COMPUTER TECHNOLOGIES

Computer Hardware/Software Design AAS

Computer Information Systems AAS

Computer Information Systems AAS
Internet Technology Option

Computer Science AS

Information Technology AS

Individualized Instruction

Experienced Faculty

Commitment to Student Success

COMPUTER TECHNOLOGIES

Discover how we communicate, work, play, and learn through the use of computer technology. Cayuga offers a range of programs for students who want to work with computers. While each program has a different focus and area of application, all programs provide a strong foundation in computer programming skills. Hands-on computer applications, small classes, and faculty with business and industry experience help students receive the skills and knowledge needed to be successful in this constantly changing field.

TRANSFER INFORMATION

Students should contact their advisor and/or the Coordinator for Transfer and Articulation in the Centers for Student Engagement and Academic Advisement for information on transfer planning. Early consultation to plan the most appropriate course sequence will optimize transferability.

COMPUTER AND INFORMATION TECHNOLOGY OCCUPATIONS*

Employment of computer and information technology occupations is projected to grow 13 percent through 2026, faster than average for all occupations. These occupations are projected to add about 557,100 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security.

Computer Programers

Projected mid-career salary*

$93,000/yr

*United States Department of Labor
https://www.bls.gov/ooh/computer-and-information-technology/home.htm

cayuga-cc.edu

CAYUGA COMMUNITY COLLEGE

SUNY

Computer Hardware/ Software Design

AAS

This program provides a solid foundation in the design of computer hardware and software. It combines the electronics of hardware design with the problem solving and logic skills of software design.

Career Possibilities

Computer Technician

Hardware Designer

Software Designer

Programmer

Network Technician

Network Administrator

Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
CS 120	Foundations of Computer Science	3
ELEC 101	Electrical Circuits	4
ELEC 105	Introduction to Digital Computers	4
MATH 104	College Algebra (or higher)*	3
		17
Second Semester		
ENGL 102	Freshman English II	
or		
ENGL 270	Technical Writing	3
ELEC 102	Basic Electronics	4
ELEC 107	Fundamentals of Microcomputers	4
CS 200	Programming in Visual Basic	3
MATH 106	Pre-Calculus	3
		17
Third Semester		
BUS 225	Microcomputer Application Software	3
CS 080	Microcomputer Maintenance	1
CS 222	Programming in C/C++	3
	Behavioral/Social Sciences	3
	Liberal Arts Elective	3
	Health or Physical Education	1
		14
Fourth Semester		
BUS 226	Advanced Microcomputer Application Software	3
CS 225	Introduction to Networks	3
CS 238	Java	3
	Behavioral/Social Sciences	3
	Technical Elective**	3
		15
TOTAL CREDIT HOURS		**63**

*MATH 112, 115, 116 or 121 will not fulfill Math requirement.

Must be one of the following:

CS 219	Database Management Systems
CS 228	Introduction to Unix/Linux
CS 235	Web Page Design
CS 236	Advanced Visual Basic
CS 237	Internet Security
ELEC 209	Programmable Logic Controllers

Computer Science

AS

This program focuses on the math, technical, and programming knowledge that is the foundation for a career in computer science. Students gain a broad and varied background in programming as well as the soft skills for effective technical communication.

Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
CS 120	Foundations of Computer Science	3
BUS 225	Microcomputer Application Software	3
	Behavioral/Social Sciences*	3
	Math**	3
	Health or Physical Education	1
		16
Second Semester		
ENGL 102	Freshman English II	3
CS 238	Java	3
	Behavioral/Social Sciences*	3
	Math**	4
	Humanities***	3
		16
Third Semester		
CS 239	Java II	3
CS 222	Programming in C/C++	3
CS 215	Systems Analysis and Design	3
MATH 212	Discrete Math	3
	Science†	4
		16
Fourth Semester		
ENGL 201-206		
or		
ENGL 221	Effective Speech: Public Address	
or		
ENGL 222	Effective Speech: Group Discussion	3
MATH 203	Linear Algebra	
or		
MATH 210	Data Structures	3
	Liberal Arts	3
HIST 101	Western Civilization I	
or		
HIST 102	Western Civilization II	
or		
HIST 103	Pre-History and Early American History	
or		
HIST 104	19th Century American History	
or		
HIST 105	America in the 20th and 21st Centuries	3
	Science†	4
		16
TOTAL CREDIT HOURS		**64**

* Choose one: PSY 101, SOC 101, ECON 201 or 202, ANTH 101, GIS 111 or GIS 205.

** Minimum mathematics requirements: MATH 108 and 201.

*** ART 103, 104, 106, 112, 113, 131, 139, 160, 215, 221, 231, 250, 251, 255, 260; MUSI 104, 112, 154, 158; THA 101, 113, 152; PHIL 203.

† Must be a sequence of one of the following:
BIOL 103-104 or BIOL 225-226
CHEM 103-104
PHYS 103-104 or PHYS 200-201
GEOL 110-111

Career Possibilities

Software Engineer

Software Developer

Computer Hardware Engineer

Computer Programmer

Games Programmer

Computer Applications Engineer

Computer Information Systems

AAS

This career program provides a foundation in the concepts and principles of computer information systems. Students develop and design software solutions and procedures that help businesses function efficiently. The emphasis is on applied learning through laboratory practice, using the latest hardware and software.

Career Possibilities

Programmer

Web Designer/Developer

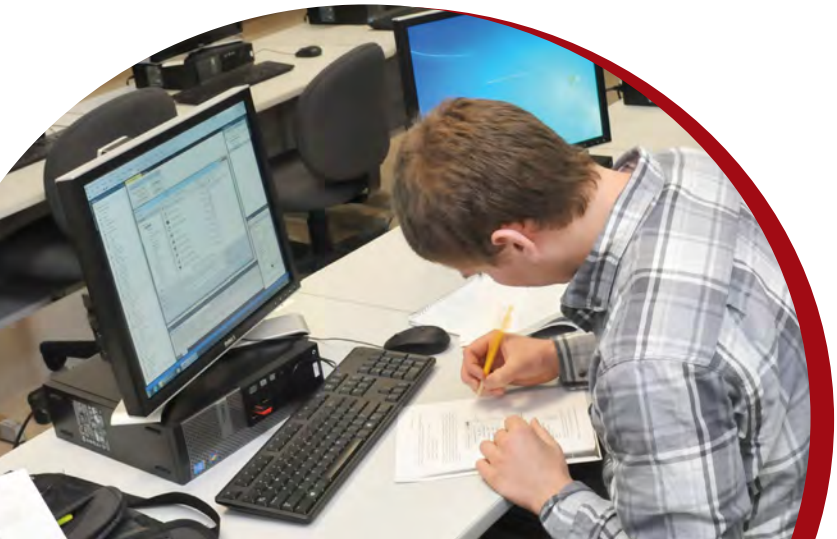
Webmaster

Database Administrator

Network Administrator

Network Support Specialist

Systems Analyst



Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
BUS 101	Principles of Accounting	4
BUS 225	Microcomputer Application Software	3
CS 120	Foundations of Computer Science	3
MATH 104	College Algebra (or higher)*	3
		16
Second Semester		
CS 200	Programming in Visual Basic	3
CS 225	Introduction to Networks	3
BUS 226	Advanced Micro. Application Software	3
	Behavioral/Social Science Elective	3
ENGL 102	Freshman English II	
or		
ENGL 270	Technical Writing	3
	Health or Physical Education	1
		16
Third Semester		
ENGL 221	Effective Speech: Public Address	3
BUS 103	Principles of Business	3
CS 080	Microcomputer Maintenance	1
CS 215	Systems Analysis and Design	3
CS 227	Microsoft Windows Server Administration	3
	Math/Science	3
		16
Fourth Semester		
CS 219	Database Management Systems	3
CS 237	Internet Security	3
CS 238	Java	3
BUS 260	Introduction to Project Management	3
	Liberal Arts Elective	3
	Health or Physical Education	1
		16
TOTAL CREDIT HOURS		**64**

*MATH 112, 115, 116 or 121 will not fulfill Math requirement.

Computer Information Systems

AAS

Internet Technology Option

The Internet Technology Option provides training for the development of programming applications and information systems, featuring in-depth instruction in the use and design of software for the Internet. The emphasis is on applied learning through laboratory practice using the latest hardware and software.

Graduates of this program option possess skills in Internet programming, problem-solving, communications, web-based application software, computer systems, and networks.

Career Possibilities

Web Designer/Developer

Webmaster

Software Engineer

Network Administrator

Network Support Specialist

Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
CS 080	Microcomputer Maintenance	1
CS 120	Foundations of Computer Science	3
BUS 225	Microcomputer Application Software	3
BUS 103	Principles of Business	3
MATH 104	College Algebra (or higher)*	3
		16
Second Semester		
ENGL 102	Freshman English II	
or		
ENGL 270	Technical Writing	3
CS 200	Programming in Visual Basic	3
BUS 226	Advanced Micro. Application Software	
or		
BUS 260	Project Management	3
	Behavioral/Social Science Elective	3
	Math/Science	3
	Health or Physical Education	1
		16
Third Semester		
CS 082	Help Desk	1
CS 215	Systems Analysis and Design	3
ENGL 221	Effective Speech: Public Address	3
CS 228	Introduction to Unix/Linux	3
	Behavioral/Social Science	3
	Health or Physical Education	1
		14
Fourth Semester		
CS 219	Database Management Systems	3
CS 225	Introduction to Networks	3
CS 235	Web Page Design	3
CS 237	Internet Security	3
CS 238	Java	3
	Liberal Arts Elective	3
		18
TOTAL CREDIT HOURS		**64**

* Depending on the student's math placement MATH 112, 115, 116 or 121 will not fulfill Math requirement.

Information Technology

AS

The Information Technology program focuses on designing and managing technologies for user productivity. The program allows students to build a foundation for transfer into four-year information technology or other technology-related programs, and prepares students for careers in game design, web design and administration, network administration, and information security.

Career Possibilities

Game Designer

Network and Data Communications Analyst

Network Administrator

Web Developer

Web Administrator

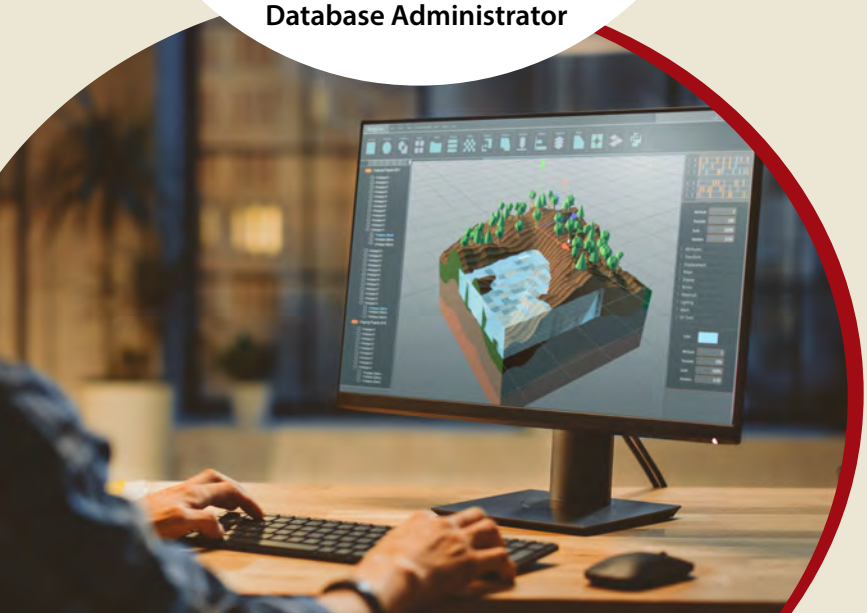
IT Consultant

Computer Security Specialist

Security Engineer

Systems Administrator

Database Administrator



Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
CS 080	Microcomputer Maintenance	1
CS 120	Foundations of Computer Science	3
BUS 225	Application Software	3
MATH 106	Pre-Calculus (or higher)	3
	Math Elective****	3
		16
Second Semester		
ENGL 102	Freshman English II	3
CS 082	Help Desk	1
CS 225	Networking	3
MATH 212	Discrete Math	
or		
MATH 214	Statistics	3
	Concentration Elective*	3
	Health or Physical Education	1
		14
Third Semester		
CS 222	Programming in C/C++	
or		
CS 200	Programming in Visual Basic	3
HIST 101	Western Civilization I	
or		
HIST 102	Western Civilization II	
or		
HIST 103	Pre-History and Early American History	
or		
HIST 104	19th Century American History	
or		
HIST 105	America in the 20th and 21st Centuries	3
	Behavioral/Social Science	3
	Concentration Elective *	3
	Lab Science***	4
	Health or Physical Education	1
		17
Fourth Semester		
CS 219	Database Management Systems	3
CS 238	Java	3
	The Arts or Other World Civilizations General Education**	3
	Concentration Elective*	3
	Lab Science***	4
		16
TOTAL CREDIT HOURS		**63**

*The courses listed in concentrations below must be used to fulfill degree requirements.
** Depending on the concentration, students should choose an Art or Other Civilizations elective that optimizes general education credits.
***Must be a sequence of one of the following: BIOL 103-104 or BIOL 225-226, CHEM 103-104 or PHYS 103-104, or PHYS 200-201 GEOL 110-111
**** MATH 112, 115, 116 or 121 will not fulfill Math requirement.

Information Technology Concentrations

Creative Game Design
Cybersecurity
Network Administration
Web Design

Creative Game Design

This concentration will develop skills related to video game design. It provides a mix of computer art, programming, scriptwriting, and telecommunications media courses and gives students a broad perspective of the elements in today's gaming industry. The courses emphasize learning through hands-on labs and projects.

Choose any 3 courses for the concentration (9 credits):

ART 112	Two-Dimensional Design
ART 215	Computer Graphics/Illustration
ART 252	Photoshop
ENGL 239	Video Game Narrative
TELC 176	Video Game Design
TELC 178	Digital Animation

Cybersecurity

This concentration will build a foundation for one of the fastest growing careers today based on the growing need for investigating computer crime and securing databases. The courses serve as a foundation to transfer into an information security or computer forensics degree program at a four-year institution.

Choose any 3 courses for the concentration (9 credits):

CJ 111	Introduction to Justice Systems
CJ 115	Criminal Law
CJ 119	Criminal Investigations
CJ 123	Laws of Evidence
CS 215	Systems Analysis and Design
CS 237	Internet Security

Network Administration

This concentration will build a foundation for network design, installation, maintenance, and security and prepare students for further study and certification in network administration. Network administration is one of the fastest growing career fields, especially in network security.

Choose any 3 additional courses for the concentration (9 credits):

BUS 101	Principles of Accounting I
BUS 200	Principles of Management
BUS 226	Advanced Microcomputer Applications Software
CS 227	Microsoft Windows Server Administration
CS 215	Systems Analysis
CS 237	Internet Security
CS 228	Introduction to Unix/Linux

Web Design

This concentration will build a foundation for programming and designing web sites and working with multimedia rich elements for web design.

Choose 3 courses for the concentration (9 credits); at least one of the courses must be ART 215 or ART 252:

ART 215	Computer Graphics/Illustrator
ART 252	Photoshop
CS 215	Systems Analysis
CS 235	Web Page Design and Development
CS 237	Internet Security
CS 228	Introduction to Unix/Linux
TELC 178	Digital Animation

Computer Technologies Microcredentials

- *Showcase your accomplishments*
- *Improve your workplace skills*
- *Enhance your resume*

WHY EARN A MICROCREDENTIAL BADGE?

Microcredentials are in demand and offer personalized learning experiences. The learning happens online.

A Microcredential Digital Badge may be displayed on resumes, LinkedIn profiles, and digital portfolios.

IT Support

Courses		*Credit Hours*
CS 080	Microcomputer Maintenance	1
CS 082	Help Desk	1
CS 120	Foundations of Computer Science	3
BUS 225	Microcomputer Application Software	3
CS 225	Introduction to Networks	3

Networking

Courses		*Credit Hours*
CS 120	Foundations of Computer Science	3
CS 225	Introduction to Networks	3
CS 215	Systems Analysis and Design	3
CS 227	Microsoft Windows Server Administration	3
CS 237	Internet Security	3

CAYUGA COMMUNITY COLLEGE
State University of New York

Contact us for more information

ADMISSIONS OFFICE
admissions@cayuga-cc.edu
www.cayuga-cc.edu/admissions
1-866-598-8883

AUBURN CAMPUS
197 Franklin Street
Auburn NY 13021

FULTON CAMPUS
11 River Glen Drive
Fulton NY 13069