

PRIDE. CHALLENGE. ACHIEVEMENT.

CREDENTIAL YEAR 2017-18

COMPUTER INFORMATION SYSTEMS

Credentials

Introductory certificate	27–28 cr .
Cisco Networking Academy skills certificate	16 cr.
Networking Technology Integration certificate	31 cr.
Computer Support Technician AAS degree	60–62 cr .
Programming skills certificate	16 cr.
Programming AAS degree	60–62 cr
Web Specialist certificate	30 cr.
Web Specialist AAS degree	64 cr .
Post-associate certificate	16 cr .

Major Description

If you are interested in learning the basics of software applications and programming, enhancing your skills by learning the latest in technology and network integration or preparing for a career as a support technician, entry-level programmer or web specialist, Schoolcraft's CIS program has what you need to succeed in the growing world of information technology. We offer three associate of applied science degrees and six certificates to match our students' needs and interests. The educational options include:

- **Introductory Certificate:** This certificate program introduces students to the operating system, concepts of programming logic, programming language and software applications. During or after the first year of this certificate program, students may choose to earn one of the computer information system associate degrees, providing all degree requirements are fulfilled.
- **Cisco Networking Academy Skills Certificate:** This certificate program is designed to provide students with an understanding of network fundamentals, proficiency working with network equipment such as routers and switches, and the latest LAN and WAN technologies in preparation to achieve the Cisco Certified Network Associate (CCNA) certification.
- **Networking Technology Integration Certificate:** The certificate curriculum provides students with in-depth understanding of the theory, hardware and software of computer networking and is applicable for both those who are new to the field or have networking experience.
- **Computer Support Technician AAS Degree:** This degree program prepares students for entry-level positions supporting users of microcomputer components of the operating system. Technicians assist users by recommending hardware and software, interpreting manuals, organizing storage, networking workstations and creating systems solutions using the microcomputer.
- **Programming Skills Certificate:** This certificate program is designed to introduce students to the top computer programming languages used in software development and web applications. Students will also learn how to use the Microsoft.NET framework, which is the common environment for building, deploying and running web services and applications in Windows. In addition, the new Visual Studio.NET will be used, a common development environment for the new .NET framework.
- **Programming AAS Degree:** This degree offers students a schedule of core computer courses and electives to prepare them for a position as an entry-level programmer. Students will learn how a computer programmer analyzes problems and writes step-by-step instructions to enable a computer system to process data efficiently.
- **Web Specialist Certificate:** With the technology of the Internet constantly evolving in terms of infrastructure and website development, his certificate program provides an overview of technical programming and graphic design for web page development needed to stay abreast of these techno- logical advances. Areas of study include programming logic, design concepts and technology and web design and development. Students will also learn about the latest in web technology and design programs, such as Adobe Flash, Illustrator and Photoshop and JavaScript.
- **Web Specialist AAS Degree:** Virtually every company and organization has a website on the Internet these days, and this degree program prepares students to be able to design web pages and program for the web in the constantly evolving world of website technology. It pro-vides working knowledge in key areas that are vital to becoming an Internet professional, including various programming languages, multimedia technologies, graphic development and web design tools.
- **Post-Associate Certificate:** Designed for working professionals who have earned an associate degree in applied science and have experience and/ or training in the computer field, it provides insight into the latest computer technology and will enhance their ability to meet the needs of the fast-changing computer information systems environment.

National Median Salaries for Computer Information Systems-related positions (source: US BLS)

Computer Support Specialist: \$48,900
Microcomputer Support Tech: \$36,620
Web Page Designer: \$43,930

Programmer: \$74,280
Network and Computer Systems Admin: \$72,560
Web Developer: \$62,500



It is the policy of Schoolcraft College that no person shall, on the basis of race, religion, color, gender, age, marital status, disability, sexual orientation, and/or national origin, be subjected to discrimination during or be excluded from participating in or be denied the benefits of any program or activity or in employment.



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Computer Information Systems Introductory Certificate

Schoolcraft program code # 1YC.00004

The computer information systems certificate program introduces students to the operating system and concepts surrounding programming logic. In addition, students obtain a basic knowledge of software applications and programming languages.

Students may select one of the computer information systems associate degree programs at any time during or after the first year. However, all degree requirements must be fulfilled.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CIS 115	Introduction to Computer Based Systems	3	ENG 101	English Composition 1	3
CIS 120	Software Applications	3	Mathematics	<i>Select one</i>	4
CIS 129	Introduction to Programming Logic	3	MATH 102	Technical Mathematics	
CIS Elective	<i>Select one</i>	3	MATH 113	Intermediate Algebra for College Students	
CIS 170	Microsoft Windows		CIS 176	Visual Basic.NET	3
CIS 178	Technical Microsoft Windows		CIS 225	Database Management Systems	3
	Total Credits	12	Elective	<i>Select from the list</i>	2-3
				Total Credits	15-16

PROGRAM TOTAL 27-28 CREDITS

Electives

CIS 122	Microsoft Outlook	2
CIS 125	Principles of Information Security	3
CIS 171	Introduction to Networking	3
CIS 251	IT Project Management	3
CIS 255	Introduction to LINUX	3

Cisco Networking Academy

Schoolcraft program code # CRT.00329

This fast paced certificate is geared towards working professionals who have experience and/or training in the computer field, or for someone with exposure to technology that is serious about obtaining Cisco certification. This curriculum provides students with an understanding of network fundamentals, proficiency working with network equipment such as routers and switches, and the latest LAN and WAN technologies in preparation to achieve the Cisco Certified Network Associate (CCNA) certification. Specific topics and skills covered are based on the latest Cisco Certified Networking Associate exam objectives and include the Cisco command line interface (CLI) and device configuration, IP addressing and subnetting, routing protocols, cabling, switching technologies, maintenance, and troubleshooting.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CNT 210	CCNA Networking 1	4	CNT 230	CCNA Networking 3	4
CNT 220	CCNA Networking 2	4	CNT 240	CCNA Networking 4	4
	Total Credits	8		Total Credits	8

PROGRAM TOTAL 16 CREDITS

Computer Information Systems: Networking Technology Integration Certificate

Schoolcraft program code # 1YC.00270

The curriculum provides students with an in-depth understanding of the theory, hardware, and software of computer networking. This program provides a complete introductory program for students or adult learners who are new to the field. For students who have networking experience, this program also offers more advanced networking study.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CIS 171	Introduction to Networking	3	CIS 172	Network Security Fundamentals	3
CIS 170	Microsoft Windows	3	CIS 173	Wireless Local Area Networks	3
	or		CIS 251	IT Project Management	3
CIS 178	Technical Microsoft Windows	3	CIS 271	Local Area Networks	3
CIS 235	Managing and Troubleshooting PCs	3	CIS 273	TCP/IP and Network Architectures	3
CIS 267	Home Technology Integration	4		Total Credits	15
ENGR 100	Introduction to Engineering and Technology	3			
	Total Credits	16			

PROGRAM TOTAL 31 CREDITS

Computer Information Systems: Computer Support Technician AAS Degree

Schoolcraft program code # AAS.00014

This program is designed to prepare the student for entry-level positions supporting users of computer systems and software. Technicians will assist computer users by recommending appropriate hardware and software, interpreting software manuals, organizing the disk storage, networking workstations and creating systems solutions.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CIS 115	Introduction to Computer Based Systems	3	CIS 120	Software Applications	3
CIS 171	Introduction to Networking	3	Elective	<i>Select one</i>	3
Mathematics	<i>Select one</i>	4	CIS 170	Microsoft Windows	
MATH 102	Technical Mathematics		CIS 178	Technical Microsoft Windows	
MATH 113	Intermediate Algebra for College Students		ENG 102	English Composition 2	3
English	<i>Select one</i>	3	CIS 173	Wireless Local Area Networks	3
ENG 100	Communication Skills		CIS 235	Managing and Troubleshooting PCs	3
ENG 101	English Composition 1			Total Credits	15
	Total Credits	13			

First Year—Spring Session

Social Science	<i>Select one</i>	3-4
POLS 105	Survey of American Government	
PSYCH 153	Human Relations	
PSYCH 201	Introductory Psychology	
	Total Credits	3-4

Second Year—Fall Semester

Second Year—Winter Semester

CIS 180	Spreadsheet Applications—Current Software	3	CIS 215	Advanced Software Applications	3
CIS 225	Database Management Systems	3	CIS 250	Systems Development and Design	4
CIS 265	Networking 1	3	CIS 276	Networking 2	3
COMA 103	Fundamentals of Speech	3	Elective	<i>Select from the list</i>	3
Science*	<i>Select any General Education Science course</i>	4		Total Credits	13
	Total Credits	16			

PROGRAM TOTAL 60-61 CREDITS

*Number of credits may vary depending on the General Education Science course selection.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with a counselor or advisor. Number of credits may vary depending on the course selection

Electives

CIS 125	Principles of Information Security	3
CIS 172	Network Security Fundamentals	3
CIS 251	IT Project Management	3
CIS 255	Introduction to LINUX	3
CIS 260	Introduction to UNIX	3
CIS 273	TCP/IP and Network Architectures	3

Computer Information Systems: Programming Skills Certificate

Schoolcraft program code # CRT.00366

The Microsoft .NET framework is a common environment for building, deploying, and running web services and web applications in the Windows environment. This certificate is designed to introduce the student to the top four programming languages used in software development today. The student will use the new Visual Studio.NET, which is a common development environment for the new .NET Framework. The .NET Framework provides a feature-rich application execution environment, simplified development, and easy integration between a number of different development languages.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion. All program required courses must have been completed with a grade of 2.0 or better.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CIS 129	Introduction to Programming Logic	3	CIS 176	Visual Basic.NET	3
	Total Credits	3	CIS 211	Introduction to C++	2
				Total Credits	5

Second Year—Fall Semester

Second Year—Winter Semester

CIS 221	Advanced C++	2	CIS 290	Object-Oriented Programming with Java	3
CIS 223	Introduction to C#	3		Total Credits	3
	Total Credits	5			

PROGRAM TOTAL 16 CREDITS

Computer Information Systems: Programming AAS Degree

Schoolcraft program code # AAS.00012

As business and industry embrace new technology and procedures, the need for specially trained people accelerates. This program is designed to prepare the student for a position as an entry-level programmer. Students will learn to become proficient in following directions, analyzing problems, and writing step-by-step instructions so that the computer will efficiently process the data needed to solve these problems. Accuracy, persistence, patience, and the ability to communicate both orally and in writing are important characteristics a computer programmer should possess.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CIS 115	Introduction to Computer Based Systems	3	ENG 102	English Composition 2	3
CIS 129	Introduction to Programming Logic	3	Elective	<i>Select one</i>	3
Mathematics	<i>Select one</i>	4	CIS 170	Microsoft Windows	
MATH 102	Technical Mathematics		CIS 178	Technical Microsoft Windows	
MATH 113	Intermediate Algebra for College Students		CIS 225	Database Management Systems	3
COMA 103	Fundamentals of Speech	3	Science*	<i>Select any General Education Science course</i>	4
ENG 101	English Composition 1	3	Elective	<i>Select from the list</i>	3
	Total Credits	16		Total Credits	16

Second Year—Fall Semester

Second Year—Winter Semester

CIS 176	Visual Basic.NET	3	CIS 250	Systems Development and Design	4
CIS 211	Introduction to C++	2	CIS 290	Object-Oriented Programming with Java	3
CIS 255	Introduction to LINUX	3	CIS 221	Advanced C++	2
Elective	<i>Select from the list</i>	6	Social Science	<i>Select one</i>	3-4
	Total Credits	14	POLS 105	Survey of American Government	
			PSYCH 153	Human Relations	
			PSYCH 201	Introductory Psychology	
			Elective	<i>Select from the list</i>	2-3
			Total Credits		14-16

PROGRAM TOTAL 60-62 CREDITS

*Number of credits may vary depending on the General Education Science course selected.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with a counselor or advisor. Number of credits may vary depending on the course selection

Electives

CIS 120	Software Applications	3
CIS 122	Microsoft Outlook	2
CIS 125	Principles of Information Security	3
CIS 185	Introduction to HTML	3
CIS 223	Introduction to C#	3
CIS 238	JavaScript	3
CIS 251	IT Project Management	3

Computer Information Systems: Web Specialist Certificate

Schoolcraft program code # 1YC.00241

The technology of the Internet is constantly evolving both in terms of delivery infrastructure and web site development tools. To stay abreast of these technological advances requires programming and design knowledge, skills and experience. A good site must include both quality visual communication design and functionality. Programming is needed for interactivity to search databases and track usage. Visual graphic design is needed to convey the content message and provide branding for products and services.

This certificate is designed to provide students with an overview of the technical programming and graphic design areas for web page development.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CGT 109	Design Concepts and Technology	3	CIS 129	Introduction to Programming Logic	3
CGT 123	Illustration—Illustrator	3	CGT 163	Web Design and Development 2	3
CGT 125	Digital Imaging 1—Photoshop	3	CIS 238	JavaScript	3
CGT 136	Web Design and Development 1	3	CGT 141	Introduction to 2D Animation and Interactive Media	3
	Total Credits	12		Total Credits	12

Second Year—Fall Semester

Second Year—Winter Semester

CGT 234	Web Design and Development 3	3	Elective	<i>Select one</i>	3
	Total Credits	3	CIS 176	Visual Basic.NET	
			CIS 223	Introduction to C#	
			CIS 290	Object-Oriented Programming with Java	
			Total Credits		3

PROGRAM TOTAL 30 CREDITS

Computer Information Systems: Web Specialist AAS Degree

Schoolcraft program code # AAS.00275

The technology of the Internet is constantly evolving both in terms of delivery infrastructure and website development tools. To stay abreast of these technological advances requires programming and design knowledge, skills and experience. A good site must include both quality visual communication design and functionality. Programming is needed for interactivity to search databases and track usage. Visual graphic design is needed to convey the content message and provide branding for products and services.

This degree is designed to prepare the Internet professional to design web pages and to program for the web. It provides the working knowledge of various programming languages, multimedia technologies, graphic development, and web design tools. The Internet professional may be involved with designing, developing, operating, maintaining and managing web-based publishing.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

CGT 109	Design Concepts and Technology	3	Mathematics	Select one	4
CGT 123	Illustration—Illustrator	3	MATH 102	Technical Mathematics	
CGT 125	Digital Imaging 1—Photoshop	3	MATH 113	Intermediate Algebra for College Students	
CIS 129	Introduction to Programming Logic	3	ENG 101	English Composition 1	3
CGT 136	Web Design and Development 1	3	CIS 171	Introduction to Networking	3
	Total Credits	15	COMA 103	Fundamentals of Speech	3
			CGT 163	Web Design and Development	3
				Total Credits	16

First Year—Spring Session

ENG 102	English Composition 2	3
	Total Credits	3

Second Year—Fall Semester

Second Year—Winter Semester

CIS 250	Systems Development and Design	4	HUM 106	Introduction to Art and Music	1
CGT 234	Web Design and Development 3	3	Elective	<i>Select one</i>	3
CIS 238	JavaScript	3	CIS 176	Visual Basic.NET	
Social Science	<i>Select one</i>	3	CIS 223	Introduction to C#	
POLS 105	Survey of American Government		CIS 290	Object-Oriented Programming with Java	
PSYCH 153	Human Relations		CGT 141	Introduction to 2D Animation and Interactive Media	3
Elective	<i>Select from the list</i>	3	Science*	<i>Select any General Education Science Course</i>	4
	Total Credits	16	Elective	<i>Select from the list</i>	3
				Total Credits	14

PROGRAM TOTAL 64 CREDITS

* Number of credits may vary depending on the General Education Science course selected.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with a counselor or advisor. Number of credits may vary depending on the course selection.

Electives

CIS 125	Principles of Information Security	3
CIS 176	Visual Basic.NET	3
CIS 185	Introduction to HTML	3
CIS 223	Introduction to C#	3
CIS 225	Database Management Systems	3
CIS 255	Introduction to LINUX	3
CGT 212	Advanced Interactive Media	3
CGT 213	Advanced 2D Animation	3

Computer Information Systems Post-Associate Certificate

Schoolcraft program code # PAC.00155

This post-associate certificate in computer science information systems is designed for working professionals who have experience and/or training in the computer field. This certificate will provide study in the newest technology and will enhance students' ability to meet the needs of the ever changing computer information systems environment.

Prior to admission in this program, students must have already completed a minimum of an accredited associate degree in applied science. All courses are not offered each semester. Students should work with an academic advisor or counselor to set up a schedule that will work for them. The post-associate certificate is awarded upon successful completion of 16 credit hours (exact number may vary slightly due to credit value of courses).

Program Courses

CIS 185	Introduction to HTML	3
CIS 211	Introduction to C++	2
CIS 221	Advanced C++	2
CIS 223	Introduction to C#	3
CIS 235	Managing and Troubleshooting PCs	3
CIS 238	JavaScript	3
CIS 250	Systems Development and Design	4
CIS 251	IT Project Management	3
CIS 255	Introduction to LINUX	3
CIS 265	Networking 1	3
CIS 276	Networking 2	3
CIS 290	Object-Oriented Programming with Java	3

Completion of a minimum of 16 credit hours is required. Courses can be taken through independent study.