

ARTICULATION AGREEMENT

ARAPAHOE COMMUNITY COLLEGE

AND

COLORADO STATE UNIVERSITY- PUEBLO

July 1, 2019

INTRODUCTION

This document serves as a transfer agreement to identify the courses a student at Arapahoe Community College (ACC) must complete as part of an Associate of Applied Science (AAS) degree in Cybersecurity and an AAS degree in Secure Software Development to be guaranteed a junior standing to be able to complete a Bachelor of Science in Computer Information Systems -Cybersecurity emphasis or a Bachelor of Computer Information Systems-Software Development emphasis at Colorado State University - Pueblo (CSU-P). The guarantees and limitations below describe the minimum requirements to which the participating institutions have agreed. *Effective: July 1, 2019 to June 30, 2024*

PART ONE: GUARANTEES

Students who complete the AAS degree **and** the prescribed curriculum in this transfer articulation agreement **and** are admitted (with no academic deficiencies that require additional coursework) to CSU-P are guaranteed the following:

1. Junior standing with no more than 61 remaining credits to meet the graduation requirements for baccalaureate degrees in the degree programs covered by this articulation agreement.
2. Students will be able to complete the receiving institution's lower division general education requirements in the junior year (offered by ACC) as defined by the GT Pathways curriculum.
3. Students who choose the described pathways below are guaranteed a transfer to a Bachelor of Science in Computer Information Systems -Cybersecurity emphasis or a Bachelor of Computer Information Systems-Software Development emphasis BS in CIS with no further graduation requirements than what is laid out in the academic plan listed below.

PART TWO: LIMITATIONS

1. Only courses with grades of C or higher are guaranteed to transfer.
2. Applicants should present college transcripts showing an overall 2.0 grade point or higher.
3. The credit and course transfer guarantees described in this agreement apply to the specific degree program covered by this agreement. The receiving institution will evaluate application of the courses designated in this agreement to other degree programs on a course-by-course basis.
4. Students who wish to use credits awarded by exam, such as AP (Advanced Placement), or IB (International Baccalaureate), to fulfill specific course requirements are responsible for consulting with the institution to which they are transferring to determine whether the credits they have been awarded by exam meet the standards of the receiving institution for specific course equivalents.
5. All the courses a student needs to take in the discipline covered by this articulation agreement are listed in the prescribed curriculum. **Any additional courses taken in the discipline covered by this agreement might not count toward the requirements of the Major at the receiving institution.** Students can avoid this problem by either taking no more courses in the discipline than the ones identified in the prescribed curriculum or by consulting first with the receiving

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institution to assure that any additional courses they take in the discipline will count toward the major.

PART THREE: PRESCRIBED CURRICULUM

Associate of Applied Science Degree In Cybersecurity to CSU BS Computer Information Systems – Cybersecurity Emphasis

| Courses that Fulfill General Education Requirements | | | 16 |
|--|---------------------|----------------------|---|
| | Credit Hours | Course Number | Course Title or Category |
| Written Communication | 3 | ENG 121 | English Composition I (GT-CO1) |
| | 3 | BUS 217 | Business Communication and Report Writing |
| Mathematics | 4 | MAT 121 | College Algebra (GT-MA1) |
| | 3 | BUS 226 | Business Statistics |
| Arts & Humanities | 3 | PHI 113 | Logic (GT-AH3) |

| Additional Required Courses | | | 46 |
|---------------------------------------|---------------------|----------------------|-------------------------------------|
| | Credit Hours | Course Number | Course Title or Category |
| | 3 | CSC 119 | Introduction to Programming |
| | 4 | CSC 160 | Computer science I |
| | 3 | CNG 124 | Networking I: Network+ |
| | 3 | CNG 125 | Networking II: Network+ |
| | 3 | CNG 132 | Network Security Fundamentals |
| | 3 | CNG 202 | Unix/Linux Server Admin |
| | 3 | CNG 253 | Firewalls and How they work |
| | 3 | CNG 256 | Vulnerability Assessment |
| | 4 | CNG 259 | Enterprise Security |
| | 3 | CIS 287 | Cooperative Educations |
| | 1 | BUS 121 | Basic Workplace skills |
| | 1 | AAA 101 | College 101: The student Experience |
| | 3 | CIS 315* | Unix Operating System |
| | 3 | CIS 401* | Network Systems Administration |
| | 3 | CIS 461* | The Management of IT Security Risk |
| | 3 | CIS 462* | Computer Forensics |
| TOTAL ASSOCIATE DEGREE CREDITS | | | 62 |

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*CSU courses

Coursework in the Junior and Senior year to obtain a CSU BS Computer Information Systems – Cybersecurity Emphasis

| Courses that Fulfill General Education Requirements | | | 26 |
|---|--------------|---|--|
| | Credit Hours | Course Number | Course Title or Category |
| Written Communication | 3 | ENG 122** | English Composition II (GT-CO2) Business Communication and Report Writing |
| Humanities: | 3 | COMR 103 | Speaking and Listening |
| | 3 | Pick one Humanities course | |
| Social Science | 6 | Pick two social sciences courses ECON 201 & ECON 202 if Business Minor | |
| History | 3 | Pick one history course | |
| Natural & Physical Sciences | 8 | Pick two Natural & Physical Sciences: GT-SC1** | |

| Additional Required Courses | | | 35 |
|--|--------------|--|------------------------------------|
| | Credit Hours | Course Number | Course Title or Category |
| Major Quantitative Analysis Requirements | 4 | MATH 220 | Quantitative Analysis for Business |
| | 3 | BUSAD 360 | Advanced Business Statistics |
| Required Related Courses | 3 | MGMT 201 | Principles of Management |
| | 3 | MGMT 368 | Project Management |
| | 6 | Pick two Upper Division Open Electives | |
| CIS Major Requirements | 3 | CIS 311 | Introduction to Web Development |
| | 3 | CIS 350 | Database Management |
| | 6 | CIS 432 | Senior Professional Project |
| | 1 | CIS 493 | Senior Seminar |
| Cyber Security Emphasis | 3 | CIS 360 | Cybersecurity and Defense |
| Total Credits from Junior and Senior Years | | | 61 |
| TOTAL BACHELOR DEGREE CIS-CYBERSECURITY EMPHASIS CREDIT HOURS | | | 123 |

** ACC courses

Associate of Applied Science Degree In Secure Software Development to CSU BS Computer Information Systems – Software Development Emphasis

| Courses that Fulfill General Education Requirements | | | 24 |
|--|--------------|---|--|
| | Credit Hours | Course Number | Course Title or Category |
| Written Communication | 3 | ENG 121 | English Composition I (GT-CO1) |
| | 3 | ENG 122 | English Composition II (GT-CO2) |
| Communication | 3 | COM 115 | Public Speaking |
| Mathematics | 4 | MAT 121 | College Algebra (GT-MA1) |
| Arts & Humanities/Social and Behavioral Sciences/History | 3 | Guaranteed Transfer Arts & Humanities courses (GT-AH1, GTAH2, GT-AH3, or GT-AH4)/ Guaranteed Transfer Social & Behavioral Science courses (GT-SS1, GT-SS2, or GT-SS3)/ Guaranteed Transfer course from: History (GTHI1) <i>Recommended courses</i> ECO 201 ECO 202 HIS (any GT history course) PHI 113 | <i>Recommended courses</i> Principles of Microeconomics Principles of Macroeconomics HIS (any GT history course) Logic |
| Natural & Physical Sciences | 8 | Two Guaranteed Transfer courses from: Natural and Physical Sciences, including at least one LAB course (GT-SC1 or GT-SC2) | |

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| Additional Required Courses | | | 38 |
|---------------------------------------|--------------|---------------|---------------------------------------|
| | Credit Hours | Course Number | Course Title or Category |
| | 3 | CSC 119 | Introduction to Programming |
| | 4 | CSC 160 | Computer science I |
| | 4 | CSC 161 | Computer science I |
| | 3 | CNG 101 | Network Fundamentals Networking work+ |
| | 3 | CIS 220 | Fundamentals of Unix |
| | 3 | CSC 225 | Computer Architecture |
| | 3 | CIS 243 | Intro to SQL |
| | 3 | CSC 129 | Intro to Secure Coding |
| | 3 | CSC 245 | Secure Software Coding |
| | 3 | CIS 240 | Database Design & Development |
| | 3 | CIS 268 | Systems Analysis & Design |
| | 3 | BUS 226 | Business Statistics |
| TOTAL ASSOCIATE DEGREE CREDITS | | | 62 |

Coursework in the Junior and Senior year to obtain a CSU BS Computer Information Systems – Software Development Emphasis

| Courses that Fulfill General Education Requirements | | | 12 |
|---|--------------|-----------------------------|--|
| | Credit Hours | Course Number | Course Title or Category |
| Humanities | 3 | Pick one humanities courses | |
| Quantitative Analysis | 6 | BUSAD 360 MATH 220 | Advanced Business Statistics Business MATH |
| History | 3 | Pick one history course* | |
| Additional General Education Courses (Pick the two courses that are not taken as part of the AAs degree) | | | 6 |
| | Credit Hours | Course Number | Course Title or Category |
| Social Science | 6 | ECON 201 ECON 202 | Principles of Macroeconomics Principles of Macroeconomics |
| History | 3 | Pick one history course | |

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| Additional Required Courses | | | 43 |
|--|--------------|--|----------------------------------|
| | Credit Hours | Course Number | Course Title or Category |
| Required Related Courses | 3 | MGMT 201 | Principles of Management |
| | 3 | MGMT 368 | Project Management |
| | 3 | BUSAD 270 | Business Communications |
| | 3 | Pick one open CIS 300/400 Elective | |
| CIS Major Requirements | 3 | CIS 311 | Introduction to Web Development |
| | 3 | CIS 350 | Database Management |
| | 3 | CIS 315 | Unix Operating System |
| | 6 | CIS 432 | Senior Professional Project |
| | 1 | CIS 493 | Senior Seminar |
| | 6 | Pick two 300/400 Emphasis Area Elective | |
| Software Development Emphasis | 3 | CIS 356 | iOS Application Development |
| | 3 | CIS 359 | Advanced Programming with C# |
| | 3 | CIS 411 | Internet Server-Side Programming |
| Total Credits from Junior and Senior Years | | | 61 |
| TOTAL BACHELOR DEGREE CIS-CYBERSECURITY EMPHASIS CREDIT HOURS | | | 123 |

