



COMPUTER SOFTWARE DEVELOPMENT

Associate In Science Degree & Certificate Curriculum Requirements

COMPUTER SOFTWARE DEVELOPMENT

The Computer Software Development major is for those students who wish to specialize in the development and performance of application software.

CAREER OPPORTUNITIES

S/W Development & Systems Administration are major employment fields for computer programmers and software developers. It is an excellent preparation for advancement in systems analysis, design, and mgmt.

CERTIFICATE REQUIREMENTS*

All Certificates require the following:

- English proficiency: English 110, ESL 25, or equivalent class or test score.
- Mathematics proficiency: Math 101 or equivalent.
- Additional units in this major (as indicated below)

LINUX/UNIX System Ops & Admin Career Certificate (40 Units)

CORE COURSES (30 Units required):

CIS 27A	Computer Science I: JAVA	
or CIS 15A	Computer Science I: C++	(5 units)
CIS 68A	Intro to Linux and UNIX	(5 units)
CIS 68B	Linux and UNIX Shell Programming	(5 units)
CIS 68C1	Linux and UNIX System Admin	(5 units)
CIS 68C2	Linux and UNIX Networking Admin	(5 units)
CNET 54A	Network fundamentals and the TCP / IP protocol suite	(5 units)

ELECTIVES (10 Units required):

CIS 27B	Computer Science II: JAVA	
or CIS 15B	Computer Science II: C++	(5 units)
CIS 68E	Introduction to PERL	(5 units)
CIS 68K	Introduction to Python Programming	(5 units)

Object Oriented Software Using C++ Career Certificate (40 Units)

CORE COURSES (25 Units required):

CIS 15A	Computer Science I: C++	(5 units)
CIS 15B	Computer Science II: C++	(5 units)
CIS 15C	Computer Science III: C++	(5 units)
CIS 52A	Intro to Data Mgmt Systems	(5 units)
CIS 78	Software Engineering	(5 units)

ELECTIVES (15 Units required):

CIS 12A	Fundamentals of VB.NET Prgmg	(5 units)
CIS 19A	Fundamentals of C# Programming	(5 units)
CIS 68A	Intro to Linux and UNIX	(5 units)
CIS 68B	Linux and UNIX Shell Programming	(5 units)
CIS 68E	Introduction to PERL	(5 units)
CNET 54A	Network fundamentals and the TCP / IP protocol suite	(5 units)
CIS 27P	JAVA for Programmers	(5 units)

Object Oriented Software Using JAVA Career Certificate (40 Units)

CORE COURSES (25 Units required):

CIS 27A	Computer Science I: JAVA	(5 units)
CIS 27B	Computer Science II: JAVA	(5 units)
CIS 27C	Computer Science III: JAVA	(5 units)
CIS 52A	Intro to Data Mgmt Systems	(5 units)
CIS 78	Software Engineering	(5 units)

ELECTIVES (15 Units required):

CIS 12A	Fundamentals of VB.NET prgmg	(5 units)
CIS 19A	Fundamentals of C# Programming	(5 units)
CIS 27D	JAVA Advanced Features	(5 units)
CIS 68A	Intro to Linux and UNIX	(5 units)
CIS 68B	Linux and UNIX Shell Programming	(5 units)
CIS 68E	Introduction to PERL	(5 units)
CNET 54A	Network fundamentals and the TCP / IP protocol suite	(5 units)

MCAD C# Skills Certificate (20 units)

Students will learn to use Microsoft .NET development tools to implement functional specifications, build, deploy, and maintain MS Windows and Web applications. Courses will prepare students for the Microsoft Certified Application Developer (MCAD) certification, which is a step toward earning the MCSA credential.

CIS 19A	Fundamentals of C# Programming	(5 units)
CIS 19D	Developing Windows Based Applications with C#	(5 units)
CIS 19W	Developing Web Applications with C#	(5 units)
CIS 54C	SQL Server Database Design	(5 units)

LINUX/UNIX Skills Certificate (20 units)

CIS 68A	Intro to Linux and UNIX	(5 units)
CNET 54A	Network fundamentals and the TCP / IP protocol suite	(5 units)
CIS 68C1	Linux and UNIX System Admin	(5 units)
CIS 68C2	Linux and UNIX Networking Admin	(5 units)

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ASSOCIATE DEGREE REQUIREMENTS*

The Associate of Science degree in Computer Software Development requires the following:

- English 1A, ESL 26, or equivalent
- Math 103, 105 or equivalent
- A minimum of 90 total units including:
 - All General Education requirements (see reverse)
 - 45 units this major (Core and Electives below)
 - Electives & graduation requirements as needed

CORE COURSES (25 Units required)

CIS 15A	Computer Science I: C++	(5 units)
CIS 15B	Computer Science II: C++	(5 units)
CIS 15C	Computer Science III: C++	(5 units)

or

CIS 27A	Computer Science I: JAVA	(5 units)
CIS 27B	Computer Science II: JAVA	(5 units)
CIS 27C	Computer Science III: JAVA	(5 Units)

and

CIS 52A	Intro to Data Mgmt Systems	(5 units)
CIS 78	Software Engineering	(5 units)

ELECTIVES (20 Units required)

CIS 12A	Fundamentals of VB.NET Programming	(5 units)
Math 22	Discrete Mathematics	(5 units)
CIS 68A	Intro to Linux and UNIX	(5 units)
CIS 68B	Linux and UNIX Shell Programming	(5 units)
CIS 27P	JAVA for Programmers	(5 units)
CIS 52B	Introduction to Oracle SQL	(5 units)

* 50% of the major units must be taken within CTIS and a grade of C or better is required in these classes. All courses pertaining to the major must be taken for a letter grade. In addition, a GPA of 2.0 or higher is required in all Core and Support courses for the Degree or Certificate.

Academic Year 2007-2008