PROGRAM TO PROGRAM ARTICULATION AGREEMENT
Agreement with Respect to Applying the
Computer Science - Information Technology Specialty
Associate of Applied Sciences
Towards a
Bachelor of Science in Artificial Intelligence,
Bachelor of Science in Computer Science,
Bachelor of Science in Cyber Operations,
or
Bachelor of Science in Network and Security Administration
Between
WESTERN DAKOTA TECHNICAL COLLEGE
and
DAKOTA STATE UNIVERSITY

I. Parties.

The parties to this agreement are Western Dakota Technical College (WDTC) 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 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 WDTC students who have completed the A.A.S degree in Computer Science - Information Technology Specialist (Attachment A) an opportunity to earn a Bachelor of Science in Artificial Intelligence degree (Attachment B), Bachelor of Science in Computer Science degree (Attachment C), Bachelor of Science in Cyber Operations degree (Attachment D), or a Bachelor of Science in Network & Security Administration degree (Attachment E).

III. Academic Program.

A. Upon successful completion of the major requirements specified in B. below, DSU will accept 26 course credits into the Artificial Intelligence B.S., 35 course credits into the Computer Science B.S., 45 course credits into the Cyber Operations B.S., and 55 course credits into the Network and Security Administration B.S. from the WDTC Program: Computer Science - Information Technology Specialist, A.A.S. Students must successfully complete the A.A.S. degree prior to transferring to DSU for the course credits to be accepted. Students must meet all South Dakota Board of Regents (SDBoR) policies and university graduation requirements to receive a degree. The DSU Bachelor of Science degrees in Artificial Intelligence, Computer Science, Cyber Operations, and Network and Security Administration each require 120 credits.

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B. Requirements to be completed at DSU to earn a Bachelor of Science in Artificial Intelligence, Bachelor of Science in Computer Science, Bachelor of Science in Cyber Operations, or a Bachelor of Science in Network & Security Administration degree are outlined below.

Degree residency requirements must be met including the following (see SDBoR Policy 2:33).

1. A minimum of 30 credit hours must be earned at DSU.
2. A minimum of 15 of the last credit hours must be earned at DSU.
3. Up to 66 credit hours may be transferred to DSU.

Additional reguirements.

I. Students must complete DSU's online undergraduate admission process.
2. Students must successfully complete DSU's B.S. Admission interview process outlined in the undergraduate catalog.
3. Students must take DSU's exit exam prior to graduation, as required of all graduating students graduating with a B.S. degree.

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 by the South Dakota Board of Regents and Western Dakota Technical College with approval by Dakota State University. 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 2024 term at Western Dakota Technical College and Dakota State University. The agreement applies to students who graduated from Western Dakota Technical College in 2024 and subsequent years.

VII. Acceptance of Agreement:

For Dakota State University:

DocuSigned by:

06/12/2024

[nw u]   **Date**

Dr. Rebecca Hoey
Provost and VP of Academic Affairs

For Western Dakota Technical College:

13? &/.Q.   Date: *-1-a.o 4*

D. Bolman
President

Attachment A: Western Dakota Technical College
Computer Science - Information Technology Specialist Course Listing 2023-24
Associate of Applied Science (A.A.S.) Degree

Associate of Applied Science, 69 Credit Hours, 24-Month Program

The Computer Science - Information Technology Specialist program strikes a balance between theory and application. Students will learn about real-life networking and cyber security environments, making them immediately productive upon graduation and prepared to take on a variety of information technology (IT) roles. The first year builds a solid foundation of basic hands-on computer skills and networking concepts. The second-year challenges students to learn to adapt and react to the changing world of computers. Deeper networking concepts are introduced, including cyber security, ethical hacking, complex networks, and programming skills. The emphasis of coursework will be based on preparing students for industry certification testing. Students also will be prepared to continue learning and advancing within the field, allowing them to work within an organization to apply networking, and cyber security to business strategy, tactics, and goals. A typical job description for an information technology specialist would generally include working in an office environment. The job is often performed alone, and the IT Specialist must possess strong troubleshooting and technical skills, including strong math skills. Conversely, the IT Specialist must also work with users who are not comfortable with the system or who are experiencing difficulties, thus the requirement for strong communications skills. Configuring a network can require long hours of work in a short period of time. Maintaining the network can alternate between routine tasks to install, maintain, and update programs, as well as the hectic work of troubleshooting and fixing network problems. If a network crashes, the Information Technology Specialist must work quickly and purposefully to solve problems and restore the network operation. In addition, the task of updating and maintaining network services can require late hours and work on an irregular schedule. The IT worker must also be prepared to maintain related technology within an organization, including audio-visual equipment, televisions, phones, and cabling infrastructure. Physical duties may include climbing and working using ladders, installing cabling, moving computers and related equipment, and installing equipment.

Course No.	Course Title Credits
General Education Requirements	
CSC 105 MICROCOMPUTER SOFTWARE APPLICATIONS I	3
ENGL 10I COMPOSITION I*	3
ENGL 108 WORKPLACE COMMUNICATIONS II	3
ECON 202 PRINCIPLES OF MACROECONOMICS online or	3
SOC 100 INTRODUCTION TO SOCIOLOGY	
MATH 114 COLLEGE ALGEBRA**	3
PSYC 101 GENERAL PSYCHOLOGY or	3
PSYC 103 HUMAN RELATIONS IN THE WORKPLACE	
Total	**18**
Technical Requirements	
CIS 122 INFORMATION TECHNOLOGY HARDWARE/SOFTWARE	6
CIS 129 WINDOWS OPERATING SYSTEMS	3
CIS 131 NETWORKING TECHNOLOGIES I	3

CIS 132 NETWORKING TECHNOLOGIES II	3
CIS 133 NETWORKING TECHNOLOGIES III	3
CIS 134 NETWORKING TECHNOLOGIES IV	3
CIS 201 LINUX TECHNOLOGIES	3
CIS 213 NETWORKING USING WINDOWS SERVER	3
CIS 215 NETWORK DESIGN AND VIRTUALIZATION	3
CIS 216 INTRODUCTION TO PROGRAMMING	3
CIS 219 ADVANCED SERVER TECHNOLOGIES	3
CIS 220 NETWORK SECURITY I	3
CIS 225 DATABASES 3 CIS 230 COMPUTER FORENSICS	3
CIS 235 NETWORK SECURITY II	3
CIS 299 INTERNSHIP	3
Total	**51**

*Prerequisite: Acceptable ACCUPLACER score or Basic Writing.
**Prerequisite: Acceptable ACCUPLACER score or Intermediate Algebra.

Attachment B: Artificial Intelligence BS Course Mapping

DSU 2023-24 Catalog   WDTC 2023-2024 Catalog

WDTC Program: Computer Science-Information Technolo!!"V Specialist, A.A.S.			
DSU Program: Artificial Intelligence, B.S.			
WDTC credits	26	DSU Credits	94
General Education: 30 credits			
GOAL 1: Written Communication (6 Credits)			
ENGL 101 - Composition I	ן"		
		ENGL 201 - Composition II	3
GOAL 2: Oral Communication (3 Credits)			
		CMST 101 - Foundations of Communication	ן"
GOAL 3: Social Sciences (6 Credits)			
ECON 202 - Principles of Macroeconomics or SOC 100 Introduction of Sociology	3		
PSYC 101 - General Psychology (if complete)	3		
GOAL 4: Arts and Humanities (6 Credits)			
		A&H	3
		A&H	3
GOAL 5: Mathematics (3 Credits)			
Math 114 College Algebra	3		
GOAL 6: Natural Sciences (6 Credits)			
		NatSci	3
		NatSci	3
Artificial Intelligence, B.S.			
		CIS 368 - Predictive Analytics	3
		CIS 372 - Programming for Analytics	3

CSC 105 - Introduction to Computers	3		
CSC 150 - Computer Science I	3		
		CSC 230, 232, 292	3
		CSC 247 - Introduction to Artificial Intelligence	3
		CSC 250 - Computer Science II	3
		CSC 300 - Data Structures	3
		CSC 386 - Applications of Deep Learning	3
		CSC 402 - Mathematical Foundations of Attificial Intelligence	3
		CSC 447 - Artificial Intelligence	3
		CSC 478 - Artificial Intelligence Tools and Frameworks	6
		CSC 479 - Applied Artificial Intelligence	6
		CSC 482 - Algorithms and Optimization	3
		Minor	**18**
		MATH 123 - Calculus I	4
		MATH 201 - Introduction to Discrete Mathematics	3
		MATH 281 - Introduction to Statistics	3
		MATH 315 - Linear Algebra	3
		MATH 316 - Discrete Mathematics	3
Electives (8 required)	8		

Attachment C: Computer Science BS Course Mapping

DSU 2023-24 Catalog   WDTC 2023-2024 Catalog

WDTC Program: Computer Science-Information Technology Specialist, A.A.S.			
DSU Program: Computer Science, B.S.			
WDTC credits	35	DSU Credits	85
General Education			
GOAL 1: Written Communication (6 Credits)			
ENGL 101 - Composition I	,",'		
		ENGL 201 - Composition II	3
GOAL 2: Oral Communication *(3* Credits)			
		CMST 101 - Foundations of Communication	,",'
GOAL 3: Social Sciences *(6* Credits)			
ECON 202 - Principles of Macroeconomics or SOC 100 Introduction of Sociolo2:v	3		
PSYC 101 - General Psychology (if complete)	3		
GOAL 4: Arts and Humanities *(6* Credits)			
		A&H	3
		A&H	3
GOAL 5: Mathematics *(3* Credits)			
Math 114 College Algebra	3		
GOAL 6: Natural Sciences *(6* Credits)			
		NatSci	3
		NatSci	3
Computer Science, B.S.			
CSC 105 - Introduction to Computers	3		
CSC 150 - Computer Science I	3		
		CSC 234 - Software Security	3

		CSC 250 - Computer Science II	3
		CSC 260 - Object Oriented Design	3
CSC 285 - Networking I	3		
		CSC 300 - Data Structures	3
		CSC 310 - Advanced Data Structures	3
		CSC 314 - Assembly Language	3
		CSC 321 - Cyber Law and Policy	3
		CSC 404 - Foundation of Computation	3
		CSC 410 - Parallel Computing	3
		CSC 456 - Operating Systems	3
		CSC 461 - Programming Languages	3
		CSC 470 - Software Engineering	3
		CSC 482 - Algorithms and Optimization	3
		CIS/CSC 300-400 Level	9
		MATH 123 - Calculus I	4
		MATH 201 - Introduction to Discrete Mathematics	3
		MATH 281 - Introduction to Statistics	3
		MATH 316 - Discrete Mathematics	3
		MATH Electives* 6 credits	6
Electives (14 required)	14		

Attachment D: Cyber Operations BS Course Mapping

DSU 2023-24 Catalog   WDTC 2023-2024 Catalog

WDTC Program: Computer Science - Information Technolo!!V Specialist, A.A.S.			
DSU Program: Cyber Operations, B.S.			
WDTC credits	45	DSU Credits	75
General Education			
GOAL 1: Written Communication (6 Credits)			
ENGL 101 - Composition I	3		
		ENGL 201 - Composition II	3
GOAL 2: Oral Communication (3 Credits)			
		CMST IOI - Foundations of Communication	3
GOAL 3: Social Sciences (6 Credits)			
ECON 202 - Principles of Macroeconomics or SOC 100 Introduction of Sociolo!!v	3		
PSYC 10I - General Psychology (if complete)	3		
GOAL 4: A11s and Humanities *(6* Credits)			
		A&H	3
		A&H	3
GOAL 5: Mathematics *(3* Credits)			
Math **114** College Algebra	3		
GOAL 6: Natural Sciences (6 Credits)			
		NatSci	3
		NatSci	3
Cyber Operations, B.S.			
CSC 105 - Introduction to Computers	3		
CSC 134 - Introduction to Cyber	3		
CSC 150 - Computer Science I	3		

CSC 163 - Hardware, Virtualization, and Data Communication	3		
		CSC 234 - Software Security	3
		CSC 250 - Computer Science II	3
CSC 285 - Networking I	”		
		CSC 300 - Data Structures	3
		CSC 314 - Assembly Language	3
		CSC 321 - Cyber Law and Policy	3
CSC 328 - Operating Environments	”		
		CSC 334 - Web Development	3
CSC 385 - Networking II	3		
		CSC 404 - Foundation of Computation	3
		CSC 420 - Cellular and Mobile Communications	3
		CSC 428 - Reverse Engineering	3
		CSC 432 - Malware Analysis	3
		CSC 436 - Offensive Network Security	”
		CSC 437 - Survey of Enterprise Systems	3
		CSC 438 - Defensive Network Security	3
		CSC 439 - Threat Hunting and Incident Response	3
		CSC 456 - Operating Systems	3
		CIS/CSC 300-400 Level (or math 123 or higher)	9
		MATH 201 - Introduction to Discrete Mathematics	3
Electives (12 required)	12		

Attachment E: Network and Security Administration BS Course Mapping

DSU 2023-24 Catalog   WDTC 2023-2024 Catalog

WDTC Proeram: Computer Science- Information Technolo!!V Specialist, A.A.S.				
DSU Program: Network and Security Administration, B.S.				
WDTC credits	55	DSU Credits		65
General Education				
GOAL 1: Written Communication *(6* Credits)				
ENGL 101 - Composition I	3			
		ENGL 201 - Composition II		”j
GOAL 2: Oral Communication *(3* Credits)				
		CMST 101 - Foundations of Communication		3
GOAL 3: Social Sciences *(6* Credits)				
ECON 202 - Principles of Macroeconomics or SOC 100 Introduction of Sociology	3			
PSYC 101 - General Psychology (if complete)	3			
GOAL 4: A1is and Humanities (6 Credits)				
		A&H		3
		A&H		3
GOAL 5: Mathematics (3 Credits)				
Math 114 College Algebra	3			
GOAL 6: Natural Sciences (6 Credits)				
		NatSci		3
		NatSci		3
Network and Security Administration, B.S.				
CIS 484 - Database Management Systems	3			
CSC 105 - Introduction to Computers	3			
CSC 134 - Introduction to Cyber	3			
CSC 150 - Computer Science I	3			

CSC 163 - Hardware, Virtualization, and Data Communication	3		
		CSC 234 - Software Security	3
		CSC 250 - Computer Science II	3
CSC 285 - Networking I	3		
		CSC 321 - Cyber Law and Policy	3
CSC 328 - Operating Environments	3		
		CSC 334 - Web Development	3
CSC 385 - Networking II	3		
		CSC 387 - Routing and Switching	5
CSC 388 - Computer Forensics Fundamentals	3		
		CSC 407 - Advanced Routing and Switching	3
		CSC 430 - Windows Administration	3
		CSC 431 - UNIX/Linux Administration	3
		CSC 436 - Offensive Network Security	3
		CSC 437 - Survey of Enterprise Systems	3
		CSC 438 - Defensive Network Security	3
		CSC 439 - Threat Hunting and Incident Response	3
		CSC 443 - Scripting for Network Administration	3
		CSC 494 - Internship	3
		MATH 281 - Introduction to Statistics	3
Electives (16 required)	16		