Business and Computer Science

Computer Science Degrees and Certificates	Required Credit Hours
Certificate of Proficiency Computer Programming	9
Certificate of Proficiency Computer Technology	9
Certificate of Proficiency Network and Security Administration	9
Technical Certificate Computer Technology	30
Technical Certificate Software Development	30
Associate of Applied Science Computer Technology	60

Cybersecurity Degrees and Certificates	Required Credit Hours
Certificate of Proficiency Cybersecurity Fundamentals	12
Technical Certificate Cybersecurity	21

Management and Supervision Degrees and Certificates	Required Credit Hours
Technical Certificate Management and Supervision	30
Associate of Applied Science Management and Supervision	60

Business Degrees	Required Credit Hours
Associate of Science Business	62

Certificate of Proficiency Computer Programming

Program Learning Outcomes

- Apply database design principles and use database management systems effectively.
- Demonstrate ability in at least one modern programming language (e.g., Python, Java, or C++).

Program Requirements

Course Name	Course Number	Credit Hours
Database Fundamentals	CPSI 20263	3
Fundamentals of Programming	CPSI 21563	3
JavaScript Fundamentals	CPSI 26063	3

Total Credit Hours Required for Credential Completion: 9

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	Fundamentals of Programming	CPSI 21563	3
Spring	Database Fundamentals JavaScript Fundamentals	CPSI 20263 CPSI 26063	6

Certificate of Proficiency Computer Technology

Program Learning Outcomes

- Develop an understanding of various technology fields and career paths, to enable informed decision making about future studies or professional pursuits in the technology sector.
- Explain the basic components and functions of a computer system.
- Utilize industry-standard tools and technologies for web design.

Program Requirements

Course Name	Course Number	Credit Hours
Introduction to Computers	CPSI 10003	3
Survey of Computer Technology	CPSI 10363	3
Fundamentals of Web Development	CPSI 22563	3

Total Credit Hours Required for Credential Completion: 9

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	Introduction to Computers Survey of Computer Technology Fundamentals of Web Development	CPSI 10003 CPSI 10363 CPSI 22563	9

Certificate of Proficiency Network and System Administration

Program Learning Outcomes

- Analyze and compare network protocols.
- Recognize basic cybersecurity measures used to protect computer systems and networks.
- Demonstrate ability to apply project management concepts and tools to initiate, plan, execute, monitor, and control a project effectively.

Program Requirements

Course Name	Course Number	Credit Hours
Introduction to Cybersecurity	CESC 22363	3
Fundamentals of Networking	CPSI 25063	3
Project Management	MGMT 20253	3

Total Credit Hours Required for Credential Completion: 9

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	Introduction to Cybersecurity Project Management	CESC 22363 MGMT 20253	6
Spring	Fundamentals of Networking	CPSI 25063	3

Technical Certificate Computer Technology

Program Learning Outcomes

- Develop an understanding of various technology fields and career paths, to enable informed decision making about future studies or professional pursuits in the technology sector.
- Explain the basic components and functions of a computer system.
- Demonstrate ability in at least one modern programming language (e.g., Python, Java, or C++).
- Apply database design principles and use database management systems effectively.
- Utilize industry-standard tools and technologies for software development and web design.

Program Requirements

Course Name	Course Number	Credit Hours
Introduction to Computers	CPSI 10003	3
Survey of Computer Technology	CPSI 10363	3
User Interface and Human Interaction	CPSI 12063	3
Database Fundamentals	CPSI 20263	3
Fundamentals of Programming	CPSI 21563	3
Fundamentals of Web Development	CPSI 22563	3
JavaScript Fundamentals	CPSI 26063	3
English Composition I	ENGL 10103	3

English and Writing Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
English Composition II	ENGL 10203	3
Technical Writing for the Workplace	ENGL 20203	3

Math Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Technical Mathematics	MATH 10103	3
College Algebra	MATH 11003	3
Quantitative Literacy	MATH 11103	3

Total Credit Hours Required for Credential Completion: 30

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	Introduction to Computers	CPSI 10003	15
	Survey of Computer Technology	CPSI 10363	
	Fundamentals of Programming	CPSI 21563	
	Fundamentals of Web Development	CPSI 22563	
	English Composition I	ENGL 10103	
Spring	English and Writing Requirement		15
	Math Requirement		
	User Interface and Human Interaction	CPSI 12063	
	Database Fundamentals	CPSI 20263	
	JavaScript Fundamentals	CPSI 26063	

Technical Certificate Software Development

Program Learning Outcomes

- Demonstrate ability in at least one modern programming language (e.g., Python, Java, or C++).
- Utilize industry-standard tools and technologies for software development and web design.
- Apply database design principles and use database management systems effectively.
- Demonstrate ability to apply project management concepts and tools to initiate, plan, execute, monitor, and control a project effectively.

Program Requirements

Course Name	Course Number	Credit Hours
User interface and Human Interaction	CPSI 12063	3
Database Fundamentals	CPSI 20263	3
Fundamentals of Programming	CPSI 21563	3
Fundamentals of Web Development	CPSI 22563	3
JavaScript Fundamentals	CPSI 26063	3
Survey of Programming Languages	CPSI 28063	3
Project Management	MGMT 20253	3
Oral Communication	SPCH 10003	3

English and Writing Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
English Composition I	ENGL 10103	3
Technical Writing for the Workplace	ENGL 20203	3

Math Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Technical Mathematics	MATH 10103	3
College Algebra	MATH 11003	3
Quantitative Literacy	MATH 11103	3

Total Credit Hours Required for Credential Completion: 30

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
1st Fall	Project Management English and Writing Requirement Fundamentals of Programming Fundamentals of Web Development	MGMT 20253 CPSI 21563 CPSI 22563	12
Spring	JavaScript Fundamentals Math Requirement User Interface and Human Interaction Database Fundamentals	CPSI 26063 CPSI 12063 CPSI 20263	12
2nd Fall	Survey of Programming Languages Oral Communication	CPSI 28063 SPCH 10003	6

Associate of Applied Science Computer Technology

Program Learning Outcomes

- Explain the basic components and functions of a computer system.
- Demonstrate ability in at least one modern programming language (e.g., Python, Java, or C++).
- Analyze and compare different operating systems and network protocols.
- Recognize basic cybersecurity measures used to protect computer systems and networks.
- Utilize industry-standard tools and technologies for software development and web design.
- Apply database design principles and use database management systems effectively.
- Recognize professional standards and ethical behavior in the computing field, including an understanding of the impacts of modern and emerging technologies.
- Design and implement technology-based solutions to meet specific requirements.
- Develop an understanding of various technology fields and career paths, to enable informed decision making about future studies or professional pursuits in the technology sector.
- Demonstrate ability to apply project management concepts and tools to initiate, plan, execute, monitor, and control a project effectively.

Program Requirements

Course Name	Course Number	Credit Hours
Introduction to Cybersecurity	CESC 22363	3
Introduction to Computers	CPSI 10003	3
Survey of Computer Technology	CPSI 10363	3
User Interface and Human Interaction	CPSI 12063	3
Database Fundamentals	CPSI 20263	3
Emerging Trends in Technology	CPSI 21063	3
Computer Technology Capstone	CPSI 21163	3
Fundamentals of Programming	CPSI 21563	3
Computer Ethics	CPSI 22063	3
Fundamentals of Web Development	CPSI 22563	3
Fundamentals of Networking	CPSI 25063	3
JavaScript Fundamentals	CPSI 26063	3
Survey of Programming Languages	CPSI 28063	3

Course Name	Course Number	Credit Hours
English Composition I	ENGL 10103	3
Social Media Management	MGMT 10253	3
Project Management	MGMT 20253	3
Oral Communication	SPCH 10003	3

Math Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Technical Mathematics	MATH 10103	3
College Algebra	MATH 11003	3
Quantitative Literacy	MATH 11103	3

English Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
English Composition II	ENGL 10203	3
Technical Writing for the Workplace	ENGL 20203	3

Social Sciences Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Macroeconomics	ECON 21003	3
Microeconomics	ECON 22003	3
World Civilization I	HIST 11103	3
World Civilization II	HIST 11203	3
United States History I	HIST 21103	3
United States History II	HIST 21203	3
United States Government	PLSC 20003	3
Principles of Sociology	SOCI 10103	3

Total Credit Hours Required for Credential Completion: 60

Suggested Course Sequence – Associate of Applied Science Computer Technology

Term	Course Name	Course Number	Total Credit Hours
1st Fall	Introduction to Computers	CPSI 10003	15
	Survey of Computer Technology	CPSI 10363	
	Math Requirement		
	Fundamentals of Web Development	CPSI 22563	
	English Composition I	ENGL 10103	
1st Spring	User Interface and Human Interaction	CPSI 12063	15
	Database Fundamentals	CPSI 20263	
	JavaScript Fundamentals	CPSI 26063	
	Fundamentals of Programming	CPSI 21563	
	English Requirement		
2nd Fall	Introduction to Cybersecurity	CESC 22563	15
	Survey of Programming Languages	CPSI 28063	
	Social Media Management	MGMT 10253	
	Project Management	MGMT 20253	
	Computer Ethics	CPSI 22063	
2nd Spring	Emerging Trends in Technology	CPSI 21063	15
	Computer Technology Capstone	CPSI 21163	
	Fundamentals of Networking	CPSI 25063	
	Oral Communication	SPCH 10003	
	Social Science Requirement		

Certificate of Proficiency Cybersecurity Fundamentals

Program Learning Outcomes

- Apply the crosscutting concepts related to cybersecurity thought and principles.
- Demonstrate knowledge of computer programming and design.
- Discuss fundamental ethical, legal, and social issues in computer science.
- Understand the components of cybersystems and security issues including requirements and controls.

Program Requirements

Course Name	Course Number	Credit Hours
System Security	CESC 21003	3
Introduction to Cybersecurity	CESC 22363	3
Fundamentals of Programming	CPSI 21563	3
Computer Ethics	CPSI 22063	3

Total Credit Hours Required for Credential Completion: 12

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	Introduction to Cybersecurity Fundamentals of Programming Computer Ethics	CESC 22363 CPSI 21563 CPSI 22063	9
Spring	System Security	CESC 21003	3

Technical Certificate Cybersecurity

Program Learning Outcomes

- Apply the crosscutting concepts related to cybersecurity thought and principles.
- Demonstrate knowledge of computer programming and design.
- Discuss fundamental ethical, legal, and social issues in computer science.
- Understand the components of cybersystems and security issues including requirements and controls.
- Analyze security threats to modern networks and the methods used to secure against threats.
- Categorize logical and physical access control policy and mechanisms for cybersystems.
- Apply mathematical logical and reasoning principles to model problems in computer science.

Program Requirements

Course Name	Course Number	Credit Hours
System Security	CESC 21003	3
Introduction to Cybersecurity	CESC 22363	3
Network Security	CESC 22433	3
Fundamentals of Programming	CPSI 21563	3
Computer Ethics	CPSI 22063	3
Access Control	CPSI 23263	3
Discrete Mathematics	MATH 23103	3

Total Credit Hours Required for Credential Completion: 21

Suggested Course Sequence

Term	Course Name	Course Number	Total Credit Hours
Fall	System Security Introduction to Cybersecurity Fundamentals of Programming Computer Ethics	CESC 21003 CESC 22363 CPSI 21563 CPSI 22063	12
Spring	Network Security Access Control Discrete Mathematics	CESC 22433 CPSI 23263 MATH 23103	9

Technical Certificate Management and Supervision

Program Learning Outcomes

- Apply critical thinking and problem-solving techniques to address management challenges.
- Analyze financial statements and budgets to make informed business decisions.
- Analyze and evaluate cybersecurity risks, threats, and vulnerabilities in digital environment and develop security strategies that comply with relevant laws and privacy standards.
- Develop professional communication skills to effectively collaborate with internal and external stakeholders.

Program Requirements

Course Name	Course Number	Credit Hours
Introduction to Business	BUSI 10103	3
Entrepreneurship Strategies and Tools	BUSI 20053	3
Introduction to Cybersecurity	CESC 22363	3
English Composition I	ENGL 10103	3
Customer Relations Management	MGMT 10153	3
Principles of Management	MGMT 20163	3
Principles of Marketing	MKTG 25183	3

Finance Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Principles of Accounting I	ACCT 10003	3
Principles of Finance	BUSI 22543	3

Math Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
College Algebra	MATH 11003	3
Quantitative Literacy	MATH 11103	3

Total Credit Hours Required for Credential Completion: 27

Suggested Course Sequence – Technical Certificate Management and Supervision

Term	Course Name	Course Number	Total Credit Hours
Fall	Introduction to Business Introduction to Cybersecurity English Composition I Principles of Management Math Requirement*	BUSI 10103 CESC 22363 ENGL 10103 MGMT 20163	15
Spring	Entrepreneurship Strategies and Tools Principles of Finance* Customer Relations Management Principles of Marketing	BUSI 20053 BUSI 22543 MGMT 10153 MKTG 25183	12

**If electing to take Principles of Accounting I (ACCT 10003) to satisfy Finance Requirement, complete in the Fall term and complete Math Requirement in the Spring term.*

Associate of Applied Science Management and Supervision

Program Learning Outcomes

- Demonstrate knowledge of effective leadership and supervisory skills in diverse organizational settings.
- Apply critical thinking and problem-solving techniques to address management challenges.
- Develop and implement strategies for team building, motivation, and conflict resolution.
- Utilize data-driven decision-making processes to optimize organizational performance and resource allocation.
- Apply ethical principles and professional standards in business management practices.
- Analyze financial statements and budgets to make informed business decisions.
- Demonstrate understanding of human resource management principles, including recruitment, training, and performance evaluation.
- Exhibit professional communication skills to effectively collaborate with internal and external stakeholders.
- Analyze and evaluate cybersecurity risks, threats, and vulnerabilities in digital environment and develop security strategies that comply with relevant laws and privacy standards.

Program Requirements

Course Name	Course Number	Credit Hours
Legal Environment of Business	BLAW 20003	3
Introduction to Business	BUSI 10103	3
Business Ethics	BUSI 21143	3
Entrepreneurship Strategies and Tools	BUSI 20053	3
Internship	BUSI 26543	3
Introduction to Cybersecurity	CESC 22363	3
English Composition I	ENGL 10103	3
English Composition II	ENGL 10203	3
Public Relations	MGMT 10053	3
Customer Relations Management	MGMT 10153	3
Social Media Management	MGMT 10253	3
Conflict Management	MGMT 20153	3
Principles of Management	MGMT 20163	3

Course Name	Course Number	Credit Hours
Project Management	MGMT 20253	3
Human Resource Management	MGMT 20453	3
Principles of Marketing	MKTG 25183	3
Oral Communication	SPCH 10003	3

Finance Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Principles of Accounting I	ACCT 10003	3
Principles of Finance	BUSI 22543	3

Math Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Technical Mathematics	MATH 10103	3
College Algebra	MATH 11003	3
Quantitative Literacy	MATH 11103	3

Social Sciences Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
General Psychology	PSYC 11003	3
Principles of Sociology	SOCI 10103	3

Total Credit Hours Required for Credential Completion: 60

Suggested Course Sequence – Associate of Applied Science Management and Supervision

Term	Course Name	Course Number	Total Credit Hours
1st Fall	Introduction to Business Introduction to Cybersecurity English Composition I Principles of Management Math Requirement*	BUSI 10103 CESC 22363 ENGL 10103 MGMT 20163	15
1st Spring	Entrepreneurship Strategies and Tools Principles of Finance* English Composition II Customer Relations Management Principles of Marketing	BUSI 20053 BUSI 22543 ENGL 10203 MGMT 10153 MKTG 25183	15
2nd Fall	Legal Environment of Business Social Media Management Conflict Management Project Management Human Resource Management	BLAW 20003 MGMT 10253 MGMT 20153 MGMT 20253 MGMT 20453	15
2nd Spring	Business Ethics Internship Public Relations General Psychology Oral Communication	BUSI 21143 BUSI 26543 MGMT 10053 PSYC 11003 SPCH 10003	15

**If electing to take Principles of Accounting I (ACCT 10003) to satisfy Finance Requirement, complete in the Fall term and complete Math Requirement in the Spring term.*

Associate of Science Business

Program Learning Outcomes:

- Demonstrate an understanding of ethical principles and their application in decision-making processes.
- Analyze financial data to assess the performance of businesses and organizations.
- Integrate perspectives from accounting, economics, law and statistics to develop solutions to business obstacles.
- Exhibit proficiency in oral and written communication for business environments.

Program Requirements

Course Name	Course Number	Credit Hours
Principles of Accounting I	ACCT 10003	3
Principles of Accounting II	ACCT 10103	3
Legal Environment of Business	BLAW 20003	3
Computer Software Applications	BUSI 10563	3
Business Statistics	BUSI 21003	3
Macroeconomics	ECON 21003	3
Microeconomics	ECON 22003	3
English Composition I	ENGL 10103	3
English Composition II	ENGL 10203	3
College Algebra	MATH 11003	3
Survey of Calculus/Business Calculus	MATH 22003	3
Principles of Sociology	SOCI 10103	3
Oral Communication	SPCH 10003	3

Fine Arts and Humanities Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Visual Art	ARHS 10003	3
Music	MUSC 10003	3
Theater	THTR 10003	3

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
World Literature I	ENGL 21103	3

Course Name	Course Number	Credit Hours
World Literature II	ENGL 21203	3

Life Sciences Requirement

4 credit hours from the following required:

Course Name	Course Number	Credit Hours
Biology for General Education Lab	BIOL 10031	1
Biology for General Education	BIOL 10043	3
Biology for Majors Lab	BIOL 10101	1
Biology for Majors	BIOL 10103	3

Physical Sciences Requirement

4 credit hours from the following required:

Course Name	Course Number	Credit Hours
Physical Science Lab	PHSC 10031	1
Physical Science	PHSC 10043	3
University Physics I Lab	PHYS 20301	1
University Physics I	PHYS 20303	3

Social Sciences Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
World Civilization I	HIST 11103	3
World Civilization II	HIST 11203	3

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
United States History I	HIST 21103	3
United States History II	HIST 21203	3
United States Government	PLSC 20003	3

Program Elective Requirement

3 credit hours from the following required:

Course Name	Course Number	Credit Hours
Introduction to Business	BUSI 10103	3
Business Communications	BUSI 20103	3

Recommended program Elective Selection

Transfer Institution	Course Name	Course Number
Arkansas State University	Business Communications	BUSI 20103
Arkansas Tech University	Introduction to Business	BUSI 10103
Henderson State University	Business Communications	BUSI 20103
University of Central Arkansas	Business Communications	BUSI 20103
University of Arkansas Fort Smith	Business Communications	BUSI 20103
University of Arkansas Little Rock	Introduction to Business	BUSI 10103
University of Arkansas Monticello	Business Communications	BUSI 20103
University of Arkansas Pine Bluff	Introduction to Business	BUSI 10103

Total Credit Hours Required for Credential Completion: 62

Suggested Course Sequence – Associate of Science Business - Business Communications Elective Option

Term	Course Name	Course Number	Total Credit Hours
1st Fall	Principles of Accounting I Computer Software Applications English Composition I College Algebra Oral Communication	ACCT 10003 BUSI 10563 ENGL 10103 MATH 11003 SPCH 10003	15
1st Spring	Principles of Accounting II Business Communications English Composition II Survey of Calculus/Business Calculus Social Sciences Requirement	ACCT 10103 BUSI 20103 ENGL 10203 MATH 22003 SPCH 10003	15
2nd Fall	Legal Environment of Business Macroeconomics Microeconomics Physical Sciences Lecture Requirement Physical Sciences Lab Requirement World Civilizations Requirement	BLAW 20003 ECON 21003 ECON 22003	15
2nd Spring	Biology for General Education Lab Biology for General Education Lecture Business Statistics Principles of Sociology Fine Arts Requirement U.S. History or Government Requirement	BIOL 10031 BIOL 10043 BUSI 21003 SOCI 10103	16

Suggested Course Sequence – Associate of Science Business - Introduction to Business Elective Option

Term	Course Name	Course Number	Total Credit Hours
1st Fall	Principles of Accounting I Introduction to Business Computer Software Applications English Composition I College Algebra	ACCT 10003 BUSI 10103 BUSI 10563 ENGL 10103 MATH 11003	15
1st Spring	Principles of Accounting II English Composition II Survey of Calculus/Business Calculus Oral Communication Social Sciences Requirement	ACCT 10103 ENGL 10203 MATH 22003 SPCH 10003	15
2nd Fall	Legal Environment of Business Macroeconomics Microeconomics Physical Sciences Lecture Requirement Physical Sciences Lab Requirement World Civilizations Requirement	BLAW 20003 ECON 21003 ECON 22003	15
2nd Spring	Biology for General Education Lab Biology for General Education Lecture Business Statistics Principles of Sociology Fine Arts Requirement U.S. History or Government Requirement	BIOL 10031 BIOL 10043 BUSI 21003 SOCI 10103	16