Academic Plan - Associate of Applied Science Cybersecurity

**Catalog Year: 2019/2020**

**Total Credits:**

The Cybersecurity program prepares individuals to assess the security needs of computer and network systems, recommend safeguard solutions, and manage the implementation and maintenance of security devices, systems, and procedures. Upon successful completion of the program, students will have the needed background to prepare to take a number of industry certifications in the field of cybersecurity. Examples include but not limited to: CompTIA Network+; CompTIA Security+; CompTIA Linux +, MTA (Microsoft Technology Associate) and/or MCSA (Microsoft Certified Solutions Associate); and CompTIA Advanced Security Practitioner (CASP).

The Cybersecurity Degree will be offered at the Collaboration Campus. ACC has a transfer articulation with CSU Pueblo, under which students are guaranteed a junior standing with no more than 61 credits to meet the graduation requirements for a bachelor degree in Computer Information Systems-Cybersecurity Concentration issued by CSU-Pueblo. In order to achieve this, students must be dually enrolled at ACC and CSU-Pueblo during AAS coursework and work with an advisor for correct course sequencing.

# General Education Courses

3 Credits, BUS 217 - Business Communication & Report Writing, available fall spring summer

3 Credits, BUS 226 - Business Statistics, available fall spring summer

3 Credits, ENG 121 - English Composition I: GT-CO1\*, available fall spring summer

3 Credits, PHI 113 - Logic: GT-AH3\*, available fall spring summer

4 Credits, MAT 121 - College Algebra: GT-MA1\*, available fall spring summer

# Major Courses

1 Credits, BUS 121 - Basic Workplace Skills, available spring

3 Credits, CIS 287 - Cooperative Education, available fall spring summer

3 Credits, CNG 124 - Networking I: Network +, available fall spring summer

3 Credits, CNG 125 - Networking II: Network +, available fall spring

3 Credits, CNG 132 - Network Security Fundamentals, available fall spring

3 Credits, CNG 202 - Unix/Linux Server Admin, available fall

3 Credits, CNG 253 - Firewalls and How They Work, available fall spring

3 Credits, CNG 256 - Vulnerability Assessment I, available fall

3 Credits, CSC 119 - Introduction to Programming, available fall spring summer

4 Credits, CNG 259 - Enterprise Security, available spring

# Additional Required Courses

3 Credits, CIS 220 - Fundamentals of UNIX (OR CIS 315 - UNIX Operating System: CSU Course\*\*), available fall spring

3 Credits, CIS 232 - Unix Shell Programming OR CSC 160 - Computer Science I, available fall spring

3 Credits, CNG 212 - Configuring Windows Server (OR CIS 401 - Network Systems Administration: CSU Course\*\*), available fall spring

3 Credits, CNG 258 - Digital Forensics (OR CIS 462 - Computer Forensics: CSU Course\*\*), available spring

3 Credits, Restricted Elective (See Notes for specific requirements), available fall spring summer

# Pre-Requisites, Co-Requisites, and Recommendations

CNG 125 - Networking II: Network +

Pre-Requisite: CNG 124 - Networking I: Network +

CNG 132 - Network Security Fundamentals

Pre-Requisite: CNG 124 - Networking I: Network +

CNG 253 - Firewalls and How They Work

Pre-Requisite: CNG 132 - Network Security Fundamentals

CIS 232 - Unix Shell Programming OR CSC 160 - Computer Science I

Pre-Requisite: For CSC 160: CSC 119 - Introduction to Programming

Pre-Requisite: For CSC 160: MAT 055 - Algebraic Literacy or Higher

CNG 256 - Vulnerability Assessment I

Pre-Requisite: CNG 132 - Network Security Fundamentals

CNG 259 - Enterprise Security

Pre-Requisite: CNG 132 - Network Security Fundamentals

Pre-Requisite: CNG 256 - Vulnerability Assessment I

# Program Outcomes

Evaluate the computer network and information security needs of an organization.

Implement security measures for the protection of computer networks and the information of an organization.

Develop and design a security infrastructure based on the business requirements of an organization.

Troubleshoot, maintain and update an enterprise-level information security system.

# Notes

\* This course requires college level readiness as measured by Accuplacer, ACT, or SAT scores; approved high school course work that is less than five years old; or successful completion of appropriate college-readiness course.

\*\* These courses are recommended for students who intend to transfer to CSU to earn a baccalaureate degree in Computer Information Systems - Cybersecurity Concentration.

\*\*\*Restricted Electives - choose one of the following courses: CNG 142, CNG 243, CSC 160, CNG 121, OR CIS 461 (CSU Course\*\*).

AAA 101 – College 101: Student Experience is required for all new college students seeking degrees or transfer.

# Graduation Requirements

All courses required for this degree must be completed with a “C” or better to be considered for transfer to another institution.

Apply for graduation online at www.arapahoe.edu/graduation.

As a graduate of a Career and Technical Education program you will be contacted by an ACC employee in approximately six months to verify your employment information. This information gathering is a federal requirement to ensure that ACC receives certain f

# RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

## Year 1: Fall

3 Credits, CNG 124 - Networking I: Network +

3 Credits, CSC 119 - Introduction to Programming

3 Credits, ENG 121 - English Composition I: GT-CO1

3 Credits, PHI 113 - Logic: GT-AH3

## Year 1: Spring

1 Credits, BUS 121 - Basic Workplace Skills

3 Credits, CIS 220 - Fundamentals of UNIX (OR CIS 315 - UNIX Operating System: CSU Course\*\*)

3 Credits, CIS 232 - Unix Shell Programming OR CSC 160 - Computer Science I

3 Credits, CNG 125 - Networking II: Network +

3 Credits, CNG 132 - Network Security Fundamentals

4 Credits, MAT 121 - College Algebra: GT-MA1

## Year 2: Fall

3 Credits, BUS 226 - Business Statistics

3 Credits, CNG 202 - Unix/Linux Server Admin

3 Credits, CNG 212 - Configuring Windows Server (OR CIS 401 - Network Systems Administration: CSU Course\*\*)

3 Credits, CNG 253 - Firewalls and How They Work

3 Credits, CNG 256 - Vulnerability Assessment I

## Year 2: Spring

3 Credits, BUS 217 - Business Communication & Report Writing

3 Credits, CIS 287 - Cooperative Education

3 Credits, CNG 258 - Digital Forensics (OR CIS 462 - Computer Forensics: CSU Course\*\*)

4 Credits, CNG 259 - Enterprise Security

3 Credits, Restricted Elective

# RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

## Year 1: Fall

3 Credits, CNG 124 - Networking I: Network +

3 Credits, CSC 119 - Introduction to Programming

3 Credits, ENG 121 - English Composition I: GT-CO1

## Year 1: Spring

3 Credits, CIS 220 - Fundamentals of UNIX (OR CIS 315 - UNIX Operating System: CSU Course\*\*)

3 Credits, CIS 232 - Unix Shell Programming OR CSC 160 - Computer Science I

4 Credits, MAT 121 - College Algebra: GT-MA1

## Year 1: Summer

3 Credits, BUS 217 - Business Communication & Report Writing

## Year 2: Fall

3 Credits, CNG 202 - Unix/Linux Server Admin

3 Credits, CNG 212 - Configuring Windows Server (OR CIS 401 - Network Systems Administration: CSU Course\*\*)

3 Credits, Restricted Elective

## Year 2: Spring

3 Credits, BUS 226 - Business Statistics

3 Credits, CNG 125 - Networking II: Network +

3 Credits, CNG 132 - Network Security Fundamentals

## Year 2: Summer

3 Credits, PHI 113 - Logic: GT-AH3

## Year 3: Fall

1 Credits, BUS 121 - Basic Workplace Skills

3 Credits, CNG 253 - Firewalls and How They Work

3 Credits, CNG 256 - Vulnerability Assessment I

## Year 3: Spring

3 Credits, CIS 287 - Cooperative Education

3 Credits, CNG 258 - Digital Forensics (OR CIS 462 - Computer Forensics: CSU Course\*\*)

4 Credits, CNG 259 - Enterprise Security