

Information Technology

The Information Technology (IT) curriculum prepares graduates for employment in a variety of technology fields, including software development, networking, cybersecurity, data analysis, virtualization, and web design.

Course work includes the development of a student's ability to create, store, communicate, exchange, and use the information to solve technical issues related to information support and services, network systems, programming and software development, information security, and other emerging technologies based on the selected area of study.

Graduates should qualify for employment in entry-level positions with businesses, educational systems, and governmental agencies that rely on computer systems to design and manage information. The program incorporates the competencies of many industry-recognized certifications.

For specific information about potential positions and wages in information technology employment, visit the Central Piedmont Career Coach website.

Information Technology (A25590)

- Information Technology - Data Analysis (A25590A) (p. 1)
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INFORMATION TECHNOLOGY - DATA ANALYSIS (A25590A)

General Education Requirements

ENG 111	Writing and Inquiry	3.0
MAT 152	Statistical Methods I	4.0
Take 3.0 credits from the following:		3.0
ENG 112	Writing and Research in the Disciplines	
COM 231	Public Speaking	
Take 3.0 credits from the following:		3.0
ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	
HIS 111	World Civilizations I	
HIS 112	World Civilizations II	
HIS 131	American History I	
HIS 132	American History II	
POL 120	American Government	
PSY 150	General Psychology	
SOC 210	Introduction to Sociology	
Select 3.0 credits from the following:		3.0
ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	
DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	

MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	
PHI 240	Introduction to Ethics	
IT Core		
CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0
Major Requirements		
ACA 122	College Transfer Success	1.0
CIS 110	Introduction to Computers	3.0
CIS 115	Introduction to Programming and Logic	3.0
CSC 154	Software Development	3.0
CTS 118	Is Professional Communications	2.0
CTS 240	Project Management	3.0
WEB 110	Web Development Fundamentals	3.0
DBA 120	Database Programming I	3.0
CSC 121	Python Programming	3.0
CTS 130	Spreadsheet	3.0
CTS 225	Spreadsheet Data Analysis	3.0
CSC 124	Introduction to Data Science Programming	3.0
DBA 285	Data Warehousing and Mining	3.0
CSC 152	SAS	3.0
Total Credits		70

Information Technology - Networking Technologies (A25590N)

General Education Requirements

ENG 111	Writing and Inquiry	3.0
Select 3.0 credits from the following:		3.0
ENG 112	Writing and Research in the Disciplines	
ENG 113	Literature-Based Research	
ENG 114	Professional Research & Reporting	
COM 110	Introduction to Communication	
COM 231	Public Speaking	
Select 3.0 credits from the following:		3.0
MAT 121	Algebra/Trigonometry I	
MAT 143	Quantitative Literacy	
MAT 152	Statistical Methods I	
MAT 171	Precalculus Algebra	
Select 3.0 credits from the following:		3.0
ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	
DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	
MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	
PHI 240	Introduction to Ethics	
Select 3.0 credits from the following:		3.0
ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	

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HIS 111	World Civilizations I	
HIS 112	World Civilizations II	
HIS 131	American History I	
HIS 132	American History II	
POL 120	American Government	
PSY 150	General Psychology	
SOC 210	Introduction to Sociology	

IT Core

CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0

Major Requirements

ACA 122	College Transfer Success	1.0
SEC 110	Security Concepts	3.0
CCT 121	Computer Crime Investigation	4.0
NET 125	Introduction to Networks	3.0
NET 126	Switching and Routing	3.0
NOS 130	Windows Single User	3.0
CTI 140	Virtualization Concepts	3.0
SEC 151	Introduction to Protocol Analysis	3.0
NET 225	Enterprise Networking	3.0
NOS 230	Windows Administration I	3.0
NOS 231	Windows Administration II	3.0
NOS 232	Windows Administration III	3.0
NET 289	Networking Project	3.0
Select 3.0 credits from the following major electives:		3.0
NOS 120	Linux/UNIX Single User	
WBL 111	Work-Based Learning I	
WBL 121	Work-Based Learning II	
WBL 131	Work-Based Learning III	

Total Credits 71

Information Technology - Full Stack Programming (A25590P)

General Education Requirements

ENG 111	Writing and Inquiry	3.0
Take one of the following courses:		3.0

ENG 112	Writing and Research in the Disciplines	
COM 231	Public Speaking	

Select 3.0 credits from the following: 3.0

MAT 143	Quantitative Literacy	
MAT 152	Statistical Methods I	
MAT 171	Precalculus Algebra	

Select 3.0 credits from the following: 3.0

ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	
DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	
MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	

PHI 240	Introduction to Ethics	
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Select 3.0 credits from the following: 3.0

ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	

HIS 111	World Civilizations I	
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HIS 112	World Civilizations II	
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HIS 131	American History I	
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HIS 132	American History II	
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POL 120	American Government	
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PSY 150	General Psychology	
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SOC 210	Introduction to Sociology	
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IT Core

CTI 110	Web, Programming, and Database Foundation	3.0
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CTI 120	Network and Security Foundation	3.0
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CTI 130	Operating Systems and Device Foundation	6.0
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CTS 115	Information Systems Business Concepts	3.0
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Major Requirements

ACA 122	College Transfer Success	1.0
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CIS 110	Introduction to Computers	3.0
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CIS 115	Introduction to Programming and Logic	3.0
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CSC 154	Software Development	3.0
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CTS 118	Is Professional Communications	2.0
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CTS 240	Project Management	3.0
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WEB 110	Web Development Fundamentals	3.0
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DBA 120	Database Programming I	3.0
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WEB 140	Web Development Tools	3.0
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CSC 121	Python Programming	3.0
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WEB 115	Web Markup and Scripting	3.0
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CSC 221	Advanced Python Programming	3.0
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WEB 215	Advanced Markup and Scripting	3.0
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WEB 250	Database Driven Websites	3.0
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Total Credits 69

Information Technology - Software Development (A25590S)

General Education Requirements

ENG 111	Writing and Inquiry	3.0
Take 3.0 credits from the following:		3.0

ENG 112	Writing and Research in the Disciplines	
COM 231	Public Speaking	

Select 3.0 credits from the following: 3.0

MAT 143	Quantitative Literacy	
MAT 152	Statistical Methods I	
MAT 171	Precalculus Algebra	

Select 3.0 credits from the following: 3.0

ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	
DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	
MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	

PHI 240	Introduction to Ethics	
Select 3.0 credits from the following:		3.0
ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	
HIS 111	World Civilizations I	
HIS 112	World Civilizations II	
HIS 131	American History I	
HIS 132	American History II	
POL 120	American Government	
PSY 150	General Psychology	
SOC 210	Introduction to Sociology	

IT Core Requirements

CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0

Major Requirements

ACA 122	College Transfer Success	1.0
CIS 110	Introduction to Computers	3.0
CIS 115	Introduction to Programming and Logic	3.0
CSC 154	Software Development	3.0
CTS 118	Is Professional Communications	2.0
CTS 240	Project Management	3.0
WEB 110	Web Development Fundamentals	3.0
DBA 120	Database Programming I	3.0
CSC 151	JAVA Programming	3.0
CSC 251	Advanced JAVA Programming	3.0
CSC 174	Server-Side Javascript	3.0
CSC 249	Data Structure & Algorithms	3.0
CSC 258	JAVA Enterprise Programs	3.0
CSC 284	Emerging Computer Prog Technologies	3.0

Total Credits		69
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Information Technology - Cloud & Virtualization Technologies (A25590V)**General Education Requirements**

ENG 111	Writing and Inquiry	3.0
Select 3 credits from the following:		3.0
ENG 112	Writing and Research in the Disciplines	
ENG 113	Literature-Based Research	
ENG 114	Professional Research & Reporting	
COM 110	Introduction to Communication	
COM 231	Public Speaking	

Select 3.0 credits from the following:		3.0
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MAT 121	Algebra/Trigonometry I	
MAT 143	Quantitative Literacy	
MAT 152	Statistical Methods I	
MAT 171	Precalculus Algebra	

Select 3.0 credits from the following:		3.0
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ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	

DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	
MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	
PHI 240	Introduction to Ethics	

Select 3.0 credits from the following:		3.0
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ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	
HIS 111	World Civilizations I	
HIS 112	World Civilizations II	
HIS 131	American History I	
HIS 132	American History II	
POL 120	American Government	
PSY 150	General Psychology	
SOC 210	Introduction to Sociology	

IT Core

CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0

Major Requirements

ACA 122	College Transfer Success	1.0
SEC 110	Security Concepts	3.0
CCT 121	Computer Crime Investigation	4.0
NET 125	Introduction to Networks	3.0
NET 126	Switching and Routing	3.0
NOS 130	Windows Single User	3.0
CTI 140	Virtualization Concepts	3.0
SEC 151	Introduction to Protocol Analysis	3.0
CTI 141	Cloud and Storage Concepts	3.0
CTI 240	Virtualization Administration I	3.0
CTI 241	Virtualization Administration II	3.0
CTI 260	Data Center Troubleshooting	3.0
CTI 270	Data Center Design and Problem Resolution	3.0

Select 3.0 credits from the following major electives:		3.0
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NOS 120	Linux/UNIX Single User	
WBL 111	Work-Based Learning I	
WBL 121	Work-Based Learning II	
WBL 131	Work-Based Learning III	

Total Credits		71
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Information Technology - Cybersecurity (A25590X)**General Education Requirements**

ENG 111	Writing and Inquiry	3.0
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Select 3.0 credits from the following:		3.0
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ENG 112	Writing and Research in the Disciplines	
ENG 113	Literature-Based Research	
ENG 114	Professional Research & Reporting	
COM 231	Public Speaking	

Select 3.0 credits from the following:		3.0
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MAT 121	Algebra/Trigonometry I	
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MAT 143	Quantitative Literacy	
MAT 152	Statistical Methods I	
MAT 171	Precalculus Algebra	
Select 3.0 credits from the following:		3.0
ART 111	Art Appreciation	
ART 114	Art History Survey I	
ART 115	Art History Survey II	
DRA 111	Theatre Appreciation	
MUS 110	Music Appreciation	
MUS 112	Introduction to Jazz	
PHI 215	Philosophical Issues	
PHI 240	Introduction to Ethics	
Select 3.0 credits from the following:		3.0
ECO 251	Principles of Microeconomics	
ECO 252	Principles of Macroeconomics	
HIS 111	World Civilizations I	
HIS 112	World Civilizations II	
HIS 131	American History I	
HIS 132	American History II	
POL 120	American Government	
PSY 150	General Psychology	
SOC 210	Introduction to Sociology	
IT Core		
CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0
Major Requirements		
ACA 122	College Transfer Success	1.0
SEC 110	Security Concepts	3.0
CCT 121	Computer Crime Investigation	4.0
NOS 120	Linux/UNIX Single User	3.0
NOS 130	Windows Single User	3.0
NET 125	Introduction to Networks	3.0
NET 126	Switching and Routing	3.0
CSC 121	Python Programming	3.0
CCT 240	Data Recovery Techniques	3.0
CCT 241	Advanced Data Recovery	3.0
SEC 151	Introduction to Protocol Analysis	3.0
SEC 251	Advanced Protocol Analysis	3.0
Select 3.0 credits from the following major electives:		3.0
CTI 140	Virtualization Concepts	
WBL 111	Work-Based Learning I	
WBL 121	Work-Based Learning II	
WBL 131	Work-Based Learning III	
Total Credits		68

No diplomas are offered in Information Technology.

Information Technology Certificates (C25590)

- Information Technology Certificate Specialization in Information Technology Fundamentals (C25590-C3) (p. 4)
- Information Technology Certificate Specialization in Data Analysis Fundamentals (C25590-50) (p. 4)
- Information Technology Certificate Specialization in Front-End Development Fundamentals (C25590-51) (p. 4)
- Information Technology Certificate Specialization in Java (C25590-52) (p. 4)
- Information Technology Certificate Specialization in Java Script (C25590-53) (p. 5)
- Information Technology Certificate Specialization in Python (C25590-54) (p. 5)
- Information Technology Certificate Specialization in Cyber Security (C25590-60) (p. 5)

Information Technology Certificate Specialization in Information Technology Fundamentals (C25590-C3)

Major Requirements

CTI 110	Web, Programming, and Database Foundation	3.0
CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
CTS 115	Information Systems Business Concepts	3.0
CIS 110	Introduction to Computers	3.0
Total Credits		18

Information Technology Certificate Specialization in Data Analysis Fundamentals (C25590-50)

CTI 110	Web, Programming, and Database Foundation	3.0
CTS 130	Spreadsheet	3.0
DBA 120	Database Programming I	3.0
CTS 225	Spreadsheet Data Analysis	3.0
Total Credits		12

Information Technology Certificate Specialization in Front-End Development Fundamentals (C25590-51)

CTI 110	Web, Programming, and Database Foundation	3.0
CIS 115	Introduction to Programming and Logic	3.0
WEB 110	Web Development Fundamentals	3.0
WEB 140	Web Development Tools	3.0
WEB 115	Web Markup and Scripting	3.0
Total Credits		15

Information Technology Certificate Specialization in Java (C25590-52)

Major Requirements

CTI 110	Web, Programming, and Database Foundation	3.0
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CIS 115	Introduction to Programming and Logic	3.0	Information Technology - Software Development suggested course sequence
CSC 151	JAVA Programming	3.0	
CSC 249	Data Structure & Algorithms	3.0	
CSC 251	Advanced JAVA Programming	3.0	
Total Credits		15	

Information Technology Certificate Specialization in JavaScript (C25590-53)

Major Requirements

CTI 110	Web, Programming, and Database Foundation	3.0
CIS 115	Introduction to Programming and Logic	3.0
WEB 110	Web Development Fundamentals	3.0
WEB 115	Web Markup and Scripting	3.0
CSC 174	Server-Side Javascript	3.0
Total Credits		15

Information Technology Certificate Specialization in Python (C25590-54)

Major Requirements

CTI 110	Web, Programming, and Database Foundation	3.0
CSC 154	Software Development	3.0
CIS 115	Introduction to Programming and Logic	3.0
CSC 121	Python Programming	3.0
CSC 221	Advanced Python Programming	3.0
Total Credits		15

Information Technology Certificate Specialization in Cyber Security (C25590-60)

Major Requirements

CTI 120	Network and Security Foundation	3.0
CTI 130	Operating Systems and Device Foundation	6.0
SEC 110	Security Concepts	3.0
CCT 121	Computer Crime Investigation	4.0
Total Credits		16

The following is the suggested plan for when to take each course to complete the Associate in Applied Science degree, based on the program requirements of the 2022-2023 catalog. This is only a recommendation — you may take courses in another order upon consultation with your advisor. This plan is based on you starting with college-level math and English courses, starting your program in the fall, and attending full-time. You can also follow this sequence if you attend part-time. Speak with an advisor about the plan and any questions. This program might also offer diplomas or certificates; visit the catalog or contact the program for details.

Information Technology - Cloud and Virtualization Technologies suggested course sequence

Information Technology - Full Stack Programming suggested course sequence

Information Technology - Information Assurance and Digital Forensics suggested course sequence

Information Technology - Networking suggested course sequence