

**MINNESOTA STATE COLLEGES AND
UNIVERSITIES*
ARTICULATION AGREEMENT
BETWEEN**

**Normandale Community College
AND
Bemidji 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 Normandale Community College (hereinafter sending institution), and Bemidji State University (hereinafter receiving 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 a **Vacuum & Thin Film Technology (A.A.S.)** (hereinafter sending program), and the receiving institution has established an **Applied Engineering, B.A.S. major** (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, including grade requirements for courses and an overall GPA requirement.

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.
- 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 09/01/2016 and shall remain in effect until the end date of 08/30/2021 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 02/30/2021 (within six months of the end date).
- 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

Check if the sending program ____ or receiving program ____ is new.

	College (sending)	University (receiving)
Institution	Normandale Community College	Bemidji State University
Program name	Vacuum & Thin Film Technology	Applied Engineering
Award Type (e.g., AS)	AAS	BAS
Credit Length	60	120
CIP code (6-digit)	15.0613	15.0000
Describe program admission requirements (if any)		

Instructions

- List all required courses in both academic programs.
- MnTC goal areas transfer to the receiving institution according to the goal areas designated by the sending institution.
- Do not indicate a goal area for general education courses that are not part of the MnTC.
- For restricted or unrestricted electives, list number of credits.
- Credits applied: the receiving institution course credit amount may be more or less than the sending institution credit amount. Enter the number of credits that the receiving institution will apply toward degree completion.
- Show equivalent university-college courses on the same row to ensure accurate DARS encoding.
- Equiv/Sub/Wav column: If a course is to be encoded as equivalent, enter Equiv. If a course is to be accepted by the university as a "substitution" only for the purposes of this agreement, enter Sub. If a course requirement is waived by the receiving institution, enter Wav. If a course is to be accepted by the university as a MnTC goal area, restricted elective or unrestricted elective, leave the cell blank.

(To add rows, place cursor outside of the end of a row and press enter.)

SECTION A - Minnesota Transfer Curriculum-General Education

College (sending)			University (receiving)			
course prefix, number and name	Goal(s) ¹	Credits	course prefix, number and name	Goal(s) ¹	Credits Applied	Equiv Sub Wav
Minnesota Transfer Curriculum-General Education						
ENGC 1101 Freshman Composition	1	4	ENGL 1151 Composition and ENGL 2152 Argument and Exposition	1	2 2	Equiv
COMM 1100 Introduction to Human Communication or COMM 1101 Fundamentals of Public Speaking or COMM 1111 Interpersonal Communication or COMM 1121 Small Group Communication	1	3	MnTC Goal Area 1 or SPCM 1100 Public Speaking or SPCM 1090 Interpersonal Communication or MnTC Goal Area 1	1	3	Equiv
CHEM 1020 Survey of Chemistry (4 Cr.) or CHEM 1061 Principles of Chemistry 1 (5 Cr)	3	4-5	MnTC Goal Area 3 CHEM 2211 Principles of Chemistry I	3	4-5	Equiv
MATH 1100 College Algebra and Probability or MATH 1400 Survey of Calculus	4	4	MATH 1170 College Algebra or MATH 1470 Precalculus	4	4	Equiv
MATH 1080 Introduction to Statistics	4	4	MnTC Goal Area 4	4	4	Equiv
PHYS 1110 College Physics 1	3	4	PHYS 1101 General Physics I	3	4	Equiv
MnTC/General Education Total		23-24				

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

Special Notes, if any: 1) Remaining liberal education requirements for a bachelor's degree may be completed at the college or university. 2) If taking 23 MnTC/General Education credits in Section A then will need to complete 37 Credits in Section B

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

(Pre-requisite courses, required core courses, required courses in an emphasis, or electives (restricted or general) within the major). **Restricted electives (in Major)** fulfill a specific requirement within a major. Example A: "Chose two of the following three courses;" Example B: A Biology degree may require 40 science credits (20 credits of required courses + 20 credits of listed related courses, such as botany, genetics, sociobiology, etc. which students can select).

Major, Emphasis, Restricted, Unrestricted Electives or Other Courses				
ENGC 1102 Technical Writing	3			
ENGT 1153 AC/DC Circuits	4			
ENGT 1184 Fluid Mechanics	3			
ENGT 1290 Measurement and Process Control	2			
ENGT 2188 Electronics and Automation	4			
VACT 1292 Introduction to Vacuum Technology	2			
VACT 2293 Vacuum Analysis and Troubleshooting	4			
VACT 2297 Thin Film Deposition	3			
Choose (8 Cr.) from the following electives COMT 1107 Introduction to Computer Technology 4Cr or CSCI 1101 Introduction to Computing and Problem Solving 4 Cr ENGT 1180 Manufacturing Processes 2 Cr ENGT 1511 Introduction to Engineering Technology (PLTW™) 3 Cr ENGT 1512 Principles of Engineering (PLTW™) 3 Cr ENGT 1513 Digital Electronics Technology (PLTW™) 3 Cr ENGT 1514 Computer Integrated Manufacturing (PLTW™) 3 Cr VACT 2294 Semiconductor Processing 4 Cr	8	Transfer Block of Technical Credits	36-37	Sub
Choose (3-4 Cr to Complete 60 Cr) from the following: ACCT 2251 Financial Accounting 4 Cr ART 1123 Sculpture 1 3 Cr ART 1124 Ceramics 1: Handbuilding 3 Cr ART 1125 Glass Fusing 1 3 Cr COMT 1107 Introduction to Computer Technology 4 Cr CSCI 1101 Introduction to Computing and Problem Solving 4 Cr ECON 2201 Principles of Microeconomics 3 Cr ECON 2202 Principles of Macroeconomics 3 Cr ENGT 1511 Introduction to Engineering Technology (PLTW™) 3 Cr ENGT 1512 Principles of Engineering (PLTW™) 3 Cr ENGT 1513 Digital Electronics Technology (PLTW™) 3 Cr ENGT 1514 Computer Integrated Manufacturing (PLTW™) 3 Cr PHYS 1111 College Physics II 4 Cr THTR 1140 Introduction to Stagecraft 3 Cr	3-4			
Major, Emphasis, Unrestricted Electives Total	36-37	Total College Credits Applied (sum of sections A and B)	60-61	

SECTION C - Remaining University (receiving) Requirements

course prefix, number and name	Credits
General Education to complete liberal education requirements	18-19
TADT COMMON CORE 15 credits	
TADT 3111 Project Management Methodology	3
TADT 3267 Economic and Cost Analysis	3
TADT 4385 Sustainability and Emerging Technologies	3
TADT 4873 Emphasis Related Capstone	3
TADT 4878 Quality Assurance	3
APPLIED ENGINEERING CORE 21 credits	
TADT 3100 Principles of Professional Development	3
TADT 3217 Material Science and Metallurgy	3
TADT 3537 Industrial Design and Innovation	3
TADT 3700 Operations Planning and Control	3
TADT 3887 Safety and Risk Management	3

	TADT 4867 Lean Principles and Practices	3
	TADT 4879 Services Process/Improvement	3
	UPPER DIVISION TADT ELECTIVES	4
	Upper or Lower division TADT Electives to complete college 38 tech credits	1-2
	Total Remaining University Credits²	59-61
Special Notes, if any: 1-2 additional Technical credits needed for the 38 credits of block transfer may be completed at the college or university.		

SECTION D - Summary of Total Program Credits			
College (sending) Credits		University (receiving) Requirements	
MnTC/General Education	23-24		
Major, Emphasis, Unrestricted Electives or Other	36-37		
Total College Credits	60-61	Total College Credits Applied	60-61
		Remaining credit to be taken at the university (receiving institution)	59-61
		Total Program Credits	120
Special Notes, if any:			

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
Chief Academic Officer			
Vice President of Academic Affairs	Julie Guelich	<i>Julie Guelich</i>	10/29/16
Title			
University	Name	Signature	Date
Chief Academic Officer			
Provost and Vice President of Academic Affairs	Dr. Michael Anderson	<i>Michael Anderson</i>	10-5-16
Title			
DARS Encoder	Bev Hodgson	<i>Bev Hodgson</i>	10/29/16
Date when equivalencies were verified/encoded in DARS by the receiving MnSCU institution.			