

# Computer Technology

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## Computer Technology Associate in Applied Science

### Mission Statement:

The Associate of Applied Science Computer Technology degree program prepares students for entry-level computer technology positions. Emphasis throughout the program's duration is placed on effective computer and communication skills.

### Entrance Requirements:

Acceptable placement test score(s), plus high school diploma or GED

### Type of Program:

Day, evening, or online

### Employment Opportunities:

Technology services companies, internet service providers, insurance companies, hospitals, manufacturing firms, software development companies, and other business and industry.

- The Computer Technology Associate in Applied Science degree allows students to select one of the following concentrations:
  - ☐ **Cybersecurity**
  - ☐ **Network Administration**
  - ☐ **Programming**
  - ☐ **Systems Administration**
- Students will be awarded one degree in one of the four concentrations.
- The **Cybersecurity Concentration** trains students how to protect and defend computer systems, networks, programs, and databases against cyber-attacks. Emphasis is placed on implementing defensive tools to prevent cyber-attacks, learning how to simulate attacks to defend against them, and in the event of a successful attack, knowing how to recognize the effects and repair the damage as quickly as possible.
- The **Network Administration Concentration** trains students in computer technical support, router configuration and security, network systems administration, Voice over IP (VoIP), and network security.
- The **Programming Concentration** trains students to design and develop web and mobile applications using object-oriented languages and databases, including Microsoft C#, SQL, and ASP, Java, HTML5, CSS, JavaScript, and PHP.
- The **Systems Administration Concentration** trains students to install, configure, secure, and maintain computer hardware including data center servers and business workstations using Microsoft and Linux operating systems, as well as cloud technologies used for virtualization and data center management.
- This program requires a minimum grade of "C" in all CPT and IST courses.
- Listed below is the ideal grouping of courses in order by semester. This plan assumes a full-time schedule. Many variables can affect this plan, and not every course is offered every semester. CPT Department students should see their academic advisor to map out their own personalized progression toward graduation.

## Recommended Program Schedule for the Cybersecurity Concentration

### First Semester

CPT	113	Information Systems	3.0
IST	220	Data Communications	3.0
CPT	257	Operating Systems	3.0
MAT	103	Quantitative Reasoning *	3.0
		or	
MAT	109	College Algebra with Modeling *	
		or	
MAT	120	Probability and Statistics *	
		or higher college transferable math *	
ENG	101	English Composition I *	3.0

### Second Semester

IST	110	Introduction to Cyberspace and Cybersecurity	3.0
IST	266	Internet and Firewall Security	3.0
CPT	170	Microcomputer Applications	3.0
CPT	209	Computer Systems Management	3.0
SPC	205	Public Speaking *	3.0
		or	
SPC	209	Interpersonal Communications *	

### Third Semester

IST	293	IT and Data Assurance I	3.0
CPT	230	C# Programming I	3.0
IST	226	Internet Programming	3.0
IST	272	Relational Database	3.0

### Fourth Semester

IST	267	Network Vulnerability Assessment	3.0
IST	291	Fundamentals of Network Security I	3.0
CPT	264	Systems and Procedures	3.0
CPT	267	Technical Support Concepts	3.0
		Humanities/Fine Arts Elective *	3.0

### Fifth Semester

IST	292	Fundamentals of Network Security II	3.0
IST	294	IT and Data Assurance II	3.0
CPT	275	Computer Technology Senior Project	3.0
		Social Science Elective *	3.0

**Total Required Credit Hours:**

**69.0**

\* General education course

## Recommended Program Schedule for the Network Administration Concentration

### First Semester

CPT	113	Information Systems	3.0
IST	220	Data Communications	3.0
CPT	257	Operating Systems	3.0
MAT	103	Quantitative Reasoning *	3.0
		or	
MAT	109	College Algebra with Modeling *	
		or	
MAT	120	Probability and Statistics *	
		or higher college transferable math *	
ENG	101	English Composition I *	3.0

### Second Semester

IST	201	Cisco Networking Concepts	3.0
CPT	170	Microcomputer Applications	3.0
CPT	209	Computer Systems Management	3.0
CPT	230	C# Programming I	3.0
SPC	205	Public Speaking *	3.0
		or	
SPC	209	Interpersonal Communications *	

### Third Semester

IST	202	Cisco Router Configuration	3.0
IST	226	Internet Programming	3.0
CPT	267	Technical Support Concepts	3.0
IST	272	Relational Database	3.0

### Fourth Semester

IST	203	Advanced Cisco Router Configuration	3.0
IST	295	Fundamentals of Voice Over IP (VoIP)	3.0
IST	266	Internet and Firewall Security	3.0
CPT	264	Systems and Procedures	3.0
		Humanities/Fine Arts Elective *	3.0

### Fifth Semester

IST	204	Cisco Troubleshooting	3.0
		Technical Elective **	3.0
CPT	275	Computer Technology Senior Project	3.0
		Social Science Elective *	3.0

### Total Required Credit Hours:

**69.0**

\* General education course

\*\* Student must choose one CPT/IST elective from one of the other concentrations

## Recommended Program Schedule for the Programming Concentration

### First Semester

CPT	113	Information Systems	3.0
IST	220	Data Communications	3.0
CPT	257	Operating Systems	3.0
MAT	103	Quantitative Reasoning *	3.0
		or	
MAT	109	College Algebra with Modeling *	
		or	
MAT	120	Probability and Statistics *	
		or higher college transferable math *	
ENG	101	English Composition I *	3.0

**Second Semester**

IST	226	Internet Programming	3.0
CPT	230	C# Programming I	3.0
CPT	209	Computer Systems Management	3.0
CPT	170	Microcomputer Applications	3.0
SPC	205	Public Speaking *	3.0
		or	
SPC	209	Interpersonal Communications *	

**Third Semester**

CPT	231	C# Programming II	3.0
IST	239	Programming Elective #1 ***	3.0
CPT	267	Technical Support Concepts	3.0
IST	272	Relational Database	3.0

**Fourth Semester**

CPT	239	Active Server Pages	3.0
IST	278	Database Programming	3.0
IST	266	Internet and Firewall Security	3.0
CPT	264	Systems and Procedures	3.0
		Humanities/Fine Arts Elective *	3.0

**Fifth Semester**

		Programming Elective #2 ***	3.0
		Programming Elective #3 ***	3.0
		or	
		Technical Elective **	
CPT	275	Computer Technology Senior Project	3.0
		Social Science Elective *	3.0

**Total Required Credit Hours:****69.0**

\* General education course

\*\* Student may choose one CPT/IST elective from one of the other concentrations

\*\*\* Programming Electives:

IST	239	Datum and JavaScript	3.0
CPT	236	Introduction to JAVA Programming	3.0
CPT	237	Advanced JAVA Programming	3.0
CPT	283	PHP Programming I	3.0

**Recommended Program Schedule for the Systems Administration Concentration****First Semester**

CPT	113	Information Systems	3.0
IST	220	Data Communications	3.0
CPT	257	Operating Systems	3.0
MAT	103	Quantitative Reasoning *	3.0
		or	
MAT	109	College Algebra with Modeling *	
		or	
MAT	120	Probability and Statistics *	
		or higher college transferable math *	
ENG	101	English Composition I *	3.0

**Second Semester**

IST	190	Linux Essentials	3.0
CPT	170	Microcomputer Applications	3.0
CPT	209	Computer Systems Management	3.0
CPT	230	C# Programming I	3.0
SPC	205	Public Speaking *	3.0
		or	
SPC	209	Interpersonal Communications *	

**Third Semester**

IST	257	LAN Network Server Technologies	3.0
IST	226	Internet Programming	3.0
CPT	267	Technical Support Concepts	3.0
IST	272	Relational Database	3.0

**Fourth Semester**

IST	258	LAN Directory Services	3.0
IST	191	Linux Systems Administration	3.0
IST	266	Internet and Firewall Security	3.0
CPT	264	Systems and Procedures	3.0
		Humanities/Fine Arts Elective *	3.0

**Fifth Semester**

IST	198	Cloud Essentials	3.0
		Technical Elective **	3.0
CPT	275	Computer Technology Senior Project	3.0
		Social Science Elective *	3.0

**Total Required Credit Hours:****69.0**

\* General education course

\*\* Student must choose one CPT/IST elective from one of the other concentrations

Visit <https://www.gvltec.edu/gainful-employment/> for important information about the educational debt, earnings and graduation rates of students who attended programs.