# **Articulation Agreement**

Between

# **Monroe County Community College (MCCC)**

Associate of Applied Science (AAS) in Product and Process Technology or Mechanical Engineering Technology with Michigan Transfer Agreement (MTA)

# Wayne State University College of Engineering

Bachelor of Science (BS) in Mechanical Engineering Technology

This agreement made this 1<sup>st</sup> day of December 2020 is by and between Wayne State University (WSU) and Monroe County Community College (MCCC).

Wayne State University and Monroe County Community College intend by this Agreement to set forth the terms and conditions of engaging in an educational program, to facilitate the transfer of students who earn an Associate of Applied Science (AAS) in Product and Process Technology or Mechanical Engineering Technology with Michigan Transfer Agreement (MTA) endorsement from Monroe County Community College to earn a Bachelor of Science (BS) in Mechanical Engineering Technology from Wayne State University College of Engineering. Wayne State University and Monroe County Community College may be referred to herein as a ("Party") and collectively ("Parties").

## Article I Agreement on Program Integrity

The Parties will maintain the integrity of their separate academic programs and enter into this agreement as equal and cooperating partner institutions.

# Article II Agreement on Principle

This agreement between WSU and MCCC is intended to provide a smooth and seamless curriculum transition for MCCC students who transfer to Wayne State University to earn a Bachelor of Science in Mechanical Engineering Technology from the College of Engineering. The agreement is designed for students who follow a prescribed plan of study leading to the associate degree. The credits transferred from the associate degree, as outlined in the appendices to this document, will be included in the total credit hours required for the Wayne State University Bachelor of Science. All other standard admission, curriculum, and graduation requirements of WSU and MCCC must also be met.

# Article III Agreement of Program Articulation

The Parties agree that any student, who has earned the prescribed associate degree, may transfer the credits from their program to the WSU Bachelor of Science, as outlined in the attached appendices.

This agreement specifically allows the transfer of up to ninety (90) credits from Monroe County Community College to Wayne State University. This is beyond the currently stipulated sixty-four (64) credits approved by the WSU Board of Governors. The purpose of allowing MCCC students to transfer additional credits is to enable them to complete the associate and Michigan Transfer Agreement at MCCC in addition to completing the Bachelor of Science at WSU without duplication of coursework. The degree requirements for students who follow this articulation agreement are outlined in Attachment A.

# Article IV Agreement on Student Support

The Parties agree to track the progress and success of articulation participants. Responsibility for this tracking rests with the WSU College of Engineering and Monroe County Community College.

# Article V Agreement on Communication

The Parties agree to cooperate in communication with each other and with common and respective publics concerning the established relationships between the two institutions. Communication will include the development of various kinds of publications to inform those who might benefit from the opportunities provided by this articulation agreement. The appropriate faculty and staff in both institutions will share the information in this agreement with interested and qualified students. Both institutions will provide academic advising to students and prospective students. Joint efforts in marketing the program and student recruiting will be pursued.

The Parties further agree to communicate annually concerning curriculum changes that may affect the agreed upon program relationship. Responsibility for communication related to this agreement will rest with the individuals appointed under Article VI.

# Article VI Agreement and Review Body Procedures

Each institution will appoint one or more faculty administrators to act as agents for the implementation of this agreement, and communicate changes to respective faculty members, advisors, and others to whom the information is pertinent. Responsibility for the oversight of this

agreement rests with the Administration at the WSU College of Engineering and Monroe County Community College.

## Article VII Regarding Independent Relationship

In the performance of their respective duties and obligations under this Agreement, each party is an independent contractor and neither is the agent, employee, or servant of the other, and each is responsible only for its own conduct. Each institution is responsible for the development and design of its own curriculum. Changes on the part of either party will/may necessitate review of this document.

# Article VIII Agreement not to Discriminate

Each party covenants and agrees that it does not discriminate on the basis of race, creed, color, age, sex, or national origin and it complies with the Americans with Disabilities Act of 1990, and that it does not discriminate on the basis of "physical or mental handicap" except where there exists a bona fide academic qualification.

Each party shall be separately responsible for compliance with all federal and state laws, including nondiscrimination laws and all applicable sections of the Michigan Handicapper's Civil Rights Act. Illegal discrimination by either party may be considered a material breach of this Agreement.

# Article IX Entire Agreement

This Agreement constitutes the entire agreement between the parties, and all prior discussions, agreements, and understandings, whether verbal or in writing, are hereby merged into this Agreement.

# Article X Amendment/Modifications/or Terminations Provision

The Parties agree to the terms of this Agreement. No amendment or modification to this Agreement, including any modification or amendment of this paragraph, shall be effective unless the same is in writing and signed by all parties or their Successors.

This Agreement will be in effect immediately upon signature and will be subject to review for continuance after a period of four (4) years. Renewal will be for four years unless either party notifies the other in writing by December 31 of the year preceding the last year of the agreement

of their intention to renegotiate or of non-renewal of this agreement. In the event that this Agreement must be terminated, all students currently enrolled in the program shall be allowed to complete the program as described.

Signatories for Wayne State University:	Signatories for Monroe County Community College:
Laurie M. Lauzon Clabo, Ph.D., RN, FAAN Interim Provost and Sr. Vice President for Academic Affairs	Kojo Quartey, Ph.D., President
Farshad Fotouhi, Ph.D., Dean of the College of Engineering	Grace Yackee, Ph.D., Vice President of Instruction
Ece Yaprak, Ph.D., Professor and Chair of the Engineering Technology Division	Parmeshwar (Peter) Coomar, Dean of Applied Sciences and Engineering Technology Division
Date:	Date:



**Monroe County Community College –** Associate of Applied Science (AAS) in Product and Process Technology or Mechanical Engineering Technology

**Wayne State University -** Bachelor of Science (BS) in Mechanical Engineering Technology Catalog Year 2020-21

MCCC Degree and/or General Education/Michigan			
Transfer Agreement (MTA) Requirements			
ENG 151 English Comp I	3		
English Composition or Speech (see MTA)	3		
*MATH 164 <u>OR</u> MATH157+159	4		
*CHEM 150 Fundamental Chemistry	4		
*PHY 151 General Physics + Lab	4		
Social Science (see MTA requirements)	3		
Social Science (see MTA requirements)	3		
Humanities & Fine Arts (see MTA)	3		
Humanities & Fine Arts (see MTA)	3		
Subtotal	30		

<sup>\*</sup>meets MTA and/or MCCC requirement and specific requirement for WSU College of Engineering.

#### **Product and Process Technology Major Requirements** MECH 102 Manufacturing Process MECH 103 Machining Basics and CNC 4 MATH 151 Intermediate Algebra 4 **ELEC 125 Fundamentals of Electricity** 3 3 MATL 101 Industrial Materials 3 MECH 104 CNC II MECH 201 CAD/CAM I MECH 131 Intro to Automated Manufacturing MECH 105 CNC III 3 MECH 221 CAD/CAM II 3 MDTC 160 Mechanical Drafting CAD I 4 MDTC 226 Geo Dimensioning/Tolerancing 3 METC 220 Statics & Strength of Materials 4 MECH 231 CAD/CAD III 3 Restricted Electives (see MCCC requirements) 6 **Subtotal** 53 **Additional WSU Requirements** PHYS 152 College Physics II 4 **ENG 155 Technical Writing** 3 MATH 171 Calculus 1 Subtotal 11

#### Transfer to WSU as:

ENG 1020 Intro to College Writing	3
MTA- English Composition/Communication	3
*MAT 1800 Elementary Functions	4
*CHM 1020 Fundamentals of Chemistry	4
*PHY 2130/1 Physics I + Lab	4
MTA-Social Science	3
MTA-Social Science	3
MTA- Humanities & Fine Arts	3
MTA- Humanities & Fine Arts	3
Transfer Subtotal	30

<sup>\*</sup>meets MTA and/or MCCC requirement and specific requirement for WSU College of Engineering.

## Transfers to WSU as:

Transfer Subtotal	53
ET 1XXX Technical Electives	6
MIT 4700 Computer Aided Manufacturing	3
ME 2420 Elem. Mechanics of Materials	4
ET 1XXX Technical Electives	3
ET 2140 Computer Graphics	4
ET 2XXX Technical Electives	3
ET 1XXX Technical Electives	3
MCT 1XXX Technical Electives	3
ET 1XXX Technical Electives	3
MIT 1XXX Technical Electives	3
ET 2200 Engineering Materials	3
EET 2000 Electrical Principles	3
ET 1XXX Technical Electives	4
MIT 3500 Manufacturing Processes Lab	4
MIT 3520 Manufacturing Process Theory	4

## Transfer to WSU as:

Transfe	er Subtotal	11
ET 3430 Applied Calculus		4
ENG 3050 Technical Report Wri	ting	3
PHY 2140/1 General Physics II		4

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#### **Engineering Technology**

Engineering technologists (ET) create the objects we depend on, from smartphones to suspension bridges and everything in between. While traditional engineers work mainly in the conceptual stage of product development, ET graduates are hands-on, building and implementing new technologies in testing labs and in the field. They can apply their abilities in using technical equipment, selling technical products, serving as manufacturers' technical representatives, supervising construction projects and manufacturing processes, and more. A degree in engineering technology will give you marketable skills in this practical, applied science.

Bachelor of Science in Mechanical Engineering Technology (BSMCT) Program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

## **AGRADE Program**

AGRADE is Wayne State University's Accelerated Graduate Enrollment program. It is designed to provide our top students with a jump-start on graduate school. Students, in conjunction with their undergraduate and graduate advisors, develop a plan of work that counts up to 16 credits of coursework toward both the BS and MS degrees.

General Education/MTA  AAS Major Requirements  Additional Requirements	30 53 11
Total Transferable Credits from MCCC	94
WSU Degree Requirements	45
Total BS Degree Total	139

# Bachelor of Science (B.S.) in Mechanical Engineering Technology Requirements <u>Math Requirements</u>

ET 2160 Computer Applications for ET	
ET 3450 Appl Calc & Diff Equations	4
Subtotal	6
Mechanical Engineering Technology Core	
ET 3030 Statics	3
ET 3050 Dynamics	3
ET 3850 Relib & Engg Statistics	3
ET 3870 Engineering Economic Analysis	3
ET 5870 Engineering Project Mgt.	3
MCT 3010 Instrumentation	3
MCT 3100 Mechanical of Materials	3
MCT 3410 Kinematics & Dynamics of Machines	3
MCT 4150 Applied Thermodynamics	3
MCT 4180 Fluid Mechanics	3
ET 4999 Senior Project	3
PHI 1120 Professional Ethics	3
Free Elective (see WSU advisor)	
Subtotal	39

#### **Tentative Plan of Study (45 credits)**

Spring/Summer ET 3850 ET 3870

ET 2160 ET 3030 ET 3450 MCT 3010

Fall

Winter ET 3050 MCT 3100 MCT 4150 Free Elective

Spring/Summer ET 5870 PHI 1120

Fall MCT3410 MCT 4180 ET 4999

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Transfer Agreement (MTA) Requirements			
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English Composition or Speech (see MTA)	3		
*MATH 164 <u>OR</u> MATH157+159	4		
*CHEM 1510 General College Chemistry	4		
*PHY 151 General Physics + Lab	4		
Social Science (see MTA requirements)	3		
Social Science (see MTA requirements)	3		
Humanities (see MTA requirements)	3		
Humanities (see MTA requirements)	3		
Subtotal	30		

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# Mechanical Engineering Technology Major Requirements

Subtotal	47
Restricted Electives (see MCCC requirements)	
PHYS 152 College Physics II	4
METC 220 Statics & Strength of Materials	4
MATL 101 Industrial Materials	3
MECH 111 Introduction to Fluid Power	3
METC 234 Thermodynamics and Fluid Sciences	4
MATH 160 Math App in Engineering Tech	2
METC 170 Intro to Parametric CAD/CATIA	3
ELEC 125 Introduction to Electricity	3
METC 100 Intro to Engineering and Technology	3
MECH 103 Machining Basics and CNC	4
MECH 102 Manufacturing Processes	4
MDTC 160 Mechanical Drafting and CAD I	4

## **Additional WSU Requirements**

	Subtotal	7
MATH 171 Calculus 1		4
ENG 155 Technical Writing		3

#### Transfer to WSU as

Transfer Subto	ital 30
MTA-Humanities	3
MTA-Humanities	3
MTA-Social Science	3
MTA-Social Science	3
*PHY 2130/1 Physics I + Lab	4
*CHM 1020 Fundamentals of Chemistry	y 4
*MAT 1800 Elementary Functions	4
MTA- English Composition/Communica	ition 3
ENG 1020 Intro to College Writing	3

<sup>\*</sup>meets MTA requirement and specific requirement for WSU College of Engineering.

## Transfer to WSU as

Transfer Subtotal	47
Restricted Electives (see MCCC requirements)	6
PHY 2140/1 General Physics II	4
ME 2420 Elem. Mechanics of Materials	4
ET 2200 Engineering Materials	3
ET 1XXX Technical Electives	3
MCT 1XXX Technical Electives	4
ET 1XXX Technical Electives	2
ET 1XXX Technical Electives	3
EET 2000 Electrical Principles	3
ET 1XXX Technical Electives	3
MIT 3500 Manufacturing Processes Lab	4
MIT 3520 Manufacturing Process Theory	4
ET 2140 Computer Graphics	4

#### Transfer to WSU as:

Transfer Subtotal	_
ET 3430 Applied Calculus	4
ENG 3050 Technical Report Writing	3

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General Education/MTA AAS Major Requirements	30 47
Additional Requirements  Total Transferable Credits from MCCC	7 <b>84</b>
WSU Degree Requirements	48
Total BS Degree Total	132

Bachelor of Science (BS) in Mechanical Engineering Technology Requirements  Math Requirements		
· · · · · · · · · · · · · · · · · · ·	2	
	4	
	6	
Mechanical Engineering Technology Core		
ET 3030 Statics	3	
ET 3050 Dynamics	3	
ET 3850 Relib & Engg Statistics	3	
ET 3870 Engineering Economic Analysis	3	
ET 5870 Engineering Project Mgt.	3	
MCT 3010 Instrumentation	3	
MCT 3100 Mechanical of Materials	3	
MCT 3410 Kinematics & Dynamics of Machines	3	
MCT 4150 Applied Thermodynamics	3	
MCT 4180 Fluid Mechanics	3	
ET 4999 Senior Project	3	
PHI 1120 Professional Ethics	3	
Focus Elective	3	
Free Elective (see WSU advisor)	3	

Subtotal

42

## **Tentative Plan of Study (48credits)**

Tentative Plan of Spring/Summer ET 3850 ET 3870 Fall ET 2160 ET 3030 ET 3450 MCT 3010

Winter ET 3050 MCT 3100 MCT 4150 Focus Elective

Spring/Summer

ET 5870 PHI 1120

Fall MCT3410 MCT 4180 ET 4999 Free Elective