



UNIVERSITY OF MINNESOTA
CROOKSTON
ARTICULATION AGREEMENT
BETWEEN

NORTHWOOD TECHNICAL COLLEGE
AND
UNIVERSITY OF MINNESOTA CROOKSTON

This Agreement is entered into between Northwood Technical College 1900 College Dr. | Rice Lake, WI (hereinafter sending institution), and University of Minnesota Crookston 2900 University Ave. | Crookston, MN (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 **Machine Tool Technician Technical Diploma** (hereinafter sending program), and the receiving institution has established a **Bachelor of Manufacturing Management in Manufacturing Management** (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 56 credits from the sending program. A total of 65 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 1/8/2024 and shall remain in effect until the end date of 1/8/2029 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 7/8/2028 (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.

January 4, 2023

PROGRAM ARTICULATION TABLE

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

	College (sending)	University (receiving)
Institution	Northwood Technical College	University of Minnesota Crookston
Program name	Machine Tool Technician	Manufacturing Management
Award Type (e.g., AS)	Technical Diploma	Bachelor of Manufacturing Management
Credit Length	56	120
FAFSA code (6-digit)	011824	004069
Describe program admission requirements (if any)		

SECTION A - Liberal Education

College (Sending)		University of Minnesota Crookston	
Course prefix, number and name	Credits	course prefix, number and name	Credits
		COMP 1011 Composition I	3
		COMP 1013 Composition II	3
		ECON 2101 Microeconomics	3
32804325 Applied Technical Math 1	3	MATH 1031 College Algebra	SUB
		MATH 1150 Introduction to Statistics	3
		COMM 1101 Public Speaking	3
Liberal Education Total	3	Liberal Education Total	15

Special Notes, if any:

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		Courses transfer as unrestricted electives	
Occupational Specific Courses			
32420312 CNC Programming – Turning	2		
32420313 CNC Turning Operations	2		
32420315 CNC Programming – Milling	2		
32420316 CNC Milling Operations	2		
32420318 Production Machining 1	4		
32420320 CAD/CAM Applications	2		
32420321 Print Reading for Machine Trades	1		
32420325 Machine Tool Operation 1	4		
32420326 Machine Tool Operation 2	4		
32420327 Machine Tool Operation 3	4		
32420328 Machine Tool Operation 4 (WBL)	4		
32420329 Machine Tool Theory 1	2		
32420330 Machine Tool Theory 2	2		
32420377 Production Fixturing and Quality	1		
32420378 Production Machining 2	3		
32420364 Multiaxis Programming and Operations	2		
32420365 CNC Fundamentals	2		

32420375 Job Shop Machining 1	4		
32420376 Job Shop Machining 2	4		
Occupational Supportive Courses			
32801361 Applied Communications	2		
32804325 Applied Technical Math 1 (counted in Section A)			
Restricted elective credits - list courses (if none enter 0)	0		
Unrestricted elective credits (if none enter 0)	0	College's unrestricted elective credits accepted in transfer (if none enter 0)	
Major, Emphasis, Unrestricted Electives Total	53	Total College Credits Applied (sum of sections A and B)	

SECTION C - Remaining University (receiving) Requirements

	course prefix, number and name	Credits
	ACCT3010 Managerial Accounting	3
	BM3000 Manufacturing Processes	3
	MB3006 Maintenance and Safety Management	3
	BM3025 Lean Manufacturing	4
	BM3034 Applied Quality	3
	BM3040 Industrial Simulation	3
	FIN3100 Managerial Finance	3
	GBUS1005 Orientation to Online Learning	1
	MGMT3200 Principles of Management	3
	MGMT3215 Organizational Behavior	3
	MGMT3250 Operations Management	3
	MGMT4200 Project Management	3
	ACCT2010 Financial Accounting OR ACCT2101 Principles of Accounting 1	3
	COMM3008 Business Writing OR WRIT3303 Writing In Your Profession	3
	Upper-Division Electives	
	3XXX OR 4XXX Upper-division elective from any department	3
	3XXX OR 4XXX Upper-division elective from any department	3
	3XXX OR 4XXX Select a course that is not listed in the Manufacturing Management Core: From ACCT, BM, ENTR, FIN, GBUS, ITM, MGMT, MKTG, SE	3
	University unrestricted elective credits not counted elsewhere (if none enter 0)	
	Total Remaining University Credits²	50

Special Notes, if any:

SECTION D - Summary of Total Program Credits

College (sending) Credits		University (receiving) Requirements	
Liberal Education	3		15
Major, Emphasis, Unrestricted Electives or Other	53		0
Total College Credits	56	Total College Credits Applied	56
		Remaining credit to be taken at the university (receiving institution)	50
		Total Program Credits	121

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.

Northwood Technical College	Name	Signature	Date
Title			
Dean of Manufacturing, Apprenticeships and K12 Relations	Jeanne Germain, M.Ed.	<i>Jeanne Germain</i>	1/4/2024
Vice President of Academic Affairs	Aliesha R. Crowe, Ed.D.	<i>Aliesha Crowe</i>	1/5/24
University of Minnesota Crookston	Name	Signature	Date
Title			
Associate Vice Chancellor for Business, Arts, and Education	Shawn Boyne, Ph.D.	<i>Shawn Boyne</i>	1/16/24
Senior Vice Chancellor for Academic Affairs	Rosemary Johnsen, Ph.D.	<i>R. Johnsen</i>	1/16/24