MINNESOTA STATE COLLEGES AND UNIVERSITIES* ARTICULATION AGREEMENT BETWEEN	Alexandria Technical and Community College AND St. Cloud State University
*The Board of Trustees of the Minnesota State Colleges and Universities is authorized by Minnesota Statutes, Chapter 136F to enter into Agreements and has delegated this authority to colleges and universities.	

This Agreement is entered into between St Cloud State University (hereinafter receiving institution), and Alexandria Technical and Community College (hereinafter sending institution). This Agreement and any amendments and supplements, shall be interpreted pursuant to the laws of the State of Minnesota.

The sending institution has established an Associate of Science in General Engineering (hereinafter sending program), and the receiving institution has established a Bachelor of Science in Manufacturing Engineering Technology (hereinafter receiving program), and will facilitate credit transfer and provide a smooth transition from one related program to another. It is mutually agreed:

Admission and Graduation Requirements

A. The receiving institution's admission and program admission requirements apply to both direct entry students and to students who transfer under this agreement.
B. Students must fulfill the graduation requirements at both institutions.
C. Students must complete the entire sending program and meet the receiving institution's admission requirements for the agreement to apply.

Transfer of Credits

A. The receiving institution will accept 60 credits from the sending program. A total of 60 credits remain to complete the receiving program. 9 credits do not apply towards degree completion.
B. Courses will transfer as described in the attached Program Articulation Table. For system institutions, once the courses are encoded, they will transfer as described in the Transferology Audit.

Implementation and Review

A. The Chief Academic Officers or designees of the parties to this agreement will implement the terms of this agreement, including identifying and incorporating any changes into subsequent agreements, assuring compliance with system policy, procedure and guidelines, and conducting a periodic review of this agreement.
B. This Articulation Agreement is effective on 11/01/2024 and shall remain in effect until the end date of 10/31/2029 or for five years, whichever occurs first, unless terminated or amended by either party with 90 days prior written notice.
C. The college and university shall work with students to resolve the transfer of courses should changes to either program occur while the agreement is in effect.
D. This Articulation Agreement will be reviewed by both parties beginning 09/01/2029.
E. When a student notifies the receiving institution of their intent to follow this agreement, the receiving institution will encode course waivers and substitutions.

PROGRAM ARTICULATION TABLE		
	College (sending)	**University (receiving)**
Institution	Alexandria Tech & Community College	St. Cloud State University
Program name	General Engineering	Manufacturing Engineering Technology
Award Type (e.g., AS)	AS	BS
Credit Length	69	120
CIP code (6-digit)	14.0101	15.0613
Describe program admission requirements	This is a closed enrollment program designed for the United States Naval Community College	
Program Description	Engineering is a profession that uses basic knowledge from the mathematical and natural sciences and utilizes the materials and forces of nature to develop systems that will perform optimally and economically for the benefit of mankind. The General Engineering AS degree program is designed to provide for a student's first two years of a four-year Engineering degree and will meet the needs of those students who have not yet decided on a specific engineering field. Students will develop a fundamental knowledge of physics, chemistry, and mathematics along with the engineering requites necessary to meet lower division requirements for BS Engineering specialties: Civil/Construction, Composite, Electrical, General, Manufacturing, and Mechanical.	The Manufacturing Engineering Technology BS program prepares graduates for the dynamic environment of any manufacturing facility. Common job functions for graduates include production engineer, quality director, director of continuous improvement, design for manufacture analyst, CAD engineer, and more. The program provides a fundamental engineering base, an exposure to shop floor procedures, and then builds on this foundation to develop critical thinking and engineering problem solving skills. Repetitive manufacturing jobs have been declining for a decade. These are being replaced by jobs requiring advanced manufacturing skills. This program addresses this need by providing a more educated workforce for the manufacturing sector. The primary strengths of our program are a heavy focus on the lean manufacturing philosophy, continuous improvement, and composites manufacturing. Several graduates have been offered jobs because of their extensive knowledge of lean manufacturing. Requiring a course in composite materials, which is an emerging material in the industry, is rarely seen.
Program Learning Outcomes	1. Demonstrate proficiency in core principles of mathematics and physics that serve as the groundwork for advanced engineering studies. 2. Evaluate, formulate, and solve applied science problems. 3. Identify the techniques, skills, and modern applied science tools necessary for professional practice.	1. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline. 2. Design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline. 3. Apply written, oral, and graphical communication in broadly defined technical and non-technical environments and an ability to identify and use appropriate technical literature.

	4. Apply basic design principles to produce solutions that meet the specified needs of the target users.	4. Conduct standard tests, measurements, and experiments and analyze and interpret the results to improve processes. 5. Function effectively as a member as well as a leader on technical teams. 6. Demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.

SECTION A - Minnesota Transfer Curriculum-General Education

College (sending)			University (receiving)			
course prefix, number and name	Goal(s)	Cr	course prefix, number and name	Goal(s)[1]	Credits Applied	Equiv Sub Wav
ENGL 1410 Composition	1	3	ENGL 191 Intro Rhetorical & Analytical Writing	1	4	Equiv
CHEM 1500 General Chemistry	2 & 3	4	Critical Thinking Elective	2		Equiv
			CHEM 210 General Chemistry I	3	4	Equiv[1]
PHYS 1081 Engineering Physics I	3	4	PHYS 231 General Physics	3	4	Equiv[1]
MATH 1425 Precalculus	4	4	MATH 112 Algebra	4	3	Equiv[1]
NAV 102 and NAV 103 or NAV 104 *	5	6	History/Social Behavior Elective	5	6	Equiv
NAV 105 Intro to the Geopol Environment	5 & 8	3	Global Perspective Elective	8		
NAV 101 Naval Ethics & Leadership	6 & 9	3	Humanities & Fine Arts Elective	6	3	Equiv
			GENG 101 Ethics & Eng Profession	9	3	Equiv[1]
MnTC/General Education Total		24				

Special Notes, if any: Equiv[1]: These are also program requirements, not just meeting a goal area. *12 of 15 credits is accepted from the Naval Core Certificate. Due to system Minnesota Transfer Curriculum goal area distribution rules, we are unable to accept all 15 credits into this degree completion program.

SECTION B - Major, Emphasis, Restricted and Unrestricted Electives or Other

College (sending)		University (receiving)			
course prefix, number and name	Cr		Credits	Equiv Sub Wav
MATH 1426 Calculus I	4	MATH 221 Calculus I	4	Equiv
ENGR 2101 Statics (3 credits) ENGR 2102 Dynamics (3 credits) 6 credits transfer in as 3 credits to meet MFET 241	3	MFET 241 Applied Statics and Dynamics	3	Sub
ENGR 2105 Thermodynamics	3	MFET 242 Applied Thermo & Fluid Mechanics	3	Sub
CSCI 1525 C++ for Science and Engineers	4	GENG 102 Engineering Problem Solving	3	Sub
ENGR 2103 Mechanics of Deformable Bodies (3 cr) MATH 2232 Calculus II (4 cr) MATH 2240 Calculus III (4 cr) MATH 2200 Differential Equations & Linear Algebra (4 cr) PHYS 1082 Engineering Physics II (4 cr) ENGR 1200 Intro to Engineering (3 cr)[2]	20	Technical Electives	20	Sub

[1] MnTC goal areas transfer to the receiving college/university according to the goal areas designated by the sending college/university

Unrestricted elective credits (if none enter 0)	0	College's unrestricted elective credits accepted in transfer (if none enter 0)	0	
Major, Emphasis, Unrestricted Electives Total	36	Total College Credits Applied (sum of sections A and B)	60	
Number of Credits Not Applied to BS	9			
Special Notes, if any: ENGR 1200 Intro to Engineering (3 cr)[2] : 1 credit from ENGR 1200 substitutes for 1 credit of a technical elective				

SECTION C - Remaining University (receiving) Requirements

	course prefix, number and name	Cre
	MnTC Goal Area 1: CMST 192 Intro Communication Studies	3
	MnTC Goal Area 6 & 7: Recommended ENGL 216 African American Literature	3
	MnTC Goal Area 10: People & the Environment elective	3
	ECON 205 or 206 Macro- or Micro-economics	3
	STAT 239 Statistical Methods I for Natural Science	3
	MFET 115 Engineering Communication	3
	MFET 240 Metrology	2
	MFET 243 Strength of Materials	3
	MFET 312 Computer-Aided Design	3
	MFET 330 Production Systems Control	3
	MFET 336 Manufacturing Concepts	3
	MFET 343 Computer Integrated Manufacturing	3
	MFET 345 Manufacturing Processes	3
	MFET 348 Plastic Manufacturing	3
	GENG 360 Engineering Economics	2
	GENG 380 Engineering Communications	2
	MFET 420 Continuous Improvement	3
	MFET 448 Applications of Composite Materials	3
	MFET 450 Design for Manufacturability	3
	MFET 470 MfgET Capstone Project I	3
	MFET 471 MfgET Capstone Project II	3
	Total Remaining University Credits	60

Special Notes, if any:

SECTION D - Summary of Total Program Credits

College (sending) Credits		University (receiving) Requirements	
Section A - MnTC/General Education	24		
Section B - Major, Emphasis, Restricted Electives, Unrestricted Electives or Other	36		
Total Sending Institution Credits	60	Sections A & B Total Sending Institution Credits Applied	60
		Section C - Remaining credit to be taken at the receiving institution	60
		Total Receiving Institution Program Credits	120

[2] At least 40 of the required credits for the baccalaureate degree shall be at the upper-division level. If a lower division course is shown as equivalent to an upper division course, check with the university to determine if it will count toward the 40 required credits of upper division.

College	Name	Signature	Date
Senior Academic Officer	Sara Fier	Sara Fier	12/5/24
Title			
University	**Name**	**Signature**	**Date**
Senior Academic Officer	Katherina Pattit	Signed by: 35CBB2654F6B445...	12/6/2024
Dean of the College of Science and Engineering Title	Dean Adel Ali		12/4/2024 | 11:10:34
DARS Encoder			
Date when equivalencies were verified/encoded in degree audit by the receiving Minnesota State institution.			

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Certificate Of Completion

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30 7th St E Ste 350
Saint Paul, MN 55101
jejanish@stcloudstate.edu
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Signer Events	Signature	Timestamp
Adel Ali adel.ali@stcloudstate.edu Dean, COSE Security Level: Email, Account Authentication (None)	Signed by:  35CBB2854F6B445...	Sent: 12/4/2024 9:41:38 AM Viewed: 12/4/2024 11:09:51 AM Signed: 12/4/2024 11:10:34 AM
	Signature Adoption: Uploaded Signature Image Using IP Address: 199.17.55.172	

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Company Name: St. Cloud State University

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Mike Coonen mjcoonen@stcloudstate.edu Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 12/4/2024 11:10:35 AM
Ken Miller kwmiller@stcloudstate.edu Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Accepted: 12/3/2024 1:50:52 PM ID: 64e287ad-6aa6-4630-87ec-107ad9c9ed78 Company Name: St. Cloud State University	COPIED	Sent: 12/4/2024 11:10:36 AM Viewed: 12/4/2024 11:16:00 AM

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