

MINNESOTA STATE COLLEGES AND
UNIVERSITIES*
ARTICULATION AGREEMENT
BETWEEN

ANOKA-RAMSEY COMMUNITY COLLEGE
AND
DUNWOODY COLLEGE OF TECHNOLOGY

*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 **ANOKA-RAMSEY COMMUNITY COLLEGE** at 11200 Mississippi Boulevard, Coon Rapids, MN 55433 (hereinafter sending institution), and **DUNWOODY COLLEGE OF TECHNOLOGY** at 818 Dunwoody Boulevard, Minneapolis, MN 55403 (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 an **ENGINEERING ASSOCIATE IN SCIENCE (AS) DEGREE** (hereinafter sending program), and the receiving institution has established a **MECHANICAL ENGINEERING BACHELOR'S DEGREE**, (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 39-46 credits from the sending program. A total of 80-87 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 January 1, 2017 and shall remain in effect until the end date of December 31, 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 June 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.

April 7, 2015

PROGRAM ARTICULATION TABLE

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

	College (sending)	University (receiving)
Institution	Anoka-Ramsey Community College	Dunwoody College of Technology
Program name	Engineering Associate in Science Degree	Bachelor of Science in Mechanical Engineering
Award Type (e.g., AS)	AS	BS
Credit Length	60	126
CIP code (6-digit)	14.0102	14.1901
Describe program admission requirements (if any)	None	Minimum of 24 credits 3.0-4.0 GPA Math through Calculus II

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	EquivSub Wav
Minnesota Transfer Curriculum-General Education						
ENGL 1120 Crosscurrent College Writing & Critical Reading, OR ENGL 1121 College Writing & Critical Reading	1, 2	4	ENGL1010 English		3	Equiv
PHYS 1327 College Physics I – Lec/Lab	3	6	PHYS1800 Physics I with Lab		4	Equiv
PHYS 1328 College Physics II – Lec/Lab	3	6	PHYS1820 Physics II with Lab		4	Equiv
MATH 1400 Calculus I	4	5	MATH1810 Calculus I		4	Equiv
MATH 1401 Calculus II	4	5	MATH1821 Calculus II		4	Equiv
For Goals 5-10 below, Dunwoody will review course(s) to determine # of applied credits.		4			2-3	
History/Social/Behavioral Sciences	5		Lower Division Social Sciences Elective (3)			Sub
The Humanities and Fine Arts	6		Lower Division Humanities Elective (2)			Sub
Human Diversity	7		Lower Division Diversity Elective (2)			Sub
Global Perspective	8					
Ethical/Civic Responsibility	9					
People and the Environment	10					
MnTC/General Education Total		30	21-22			

Special Notes, if any: The Equivalent course(s) both in Sections A & B not taken at Anoka-Ramsey will need to be taken at Dunwoody College.

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

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

(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				
Program Requirements: 21 Credits				
ENGR 1100 Introduction to Engineering (2) AND ENGR 1111 Engineering Graphics (3)	5	MENG1120 Introduction to Engineering	3	Equiv
CSCI 1106 Fundamentals of Computer Science I	4	MENG2110 Introduction to Logic & Programming	3	Equiv
MATH 2210 Differential Equations (4) PLUS EITHER MATH 2200 Linear Algebra (4), OR MATH 2201 Introductory Linear Algebra (2)	4+4 And/Or 4+2	MATH2820 Linear Algebra & Differential Equations	4	Equiv
MATH 2220 Multivariable Calculus & Vector Analysis	5	MATH2810 Multi-Variable Calculus	4	Equiv
CHEM 1061 Principles of Chemistry I	4	CHEM2110 Chemistry with Lab	4	Equiv
Additional Requirements: Select a minimum of 6 credits from the following list of courses.				
ENGR 1111 Engineering Graphics (Course credits applied to MENG1120 Introduction to Engineering-see above)	---	Applied to MENG1120 Introduction to Engineering (see above)	---	
ENGR 2218 Digital Logics (4) OR ENGR 2221 Digital Fundamentals (2)	(4) OR (2)	Not Applicable	(0)	
ENGR 2219 Linear Circuits I	(4)	Not Applicable		
ENGR 2240 Thermodynamics	(3)	MENG2230 Introduction to Thermodynamics	(3)	Equiv
ENGR 2241 Statics	(3)	MENG1230 Statics	(3)	Equiv
ENGR 2242 Dynamics	(3)	MENG2120 Dynamics	(3)	Equiv
ENGR 2243 Mechanics of Materials	(3)	MENG2130 Materials Science	(3)	Sub
CHEM 1062 Principles of Chemistry II	(4)	Not Applicable	(0)	
CHEM 2061 Organic Chemistry I	(5)	Not Applicable	(0)	
CHEM 2062 Organic Chemistry II	(5)	Not Applicable	(0)	
CSCI 1107 Fundamentals of Computer Science II	(4)	Not Applicable	(0)	
CSCI 2253 Assembly Language Programming	(4)	Not Applicable	(0)	
MATH 2100 Discrete Mathematics	(4)	Not Applicable	(0)	
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)	0	
Major, Emphasis, Unrestricted Electives Total	30-32	Total College Credits Applied (sum of sections A and B)	39-46	

SECTION C - Remaining University (receiving) Requirements

	course prefix, number and name	Credits
	MENG1110 Print Reading with SolidWorks	4
	MENG1210 Machining for Engineers Lab	2
	MENG1220 Machining for Engineers	2
	MENG1230 Statics (if not taken at ARCC)	0-3
	MENG2120 Dynamics (if not taken at ARCC)	0-3
	MENG2130 Materials Science (if not taken at ARCC)	0-3
	MENG2210 Geometric Dimensions & Tolerances Lab	2
	MENG2220 Geometric Dimensions & Tolerances	3
	MENG2230 Introduction to Thermodynamics (if not taken at ARCC)	0-3
	MENG3110 Electrical & Controls Engineering Lab	1
	MENG3120 Electrical & Controls Engineering	3
	MENG3130 Introduction to Heat Transfer	3
	MENG3140 Design for Manufacturability	2
	MENG3210 Heat Transfer Applications & HVACR Lab	2
	MENG3220 Heat Transfer Applications & HVACR	3
	MENG3230 Fluid Mechanics	3
	MENG3240 Principles of Quality & Lean Manufacturing	3
	MENG3250 Mechanical Design & CAD/CAM Systems	3

	MENG4110 Transmission of Power Lab	2
	MENG4120 Transmission of Power	3
	MENG4130 Finite Element Analysis	3
	MENG4140 Senior Design I	3
	MENG4210 Senior Design II	3
	MENG4220 Leadership & Project Management	3
	MENG4230 Engineering Economics	2
	MENG4240 Design of Experiments	2
	MENG4250 Engineering Ethics	2
	WRIT2010 Technical Writing	3
	MATH2260 Probability & Statistics	4
	Upper Division Humanities Elective	2
	Upper Division Communications Elective	2
	Unrestricted	5-10
	Total Remaining University Credits	80-87
Special Notes, if any: If students take an Anoka-Ramsey course using SolidWorks software a test out is available for Dunwoody's MENG 1110 Print Reading with SolidWorks course (4 credits).		

SECTION D - Summary of Total Program Credits			
College (sending) Credits		University (receiving) Requirements	
MnTC/General Education	30		
Major, Emphasis, Unrestricted Electives or Other	30-32		
Total College Credits	60-62	Total College Credits Applied	39-46
		Remaining credit to be taken at the university (receiving institution)	80-87
		Total Program Credits	126
Special Notes, if any:			
A total of 126 credits is needed to graduate with a Bachelor of Science in Mechanical Engineering at Dunwoody.			

College	Name	Signature	Date
Chief Academic Officer	Debra Paster	Debra Paster	12/14/16
Title			
University	Name	Signature	Date
Chief Academic Officer	JEFF YLINEIN	Jeff Ylinein	12-5-2016
Dunwoody College of Technology	PROVOST		
Title			
DARS Encoder			
Date when equivalencies were verified/encoded in DARS by the receiving MnSCU institution.			