PROGRAM TO PROGRAM ARTICULATION AGREEMENT

with Respect to Applying the

CYBERSECURITY

Associate of Applied Sciences Degree Program

Towards the

CYBER OPERATIONS

Bachelor of Science Degree Program

Between

DES MOINES AREA COMMUNITY COLLEGE

and

DAKOTA STATE UNIVERSITY

I. Parties

The parties to this agreement are Des Moines Area Community College (DMACC) and Dakota State University (DSU).

II. Purpose

The purpose of this agreement is to:

A. Have a signed articulation agreement that addresses the varying needs of students and the complementary nature of the institutions' programs.
B. Provide increased education opportunities for students from South Dakota and the region.
C. Extend and clarify educational opportunities for students.
D. Provide DMACC students who have completed the A.A.S. degree in Cybersecurity with an opportunity to earn a Bachelor of Science in Cyber Operations (BSCO).
E. Provide DMACC students who have taken the equivalent DMACC courses indicated in the Attachment B course mapping to transfer in fulfillment of the equivalent DSU course.

III. Academic Program

A. Upon successful completion of equivalent courses indicated in Attachment B, DSU will accept:
    1. Up to 69 DMACC credits from the A.A.S. degree in Cybersecurity will be articulated to fulfill the equivalent of 57 DSU credits toward the B.S. in Cyber Operations program. This discrepancy in total credit value is due to course alignment differences. Some DSU courses are satisfied by combining multiple DMACC courses. The transferred credits may apply toward DSU's major core, general education, or elective requirements, as detailed in the course equivalency table in Attachment B.

2. The alignment of equivalent general education course options for students outlined in DMACC plans of study is indicated in Attachment B, and potential remaining general education courses are indicated in Attachment C. 15 credits of general education have been included in the above-mapped credit totals. General education coursework will be evaluated for transfer on a course-by-course basis, and additional equivalent credits to the indicated can be transferred.

B. Requirements to be completed at DSU to earn a BSCO with an earned A.A.S. in Cybersecurity are outlined in C below. South Dakota Board of Regents (SDBoR) policies, university graduation requirements, and degree residency requirements must be met, including the following (see SDBoR Policy 2.6.1).

   a. A bachelor's degree requires 120 total credits.
   b. A minimum of 30 credit hours must be earned at DSU.
   c. A minimum of 15 of the last 30 credit hours must be earned at DSU.
   d. A minimum of 50% of the specified major requirements must be completed at the degree-granting institution.

C. Requirements to be completed at DSU are indicated in Attachment C, including:
   a. Remaining major requirements.
   b. Remaining general education
      i. All 30 required credits must meet System General Education requirements and be selected from the approved list of courses specified in SDBoR policy 2.3.7.
      ii. Additional earned general education course credits can be reviewed for transfer equivalency.

IV. Obligations

Both parties agree to confer with each other on a yearly basis regarding changes in curricula involved in this articulation agreement.

V. Modification

This agreement may be modified from time to time by the SDBoR, DSU and DMACC with approval by the South Dakota Board of Education. Modifications may not diminish the entitlements enjoyed by students who have already attended classes delivered under the terms of earlier versions of the agreement, except in rare instances in which retroactive implementation of modifications may be required to comply with accreditation standards or to conform to professional licensure requirements.

VI. Effective Date of Agreement

Start Date of the Fall 2025 term at DMACC and DSU. This agreement applies to students who graduate from DMACC in 2025 and subsequent years.

VII. Acceptance of Agreement

Dakota State University and Des Moines Area Community College have executed this Agreement on the dates indicated below, each with the intent of being legally bound hereby.

DAKOTA STATE UNIVERSITY

DocuSigned by:
Rebecca A Hoey
F8E7B870873741C...
10/03/2025

Rebecca Hoey, Ph.D. Date

Provost and Senior VP for Student and Academic Affairs

DES MOINES AREA COMMUNITY COLLEGE

Signed by:
MD Isley
DC05A64ECE84444...
10/15/2025

DM Isley Date

VP of Academic Affairs

Signed by:
Anne Power, Ph.D.
708A2A2710FC4D5...
10/15/2025

Ann Power Date

Dean

Attachment A: Des Moines Area Community College Cybersecurity Course Listing 2025-2026 Associate of Applied Science (A.A.S.) Degree

Credits Required for Graduation: 70

Cybersecurity, AAS

The Cybersecurity AAS degree is designed to provide a comprehensive program to develop a skilled workforce in the field of cyber security. The curriculum covers: preserving information confidentiality and protection, risk management, data and system integrity, availability, authenticity and utility. The program is based on information security concepts, principles, methods, techniques, practices and procedures that guide today's IT security professionals. Other areas of focus include digital forensics, incident response, and virtualization.

Program Details

Location: Ankeny

Pathway: Information Technology

More information on this Pathway.

Students may start this program Fall or Spring semester

Program Graduation Requirements

To earn a Cybersecurity AAS degree , a student must complete all required coursework as prescribed and maintain a 2.0 grade point average.

Semester 1

Fall Semester Year 1

Course Name	Credits:	Term Taken	Grade	Gen Ed
CIS 125 - Intro to Programming Logic w/	Credits: 3			
NET 182 - IT and Security Fundamentals	Credits: 3			
NET 193 - Server Administration	Credits: 3			
NET 207 - Applied Computer Security Lab *Prerequisite OR Corequisite:* NET 182	Credits: 2			
SDV 108 - The College Experience	Credits: 1			
Any 3 Credits AAS Degree Core Math Credits: Credits: 3				

Semester 2

Spring Semester Year 1

Course Name	Credits:	Term Taken	Grade	Gen Ed
CIS 189 - Python *Prerequisite OR Corequisite:* CIS 125 with a minimum grade of C- OR Instructor Approval	Credits: 3			
ENG 105 - Composition I *Prerequisite:* Satisfactory writing skills	Credits: 3			
NET 484 - Netplus Certification	Credits: 4			
Any 3 Credits AAS Degree Core Social and Behavioral Science Credits: Credits: 3 • Option 1: Select 3 Credits from Option 1 Credits: 3				

Option 1: Select 3 Credits from Option 1

Course Name	Credits:	Term Taken	Grade	Gen Ed
COM 703 - Communication Skills	Credits: 3			
ELT 368 - DC & AC Fundamentals	Credits: 3			
PSY 111 - Introduction to Psychology	Credits: 3			
SPC 101 - Fund of Oral Communication	Credits: 3			

Semester 3

Summer Semester Year 1

Course Name	Credits:	Term Taken	Grade	Gen Ed
NET 315 - Cloud Systems Administration	Credits: 3			
CIS 303 - Introduction to Database	Credits: 3			
NET 412 - Linux System Administration *Prerequisite:* NET 402 or instructor permission	Credits: 3			

Semester 4

Fall Semester Year 2

Course Name	Credits:	Term Taken	Grade	Gen Ed
NET 210 - Cybersecurity Analyst *Prerequisite:* NET 182, NET 484	Credits: 3			
NET 373 - Forensic Prac Cybersecurity	Credits: 4			
NET 208 - Cyber Ethics and Legal Issues *Prerequisite OR Corequisite:* NET 412	Credits: 3			
• Option 2: Select 3 Credits from Option 2 Credits: 3 • Option 3: Select 3 Credits from Option 3 Credits: 3				

Option 2: Select 3 Credits from Option 2

Programming course requirement

Course Name	Credits:	Term Taken	Grade	Gen Ed
CIS 161 - C++ *Prerequisite:* CIS 125 with a minimum grade of C- OR Instructor Approval	Credits: 3			
CIS 169 - C# *Prerequisite OR Corequisite:* CIS 125 with a minimum grade of C- OR Instructor Approval	Credits: 3			
CIS 171 - Java *Prerequisite:* CIS 125 with a minimum grade of C- OR Instructor Approval	Credits: 3			
CIS 289 - Python II *Prerequisite:* CIS 189 with a minimum grade of C-	Credits: 3			

Option 3: Select 3 Credits from Option 3

English composition II courses

Course Name	Credits:	Term Taken	Grade	Gen Ed
ENG 106 - Composition II *Prerequisite:* Grade of C- or better in ENG 105	Credits: 3			
ENG 108 - Comp II: Technical Writing *Prerequisite:* Grade of C- or better in ENG 105	Credits: 3			

Semester 5

Spring Semester Year 2

Course Name	Credits:	Term Taken	Grade	Gen Ed
NET 179 - Digital Forensic Analysis I *Prerequisite:* NET 373	Credits: 3			
NET 377 - Ethical Hacking Prac Cybersec *Prerequisite OR Corequisite:* NET 210 or Instructor permission	Credits: 4			
NET 708 - Database Concepts for Cyber	Credits: 4			
• Option 4: Select 3 Credits from Option 4 Credits: 3				

Option 4: Select 3 Credits from Option 4

Course Name	Credits:	Term Taken	Grade	Gen Ed
NET 932 - Internship	Credits: 3			
NET 966 - Capstone Project *Prerequisite:* Instructor Permission	Credits: 3			

Total Credits Required to Complete this Award - 70

Attachment B: DSU and DMACC Course Mapping for Cyber Operations

A.A.S. Cybersecurity to B.S. Cyber Operations

DSU 2025-2026 Catalog			DMACC 2025-2026 Catalog		
Course Number	**Course Title**	**Credits**	**Course Number**	**Course Title**	**Credits**
CSC 105	Introduction to Computers	3	NET 182	IT and Security Fundamentals	3
CSC 134	Introduction to Cyber	3	NET 377	Ethical Hacking Prac Cybersec	4
CSC 150	Computer Science I	3	CIS 161 CIS 169 CIS 171 CIS 289	C++ C# Java Python II	3
CSC 163	Hardware, Virtualization, and Data Communication	3	NET 193	Server Administration	3
			NET 315	Cloud Systems Administration	3
CSC 234	Software Security	3			
CSC 250	Computer Science II	3			
CSC 285	Networking I	3	NET 484	Netplus Certification	4
CSC 300	Data Structures	3			
CSC 314	Assembly Language	3			
CSC 321	Cyber Law and Policy	3	NET 208	Cyber Ethics and Legal Issues	3
CSC 409	Operating Environments	3	NET 412	Linux System Administration	3
CSC 334	Web Development	3			
CSC 385	Networking II	3			
CSC 404	Foundation of Computation	3			
CSC 420	Cellular and Mobile Communications	3			
CSC 421 CSC 439	Web Software Security OR Threat Hunting and Incident Response	3			
CSC 428	Reverse Engineering	3			
CSC 432	Malware Analysis	3			
CSC 436	Offensive Network Security	3			
CSC 437	Survey of Enterprise Systems	3			
CSC 438	Defensive Network Security	3			
CSC 456	Operating Systems	3			
MATH 201	Introduction to Discrete Mathematics	3			
CIS/CSC 300/400 or MATH 123 and above					

CIS 484	*Database Management Systems*	3	CIS 303	Introduction to Database	3
			NET 708	Database Concepts for Cyber	4
CSC 388	*Computer Forensics Fundamentals*	3	NET 179	Digital Forensic Analysis I	3
			NET 373	Forensic Prac Cybersecurity	4
CSC 494	*Internship*	3	NET 932	Internship (3 credits)	3*
Elective 01		3	CIS 125	Intro to Programming Logic w/	3
Elective 02		3	CIS 189	Python (3 credits)	3
Elective 03		3	NET 207	Applied Computer Security Lab	2
Elective 04		3	NET 210	Cybersecurity Analyst	3
				Total Major Core Credits Satisfied	*54**
Written Communication (6 credits)					
ENGL 101	*Composition I*	3	ENG 105	Composition I	3
ENGL 201	*Composition II*	3	ENG 106	Composition II	3*
Oral Communication (3 credits)					
CMST 101	*Foundations of Communication*	3	SPC 101	Fund of Oral Communication	3*
Social Sciences (6 credits)					
PSYC 101	*General Psychology*	3	PSY 111	Introduction to Psychology	3*
General Education 03		3			
Arts and Humanities (6 credits)					
General Education 04		3			
General Education 04		3			
Mathematics (3 credits)					
General Education 05		3	MAT 121 MAT 156	College Algebra or Statistics	3*
Natural Sciences (6 credits)					
General Education 06		3			
General Education 06		3			
				Total General Education Credits Satisfied	*15**
				Total Overall Mapped DMACC Transfer Credits	**69***

* Denotes optional classes in the DMACC curriculum that will only be awarded credit if taken.

Attachment D: Remaining DSU Major Requirements for B.S. Cyber Operations

Course Number	Course Title	Credits
CSC 234	Software Security	3
CSC 250	Computer Science II	3
CSC 300	Data Structures	3
CSC 314	Assembly Language	3
CSC 334	Web Development	3
CSC 385	Networking II	3
CSC 404	Foundation of Computation	3
CSC 420	Cellular and Mobile Communications	3
CSC 421 CSC 439	Web Software Security (3 credits) OR Threat Hunting and Incident Response (3 credits)	3
CSC 428	Reverse Engineering	3
CSC 432	Malware Analysis	3
CSC 436	Offensive Network Security	3
CSC 437	Survey of Enterprise Systems	3
CSC 438	Defensive Network Security	3
CSC 456	Operating Systems	3
MATH 201	Introduction to Discrete Mathematics	3
	Total Core Credits Remaining	*48*
General Education Credits		
	Social Sciences	3
	Arts & Humanities	6
	Natural Sciences	6
	Total General Education Credits Remaining	*15*
DSU credits remaining after DMACC AAS Degree		**63**