COMPUTER TECHNOLOGY ASSOCIATE IN APPLIED SCIENCE

Program Description

The Associate in 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.

The Computer Technology Associate in Applied Science degree allows students to select one of the following concentrations. **Students can only be awarded ONE associate in applied science degree in Computer Technology**. *If students want to expand their knowledge of other computer technology areas of study, they may consider any available certificate under Computer Technology. Likewise,* **individual certificates can only be awarded once**.

- The **Business Analytics Concentration** provides students with the knowledge and the skills necessary for employment and growth in analytical professions. Students will complete course work in statistical and analytic theory, best practices, & analysis; data mining and data warehousing; predictive modeling; project and operations management; and analytical tools and techniques.

- 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 **Data Science Concentration** of the Associate in Applied Science in Computer Technology prepares learners to design and develop desktop and web application with an emphasis on business logic and data#driven applications. Students will be able to support the needs of businesses in a wide variety of industries, including healthcare, manufacturing, insurance, finance, and software publishing.

- The **Networking Administration and Security 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 applications using object-oriented languages and databases, including Python, Microsoft C#, SQL, ASP.NET, Java, HTML5, CSS, JavaScript and PHP.

- The **Systems Security and Infrastructure 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.

Embedded Certificate

This program contains one or more embedded certificates which will automatically be awarded if the certificate requirements are met unless the student completes and submits the Program of Study Change Form (https://www.gvltec.edu/admissions_aid/student_forms/) requesting to opt out of the embedded certificate.

Mission Statement

The Computer Technology program at Greenville Technical College offers a solid foundation to prepare students for an entry-level position in the field of information technology. Typical jobs may include network systems administrator, support specialist, network operations analyst, IT help desk support, computer programming and web developer. Our certificate programs provide areas for specialization or a skills update for veterans of the field.

Entrance Requirements

Hgh school diploma or GED

Type of Program

Day, evening or online

Requirements for Completion

Students must receive a grade of "C" or higher in program courses, concentration courses, corequisites, and prerequisites in order to be eligible for graduation.

Employment Opportunities

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

Visit our web page at https://www.gvltec.edu/computertechnology/.

Recommended Program Schedule

Listed below is the ideal grouping of courses in order by semester. This plan assumes a full-time schedule. Note, however, that many variables can affect this plan, and not every course is offered every semester. Please see your advisor to map out your own personalized progression toward graduation.

Note: Please contact your advisor for recommended evening schedules.

Business Analytics Concentration Recommended Program Schedule

Preferred Sequence

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3
MAT 103	Quantitative Reasoning	
MAT 109	College Algebra With Modeling	
MAT 120	Probability and Statistics [1]	
	Total Semester Hours	**13**

Second Semester

CPT 257	Operating Systems	3
CPT 127	Python Programming I	3
CPT 170	Computer Applications I	3
IST 272	Relational Database	3
	Total Semester Hours	**12**

Third Semester

MGT 101	Principles of Management	3
IST 278	Database Programming	3
CPT 209	Computer Systems Management	3
	Total Semester Hours	**9**

Fourth Semester

CPT 227	Python Programming II	3
CPT 189	Data Science I	3
CPT 270	Computer Applications II	3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**

Fifth Semester

BUS 190	Business Analytics I	3
CPT 267	Technical Support Concepts	3
CPT 273	Data Visualization	3
Business Elective [2]		3
	Total Semester Hours	**12**

Sixth Semester

CPT 264	Systems & Procedures	3
Humanities Elective		3
Social Science Elective [3]		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Preferred Mathematics
[2] Business Electives:
- ACC 101 Accounting Principles I
- AOT 162 Basic Information Processing
- LOG 215 Supply Chain Management
- MGT 270 Managerial Communications
- MKT 101 Marketing

[3] Preferred Social Science:
- ECO 211 Microeconomics

Cybersecurity Concentration Recommended Program Schedule

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3

MAT 120	Probability and Statistics	
MAT 103	Quantitative Reasoning [1]	
MAT 109	College Algebra With Modeling	
Higher college transferable math		
	Total Semester Hours	**13**

Second Semester

IST 220	Data Communications	3
CPT 257	Operating Systems	3
CPT 170	Computer Applications I	3
CPT 127	Python Programming I	3
	Total Semester Hours	**12**

Third Semester

CYB 110	Introduction to Cybersecurity	3
IST 190	LINUX Essentials	3
IST 266	Internet and Firewall Security	3
	Total Semester Hours	**9**

Fourth Semester

CYB 201	Cybersecurity Operations	3
CYB 294	Incident Response (Blue Teaming)	3
CPT 209	Computer Systems Management	3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**

Fifth Semester

CYB 282	Security and Risk Analysis	3
CYB 269	Digital Forensics	3
CYB 293	Attack Vectors (Red Teaming)	3
CPT 267	Technical Support Concepts	3
	Total Semester Hours	**12**

Sixth Semester

CPT 264	Systems & Procedures	3
Social Sciences Elective		3
Humanities Elective [2]		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Preferred Course
[2] Preferred Humanities Elective:
- PHI 110 Ethics

Data Science Concentration Recommended Program Schedule

Preferred Sequence

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3

MAT 103	Quantitative Reasoning	
MAT 109	College Algebra With Modeling [4]	
MAT 120	Probability and Statistics	
	Total Semester Hours	**13**
Second Semester		
CPT 257	Operating Systems	3
CPT 127	Python Programming I	3
CPT 170	Computer Applications I	3
IST 272	Relational Database	3
	Total Semester Hours	**12**
Third Semester		
IST 226	Internet Programming	3
IST 278	Database Programming	3
CPT 209	Computer Systems Management	3
	Total Semester Hours	**9**
Fourth Semester		
CPT 227	Python Programming II	3
CPT 189	Data Science I	3
Programming Elective [1]		3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**
Fifth Semester		
BUS 190	Business Analytics I	3
CPT 289	Data Science II	3
CPT 273	Data Visualization	3
CPT 267	Technical Support Concepts	3
	Total Semester Hours	**12**
Sixth Semester		
CPT 264	Systems & Procedures	3
Social Science Elective [2]		3
Humanities Elective [3]		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Programming Electives:
- IST 239 Javascript
- CPT 236 Java Programming I

[2] Preferred Social Science:
- ECO 211 Microeconomics

[3] Preferred Humanities Elective:
- PHI 105 Introduction to Logic

[4] Preferred Mathematics:
- MAT 109 College Algebra With Modeling

Network Administration and Security Concentration Recommended Program Schedule

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3
MAT 120	Probability and Statistics	
MAT 103	Quantitative Reasoning [1]	
MAT 109	College Algebra With Modeling	
Higher college transferable math		
	Total Semester Hours	**13**
Second Semester		
IST 220	Data Communications	3
CPT 257	Operating Systems	3
CPT 170	Computer Applications I	3
CPT 127	Python Programming I	3
	Total Semester Hours	**12**
Third Semester		
IST 201	Cisco Introduction to Networks	3
CYB 110	Introduction to Cybersecurity	3
CPT 209	Computer Systems Management	3
	Total Semester Hours	**9**
Fourth Semester		
IST 202	Cisco Switching, Routing, and Wireless Essentials	3
IST 257	LAN Network Server Technologies	3
IST 266	Internet and Firewall Security	3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**
Fifth Semester		
IST 203	Cisco Enterprise Networking, Security, and Automation	3
CYB 201	Cybersecurity Operations	3
IST 258	LAN Directory Services	3
CPT 267	Technical Support Concepts	3
	Total Semester Hours	**12**
Sixth Semester		
CPT 264	Systems & Procedures	3
Social Science Elective		3
Humanities Elective		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Preferred Course - MAT 103 Quantitative Reasoning

Programming Concentration Recommended Program Schedule

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3
MAT 120	Probability and Statistics	
MAT 103	Quantitative Reasoning	
MAT 109	College Algebra With Modeling [1]	
	Higher college transferable math	
	Total Semester Hours	**13**
Second Semester		
CPT 257	Operating Systems	3
CPT 127	Python Programming I	3
CPT 170	Computer Applications I	3
IST 272	Relational Database	3
	Total Semester Hours	**12**
Third Semester		
CPT 230	C# Programming I	3
IST 226	Internet Programming	3
CPT 209	Computer Systems Management	3
	Total Semester Hours	**9**
Fourth Semester		
CPT 236	Java Programming I	3
CPT 231	C# Programming II	3
IST 239	Javascript	3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**
Fifth Semester		
CPT 237	Java Programming II	3
CPT 267	Technical Support Concepts	3
IST 278	Database Programming	3
Programming Elective [2]		3
	Total Semester Hours	**12**
Sixth Semester		
CPT 264	Systems & Procedures	3
Social Science Elective		3
Humanities Elective		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Preferred Course - MAT 109 College Algebra With Modeling
[2] Programming Electives:
- CPT 227 Python Programming II
- CPT 189 Data Science I
- CPT 270 Computer Applications II
- CPT 283 PHP Programming I

Systems Security and Infrastructure Concentration Recommended Program Schedule

First Semester		Hours
COL 111	E-Learning Success	1
COL 105	Freshman Seminar	3
CPT 113	Information Systems	3
ENG 101	English Composition I	3
Select one of the following:		3
MAT 120	Probability and Statistics	
MAT 103	Quantitative Reasoning [1]	
MAT 109	College Algebra With Modeling	
	Higher college transferable math	
	Total Semester Hours	**13**
Second Semester		
IST 220	Data Communications	3
CPT 257	Operating Systems	3
CPT 170	Computer Applications I	3
CPT 127	Python Programming I	3
	Total Semester Hours	**12**
Third Semester		
IST 190	LINUX Essentials	3
CYB 110	Introduction to Cybersecurity	3
CPT 209	Computer Systems Management	3
	Total Semester Hours	**9**
Fourth Semester		
IST 191	LINUX System Administration	3
IST 257	LAN Network Server Technologies	3
IST 266	Internet and Firewall Security	3
Select one of the following:		3
SPC 205	Public Speaking	
SPC 208	Intercultural Communication	
SPC 209	Interpersonal Communication	
	Total Semester Hours	**12**
Fifth Semester		
IST 198	Cloud Computing I	3
IST 258	LAN Directory Services	3
IST 272	Relational Database	3
CPT 267	Technical Support Concepts	3
	Total Semester Hours	**12**
Sixth Semester		
CPT 264	Systems & Procedures	3
Social Science Elective		3
Humanities Elective		3
	Total Semester Hours	**9**
	Total Required Credit Hours	**67**

[1] Preferred Course