoft Outlook - Comprehensive .....	
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	
<b>total minimum required units</b>		<b>18</b>

<b>project management - recommended electives:</b>		
CIS-182	Project Risk Management.....	3
CIS-185	Project Management Tools .....	2

**Certificate of achievement  
Computer information systems - web graphics**

- Students completing the program will be able to...
- A. demonstrate basic graphical user interface operations in a computer environment.
  - B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
  - C. perform the duties demanded in any modern office environment.
  - D. able to prepare images for sharing and distribution.

<i>required courses:</i>		<i>units</i>
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2
CIS-130	Adobe Photoshop Elements .....	2
CIS-132	Adobe Premiere Elements - Comprehensive .....	2
CIS-133	Developing Video Content for the Web .....	2

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plus at least 2 units from:

CIS-100	Microsoft Windows - Comprehensive .....	2
CIS-101	Apple Mac Operating System.....	2

plus at least 4 units from:

CIS-117	Microsoft Access - Comprehensive .....	2
CIS-119	Microsoft Outlook - Comprehensive .....	2
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	2
<b>total minimum required units</b>		<b>18</b>

**Certificate of achievement  
Computer information systems -  
web technology**

Students completing the program will be able to...

- A. demonstrate basic graphical user interface operations in a computer environment.
- B. produce spreadsheets, documents and presentations by using basic to advanced software operations.
- C. plan and design web pages.

required courses: units

CIS-105	Introduction to Web Design .....	2
CIS-106	Adobe Dreamweaver - Comprehensive.....	2
CIS-107	Introduction to Web Databases .....	2
CIS-115	Microsoft Word - Comprehensive .....	2
CIS-116	Microsoft Excel - Comprehensive .....	2
CIS-118	Microsoft PowerPoint - Comprehensive .....	2

plus at least 2 units from:

CIS-100	Microsoft Windows - Comprehensive .....	2
CIS-101	Apple Mac Operating System.....	2

plus at least 4 units from:

CIS-117	Microsoft Access - Comprehensive .....	2
CIS-119	Microsoft Outlook - Comprehensive .....	2
COMSC-138	Advanced Microsoft Office Using Visual Basic for Applications (VBA).....	2
<b>total minimum required units</b>		<b>18</b>

**web technology - recommended electives:**

CIS-108	Introduction to WordPress.....	2
CIS-117	Microsoft Access - Comprehensive .....	2
CIS-120	iPhone and iPad App Development for Beginners .....	2
CIS-160	Introduction to MySQL.....	2

**Certificate of accomplishment  
Computer information systems -  
database management**

Students completing the program will be able to...

- A. demonstrate basic graphical user interface operations in a computer environment.
- B. apply database syntax, properties, operators, and functions.

required courses: units

CIS-107	Introduction to Web Databases .....	2
CIS-117	Microsoft Access - Comprehensive .....	2
CIS-160	Introduction to MySQL.....	2
<b>total minimum required units</b>		<b>6</b>

**Certificate of accomplishment  
Computer information systems -  
project management**

Students completing the program will be able to...

- A. demonstrate basic graphical user interface operations in a computer environment.
- B. apply the principles of the Project Management Institute's (PMI) processes of project management.

required courses: units

CIS-180	Introduction to Project Management.....	3
CIS-181	Project Management Fundamentals/ PMI PMP Preparation.....	3
<b>total minimum required units</b>		<b>6</b>

**project management - recommended electives:**

CIS-182	Project Risk Management.....	3
CIS-185	Project Management Tools .....	2

**Certificate of accomplishment  
Computer information systems -  
web graphics**

Students completing the program will be able to...

- A. demonstrate basic graphical user interface operations in a computer environment.
- B. able to prepare images for sharing and distribution.

required courses: units

CIS-130	Adobe Photoshop Elements .....	2
CIS-132	Adobe Premiere Elements - Comprehensive .....	2
CIS-133	Developing Video Content for the Web .....	2
<b>total minimum required units</b>		<b>6</b>

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**Certificate of accomplishment  
Computer information systems -  
web technology**

Students completing the program will be able to...

- A. demonstrate basic graphical user interface operations in a computer environment.
- B. plan and design web pages.

required courses: units

CIS-105	Introduction to Web Design .....	2
CIS-106	Adobe Dreamweaver - Comprehensive.....	2
CIS-107	Introduction to Web Databases.....	2
	<b>total minimum required units</b>	<b>6</b>

web technology - recommended electives:

CIS-108	Introduction to WordPress.....	2
CIS-117	Microsoft Access - Comprehensive.....	2
CIS-120	iPhone and iPad App Development for Beginners.....	2
CIS-160	Introduction to MySQL .....	2

**CIS-100 Microsoft Windows - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course teaches the functions of Microsoft Windows Operating System (OS). It prepares students to use the various local and network functions of the current Windows OS. No previous computer experience is required. CSU

**CIS-101 Apple Mac Operating System**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course teaches the functions of the Apple Mac Operating System, including the graphical user interface, file and folder management, system preferences, and networking. No previous computer experience is required. CSU

**CIS-105 Introduction to Web Design**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to the web development cycle. This process is used to create, organize, and maintain web sites that are easy to use and understand. Emphasis is placed on navigation, organization, presentation, and maintenance of websites. No previous web design experience is required. CSU

**CIS-106 Adobe Dreamweaver - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Adobe Dreamweaver. This program, which is part of the Adobe Creative Suite, is a web authoring and web animation software that is used industry wide. This course is for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

**CIS-107 Introduction to Web Databases**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course presents the fundamentals of database-driven web page development. Topics will include basic database configuration, the use of server-side tools to connect to a database, and the display and manipulation of database content over the web. CSU

**Computer information systems****CIS-108 Introduction to WordPress**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to WordPress. This easy to use software is used to create, organize, and maintain web sites. Emphasis is placed on installation, configuration, navigation, organization, presentation, and maintenance of web sites. No previous web design experience is required. CSU

**CIS-115 Microsoft Word - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Microsoft Word, a powerful word processing program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

**CIS-116 Microsoft Excel - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Microsoft Excel, a powerful spreadsheet program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

**CIS-117 Microsoft Access - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Microsoft Access, a powerful database program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

**CIS-118 Microsoft PowerPoint - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent.
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Microsoft PowerPoint, a powerful presentation program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

**CIS-119 Microsoft Outlook - Comprehensive**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course is for students who want to learn the comprehensive functions of Microsoft Outlook, a powerful email and personal information manager program which is part of the Microsoft Office Suite. This course prepares students for Microsoft certification testing but is also useful for students who want a deeper understanding of the program. No previous experience with this software is required. CSU

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**CIS-120 iPhone and iPad App Development for Beginners**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Recommended: CIS-100 or CIS-101 or equivalent.
  - Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to application (app) development for iPhone and iPad devices. Essentials of iPhone and iPad app development including tools, frameworks, and concepts are covered. Hands-on exercises will be used to reinforce theory. No previous app development experience is required. Students will learn the essentials of iPhone and iPad app development: the tools, frameworks, and concepts. Hands-on exercises will be part of this course. CSU

**CIS-130 Adobe Photoshop Elements**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Recommended: CIS-100 or CIS-101 or equivalent
  - Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course helps students to develop proficiency in Adobe Photoshop Elements; it covers acquiring, organizing, fixing, enhancing and sharing images. CSU

**CIS-132 Adobe Premiere Elements - Comprehensive**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Recommended: CIS-100 or CIS-101 or equivalent
  - Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course will allow students to gain proficiency in Adobe Premiere Elements, covering video acquisition, editing, titling, web and DVD authoring. CSU

**CIS-133 Developing Video Content for the Web**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Recommended: CIS-100 or CIS-101 or equivalent
  - Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course prepares students to take digitally formatted video and prepare it for use on the Internet. Students will learn how to import digital video, create screen captures, edit, and produce video for distribution via online and other digital media. CSU

**CIS-150 Topics in Computer Information Systems**

- .3-4 units SC
- Variable hours

A supplemental course in computer information systems to provide a study of current concepts and problems. Specific topics will be announced in the schedule of classes. CSU

**CIS-160 Introduction to MySQL**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Recommended: CIS-100 or CIS-101 or equivalent
  - Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to the MySQL database program, which is used to create, organize, and maintain dynamic web sites. Emphasis is placed on table creation, queries, and database management. CSU

**CIS-170 Networking for Non-IT Professionals**

- 2 units SC
- 36 hours lecture/18 hours laboratory per term
  - Note: Credit by examination option available. No previous networking experience is required. Students interested in professional training in computer networking should see the Computer Network Technology (CNT) programs in this catalog.

This course presents the basics of networking and introduces the core networking topologies, implementation options and commonly used network devices, such as Network Interface Cards (NICs), hubs, switches, and routers. Emphasis is placed on networking theory and implementation specifically designed for small office and home networking environments. CSU

## Computer information systems

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### **CIS-180 Introduction to Project Management**

3 units SC

- 54 hours lecture per term
- Note: Credit by examination option available

This is an introductory course in professional project management. This course prepares students to become project management professionals by defining its origins and introducing key base concepts, terminology, and processes. The foundation work developed here will prepare students to continue in the project management course of study. This course requires no previous experience with project management. CSU

### **CIS-181 Project Management/PMI PMP Preparation**

3 units SC

- 54 hours lecture per term
- Recommended: CIS-180 or equivalent
- Note: Credit by examination option available

This course is an intermediate course on formal professional project management. This course prepares the student to take the internationally recognized Project Management Institute (PMI) Project Management Professional (PMP) certification exam. Earning a PMP certification demonstrates that the student has acquired the skills to manage projects, deliver products and has a solid knowledge of PMP fundamentals. CSU

### **CIS-182 Project Risk Management**

3 units SC

- 54 hours lecture per term
- Recommended: CIS-180 or equivalent

This course presents an introduction to the risks associated with the management of projects. The skills needed to manage risks associated with projects, deliver projects based on a solid plan and mitigate any risk factors to those projects, will be examined. CSU

### **CIS-185 Project Management Tools**

2 units SC

- 36 hours lecture/18 hours laboratory per term
- Recommended: CIS-100 or CIS-101 or equivalent
- Note: Credit by examination option available. Students may petition to repeat this course when software or hardware is changed. Only the first course completed will be applied toward a degree or certificate requirement. Units for both courses will apply towards the 60 units required for the degree.

This course introduces students to software tools used in project management such as, MS Visio and MS Project. Students will create, save and publish, flow charts, diagrams and task lists. In addition, students will set up and assign project resources, track progress on tasks, organize and format project details, and publish project information. CSU