

Computer Information Systems

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2009–2010 Chemeketa Community College Catalog

The Computer Information Systems program offers an Associate in Applied Science degree in Computer Systems and Information Technology that allows students to design a customized curriculum consisting of a broad foundation of general technology courses and one or more technical specialties. This specialized degree prepares students for a wide variety of employment opportunities in the computer information services industry. Students may also complete an Associate of Arts Oregon Transfer degree combined with computer science lower division transfer courses that provides the first two years of study towards a four-year bachelor's degree in computer science. This program is transferable to any public University in Oregon and is also accepted by many private universities. The Computer Information Systems program additionally provides a broad array of professional continuing education classes and certificates for professionals already working in the field and provides technology service classes for students studying in other disciplines.

The Computer Systems and Information Technology core degree, in combination with one or more specialized areas of study, prepares students for a wide variety of technical career opportunities. The Computer Programming Certificate prepares traditional programmers and analysts who are responsible for all phases of program design and development. The Computer Support Certificate prepares the student for work in the design and implementation of business systems solutions, software and systems troubleshooting, technical support and end user training. The Systems Administration Certificate offers career opportunities in enterprise and workgroup systems administration. This certificate provides a pathway to the Linux+, Microsoft Certified Systems Administrator, Microsoft Certified Systems Engineer, Microsoft Certified IT Professional, and Microsoft Certified Technical Specialist certifications. The Database Developer Certificate prepares professionals to be an integral member of development and support teams in information systems environments. The Web Developer Certificate opens the door to careers in web application design, development and administration of dynamic, data-driven web sites (Web masters and Web developers). The Security and Forensics Certificate graduate may work in computer crime law enforcement, corporate information systems or private computer security consulting.

As a student in the program, you are expected to work with a department advisor in planning term-by-term class schedules leading toward fulfillment of all program requirements. If you plan to earn a bachelor's degree, you are responsible for learning the departmental requirements of the school to which you plan to transfer.

Getting started

The first step to entering the following program is to take part in an assessment process, which includes taking the college's free placement test and meeting with Counseling and Career

Services staff. You may need to complete pre-program courses. Then, your advisor will help you develop an individualized program of study, which may include one or more of the following:

CA121	Keyboarding (if less than 25 wpm).....	3
MTH095	Intermediate Algebra	4
RD090	College Textbook Reading.....	3
WR115	Introduction to Composition	3

Program outcomes

Students completing the AAS will:

- Acquire new information and adapt to changes in the computer technology field.
- Apply a logical and systematic approach to solve problems.
- Use written, oral, and visual interpersonal skills to communicate with individuals or small groups.
- Install, configure, use, maintain software systems, and deal with security issues involved in a business environment.
- Configure and maintain workstation and server operating systems, and hardware resources.
- Research and interpret technical materials as they relate to areas of specialization.
- Apply project life cycle concepts to assist in finding solutions to business needs.
- Conduct and evaluate individual and small group instruction for information technology topics such as application software.

In addition to the AAS outcomes, students completing the Computer Programming Certificate will:

- Design and implement computer software applications in various languages.
- Develop an application for an N-tiered environment.
- Evaluate, discuss, and plan software project requirements for a specific industry need.

In addition to the AAS outcomes, students completing the Computer Systems Support Certificate will:

- Manage workgroup resources including file shares, print shares, and physical connections.
- Install, configure and support industry required applications to the enterprise environment.
- Use integrated software packages to analyze and support business problems related to the IT infrastructure.

In addition to the AAS outcomes, students completing the Computer Systems Administration Certificate will:

- Manage enterprise resources including file shares, print shares, and physical connections.
- Install, configure and support industry required operating systems for the enterprise environment.
- Utilize enterprise tools to support remote access, security and redundancy of the enterprise environment.

Chemeketa Community College

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In addition to the AAS outcomes, students completing the Web Developer Certificate will:

- Design and maintain websites using a variety of software packages and editing languages.
- Evaluate accessibility, compatibility, and globalization issues in web design.
- Develop and analyze organizational web design needs through individual and group assessments.

In addition to the AAS outcomes, students completing the Database Developer Certificate will:

- Develop data-gathering models using current data gathering software.
- Organize data within current data-mining models.
- Extract data using best practices data-mining techniques into correct report models.
- Use current database languages technologies to create and build database objects.

In addition to the AAS outcomes, students completing the Computer Security and Forensics Certificate will:

- Use logical analysis to resolve workstation and network problems related to internal and external data security breaches.
- Conduct and evaluate individual and small group investigations related to current information technology security concerns.
- Analyze and develop a defensible security plan for an enterprise environment.

Computer Systems and Information Technology Associate of Applied Science

In addition to tuition, estimated costs for students who complete the entire AAS program listed above are books, \$2,396; class fees, \$350; universal fee, \$760; equipment and supplies, \$275. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn an Associate of Applied Science degree by successfully completing the required 95 credit hours. You must complete all CS/CIS core required courses with a grade of "C" or better.

General Education requirements (19 credit hours)

MTH105	Introduction to Contemporary Mathematics.....	4
	or	
MTH111	College Algebra.....	5
PSY104	Psychology in the Workplace.....	3
SP111	Fundamentals of Public Speaking.....	3
WR121	English Composition—Exposition.....	3
WR227	Technical Writing.....	3
	Humanities/Fine Arts elective.....	3

Computer Systems and Information Technology Core Requirements (56 credit hours):

Course	Title	Credit Hours
CIS102A	Cyber Security and Safety	3
CIS120	Computer Information Science 1.....	4
CIS120A	CIS Careers and Education Orientation.....	1
CIS121	Computer Information Science 2.....	4
CIS122	Computer Information Science 3.....	4
CIS125E	Excel Workbooks.....	4
CIS133SC	Scripting Languages.....	4
CIS140B	Microcomputer Operating Systems.....	3
CIS140U	Unix/Linux.....	3
CIS145	Microcomputer Hardware	4
CIS178I	Introduction to the Internet.....	3
CIS179	Introduction to Client Server Networks.....	4
CIS244	Systems Analysis 1	3
CIS244A	Computer Science Capstone Project.....	1
CIS278	Data Communications.....	3
CIS288	Advanced Client Server Networks.....	4
CS275	Database Management.....	4

To complete the two-year AAS in Computer Systems and Information Technology, each student is required to take an additional 20 hours of credits from the list of CIS/CS related electives courses below:

Course	Title	Credit Hours
ART115	Basic Design	3
BA101	Introduction to Business.....	4
BA202	Personal Effectiveness	3
BA277	Business Ethics	3
CIS060	Techniques of User Training	2
CIS125A	Micro Database Software – Access.....	3
CIS125G	Intro to Computer Game Development	4
CIS133J	Fundamentals of Java Program 1	4
CIS133JS	JavaScript Web Programming 1	4
CIS133VB	Visual Basic	4
CIS178W	Fundamentals of Web Design	3
CIS186	Computer Forensics.....	4
CIS195	Web Site Development	4
CIS233J	Fundamentals of Java Programming 2.....	4
CIS234J	Fundamentals of Java Programming 3.....	4
CIS240	Advanced Operating Systems	3
CIS276A	Introduction to Oracle SQL.....	4
CIS276B	Oracle: Programming with PL/SQL	4
CIS276C	Database Reports and Forms Developer.....	4
CIS277A	Database Admin Fundamentals 1	4
CIS277B	Database Admin Fundamentals 2	4
CIS278	Data Communications	3
CIS279	Network Management.....	5
CIS280	Cooperative Work Experience.....	0-9
CIS285	Introduction to SQL	3
CIS286	Web Server Configuration.....	4
CIS289	Advanced Network Applications Support	4
CIS295	Web Applications Development	4
CJ101	Criminology	3
CS133U	C++ Language	4
CS160	Introduction to Computer Science.....	3
CS161	Computer Science 1	4
CS162	Computer Science 2	4
CS260	Computer Science 3: Data Structures	4
CS271	Principles of Computer Organization.....	4
CS275	Database Management.....	4
FE205B	Resumes and Job Search Correspondence.....	1
FE205C	Interviewing for Success	1

Computer Programming Certificate of Completion

The Computer Programming Certificate is for students who wish to become professional business-application programmers. As a graduate of this program, you will meet the minimum educational and experience requirements to qualify as an entry-level computer programmer. The Computer Programming Certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics. Alternatively, you can choose to complete the Computer Programming pathway as a stand-alone certificate.

In addition to tuition, estimated costs for students who complete the Computer Programming Certificate listed above are books, \$625; class fees, \$184; universal fee, \$138; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 23 credit hours with a grade of "C" or better in all courses.

Computer Programming requirements: (23 credit hours):

Course	Title	Credit Hours
BA202	Personal Effectiveness	3
or		
BA101	Introduction to Business.....	4
CIS133J	Fundamentals of Java Programming 1.....	4
CIS133VB	Visual Basic	4
CIS233J	Fundamentals of Java Programming 2.....	4
CIS234J	Fundamentals of Java Programming 3.....	4
CS133U	C++ Programming.....	4

Computer Security and Forensics Certificate of Completion

The Computer Security and Forensics Certificate prepares students to obtain an entry-level position in local or federal law enforcement, or as a private computer security consultant or in corporate computer security. The Computer Security and Forensics Certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics. Alternatively, you can choose to complete the Computer Security and Forensics pathway as a stand-alone certificate.

In addition to tuition, estimated costs for students who complete the Computer Security and Forensics Certificate program listed above are books, \$525; class fees, \$105; universal fee, \$240; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 30 credit hours with a grade of "C" or better in all courses.

Computer Security and Forensics requirements (30 credit hours):

Course	Title	Credit Hours
BA277	Business Ethics	3
CIS102A	Cyber Security and Safety	3
CIS140B	Microcomputer Operating Systems	3
CIS140U	Unix/Linux	3
CIS179	Introduction to Client Server Networks.....	4
CIS186	Computer Forensics.....	4
CIS278	Data Communications	3
CJ101	Criminology	3
MTH105	Contemporary Math (or higher).....	4
or		
MTH111	College Algebra.....	5

Computer Support Specialist Certificate of Completion

This certificate prepares you for a career as a software support specialist. The software support specialist has a strong foundation in computer systems concepts with an emphasis in microcomputer applications and practical experience. The Computer Support Specialist Certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics. Alternatively, you can choose to complete the pathway as a stand-alone certificate.

In addition to tuition, estimated costs for students who complete the Computer Support Specialist Certificate listed above are books, \$995; class fees, \$156; universal fee, \$264; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 33 credit hours with a grade of "C" or better in all courses.

**Computer Support Specialist requirements
(33 credit hours):**

Course	Title	Credit Hours
BA202	Personal Effectiveness	3
	or	
BA101	Introduction to Business	4
CIS060	Techniques of User Training	2
CIS120	Computer Information Science 1.....	4
CIS125A	Micro Database Software - Access	3
CIS125E	Excel Workbooks.....	4
CIS145	Microcomputer Hardware	4
CIS179	Introduction to Client Server Networks.....	4
CIS278	Data Communications	3
CIS288	Advanced Client Server Networks.....	4
FE205B	Resume and Job Search Correspondence	1
FE205C	Interviewing for Success	1

**Computer Systems Administration
Certificate of Completion**

The Computer Systems Administration Certificate prepares students with the knowledge and skills to design, install, implement, monitor, maintain, and manage enterprise and work-group-level computer systems. The certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics. Alternatively, you can choose to complete the Computer Systems Administration pathway as a stand-alone certificate.

In addition to tuition, estimated costs for students who complete the Computer Systems Administrator Certificate listed above are books, \$995; class fees, \$180; universal fee, \$296; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 37 credit hours with a grade of "C" or better in all courses.

**Computer Systems Administration requirements
(37 credit hours):**

Course	Title	Credit Hours
BA202	Personal Effectiveness	3
	or	
BA101	Introduction to Business	4
CIS133VB	Visual Basic	4
CIS140B	Microcomputer Operating Systems	3
CIS140U	Unix/Linux	3
CIS145	Microcomputer Hardware	4
CIS179	Introduction to Client Server Networks.....	4
CIS278	Data Communications	3
CIS279	Network Management.....	5
CIS288	Advanced Client Server Networks.....	4
CIS289	Advanced Network Applications.....	4

**Database Developer Certificate
of Completion**

The Database Developer Certificate is for students who wish to become professional data analysts and database developers. As a graduate of this program, you will meet the minimum educational and experience requirements to qualify as an entry-level database developer. The Database Developer Certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics. Alternatively, you can choose to complete the Database Developer pathway as a stand-alone certificate.

In addition to tuition, estimated costs for students who complete the Database Developer Certificate program listed above are books, \$1,450; class fees, \$114; universal fee, \$208; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 26 credit hours with a grade of "C" or better in all courses.

Database Developer requirements (26 credit hours):

Course	Title	Credit Hours
BA202	Personal Effectiveness	3
	or	
BA101	Introduction to Business	4
CIS276B	Oracle PL/SQL.....	4
CIS276C	Database Forms and Reports	4
CIS277A	Database Administration Fundamentals 1.....	4
CIS277B	Database Administration Fundamentals 2.....	4
CIS285	SQL – Structured Query Language	3
CS275	Database Management.....	4

Web Developer Certificate of Completion

The Web Developer Certificate prepares students for employment in the area of web applications development. The web developer designs, implements, and maintains websites using various editors, web development applications, HTML, XML, data-driven web applications, and client and server-side web scripting languages. Web developers typically interface with business stakeholders, users, provide customer support, and have an appreciation for the importance of web presence for the company (eCommerce). The Web Developer certificate, in combination with the associate degree, has been designed to be completed in two years if you attend full time and have the required entry skills in reading, writing, and mathematics.. Alternatively, you can choose to complete the Web Developer pathway as a stand alone certificate.

In addition to tuition, estimated costs for students who complete the Computer Web Developer Certificate listed above are books, \$595; class fees, \$162; universal fee, \$248; equipment and supplies, \$75. Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing the required 31 credit hours with a grade of "C" or better in all courses.

Web Developer Certificate requirements**(31 credit hours):**

Course	Title	Credit Hours
ART115	Basic Design	3
CIS133VB	Visual Basic	4
CIS133JS	JavaScript Web Programming 1	4
CIS133SC	Scripting Languages	4
CIS178I	Introduction to the Internet.....	3
CIS178W	Fundamentals of Web Design	5
CIS195	Web Site Development	4
CIS295	Web Applications Development	4