

MITRANSFER PATHWAYS

ARTICULATION AGREEMENT

MECHANICAL ENGINEERING

# MITRANSFER PATHWAYS ARTICULATION AGREEMENT: MECHANICAL ENGINEERING

## OVERVIEW

In Fall 2017, the Michigan Community College Association (MCCA) and the Michigan Association of State Universities (MASU) received a one-time appropriation from the state of Michigan to support the development of multi-institutional associate to bachelor's degree transfer pathways. MCCA and MASU in partnership with the Michigan Independent Colleges and Universities (MICU) and the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) convened the Transfer Steering Committee with more than 30 representatives from colleges and universities from across the state to develop the MiTransfer Pathways project. The MiTransfer Pathways project plan selected 12 programs with high enrollment and/or high labor market demand. The goal of the project was to build multi-institutional transfer pathways so students can enroll at any participating community college, complete an associate degree, transfer, and complete a bachelor's degree in the identified program of study.

In fall 2018 and spring of 2019, mechanical engineering faculty from community colleges, public universities, and independent colleges and universities in Michigan met to identify courses that are required, recommended, optional or appropriate in the first and second year of the bachelor's degree programs at all participating universities. We refer to these commonly required courses as "MiTransfer Pathways courses." The MiTransfer Pathways courses in mechanical engineering are:

- Calculus I
- Calculus II
- Calculus III
- Chemistry I (w/lab)
- Differential Equations (minimum 4 credits, must cover linear algebra)
- Dynamics
- Mechanics of Solids/Strength of Materials (no lab required)
- Physics I (Calculus-based, w/lab)
- Physics II (Calculus-based, 1/lab)
- Statics

These courses have been reviewed by receiving institutions and will be accepted for transfer and applied to the mechanical engineering program at all participating institutions (unless otherwise indicated in this agreement). The participating institutions agreed to establish direct equivalencies between these courses. Direct equivalencies are established when a course at the sending institution transfers as a direct equivalent to the course at the receiving institution and the credit is transcribed as a department and number (i.e. MTH 105) instead of department and no number (i.e. MTH GEN or MTH 100X). Direct

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equivalency is preferred because students can see how the transferred course applies to the degree program.

In addition to identifying MiTransfer Pathways courses as described above, the faculty also identified Remaining Degree Requirements. The Remaining Degree Requirements identified by receiving institutions (universities) include courses that students can transfer from the community college but were not identified as MiTransfer Pathways courses because they were not accepted at every participating receiving institution. The Remaining Degree Requirements identified by sending institutions (community colleges) included courses or requirements that meet community college degree requirements but will not necessarily transfer to participating universities. Participating institutions submitted program worksheets (see Appendices A and B) that outlined these courses. Participating institutions will use these worksheets to communicate requirements to students.

## TERMS OF THE AGREEMENT

1. This agreement is effective on August 3, 2020.
2. Participating institutions agree that all courses must be completed with a grade of C (2.0) or better unless otherwise indicated by the receiving institution.
3. Participating institutions agree that to use this agreement, students must apply and be admitted to the participating institution and to the program if the program requires secondary admission. Receiving institutions agree to communicate the application process for institution and program admissions for transfer students on a publicly available website and through advising.
4. Participating institutions agree to accept the Michigan Transfer Agreement (MTA) in accordance with the institutions' MTA policy.
5. Participating institutions agree to award equivalent credit for MiTransfer Pathways courses (see Course Equivalency Matrices in Appendix C) and apply courses to the bachelor's degree requirements unless otherwise noted in the Course Equivalency Exceptions documented in Appendix D. If no direct equivalent exists because the course is not offered or required at the receiving institution, then the receiving institution agrees to accept the course and apply the course toward the Mechanical Engineering degree program. If the community college does not offer the course, the community college should communicate this information to students on a publicly available website and/or the Michigan Transfer Network at [mitransfer.org](http://mitransfer.org) and help students find an equivalent

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course at other institutions.

6. Participating institutions agree to upload course equivalencies for MiTransfer Pathways courses to the Michigan Transfer Network at [mitransfer.org](http://mitransfer.org).
7. Receiving institutions agree to accept the Remaining Degree Requirements as outlined in the receiving institutions' Program Worksheet included in Appendix B. Participating institutions agree to work toward awarding direct equivalency for Remaining Degree Requirements, apply courses to the bachelor's degree requirements, and add course equivalencies to the Michigan Transfer Network.
8. Sending institutions agree that Remaining Degree Requirements identified by community colleges that are not required by the receiving institution may not transfer or may not apply to bachelor's degree requirements at the receiving institution.
9. Alternative credit awarded by the sending institution through AP, CLEP, IB, credit earned through credit for prior learning, or other means may be accepted and applied to the degree program at the discretion of the university. Sending institutions may apply alternative credit to the associate degree, but students should confirm whether or not credit is acceptable at receiving institutions.
10. Students may earn credit from multiple institutions as long as the course was completed at a sending institution that is participating in the agreement. There is no assurance that credits earned from institutions not participating in the agreement will apply.
11. Participating institutions agree to maintain up-to-date course equivalencies and information about their participation with this agreement. This information will be made publicly available through their own systems and on the [mitransfer.org](http://mitransfer.org) website.
12. 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. Each is responsible only for its own conduct.



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## MAINTENANCE AND REVIEW

### *Modifications to Worksheets and Equivalencies*

Colleges and universities will use the worksheets in Appendix A and B as the basis to advise transfer students. Any changes to program worksheets in Appendix A and B should be communicated to participating institutions as soon as possible to avoid students completing courses that will not transfer. Changes may include:

- Adding programs in the pathway (e.g., add Environmental Studies to the Biology pathway);
- Modifying, removing, or adding MiTransfer Pathways courses;
- Modifying, removing, or adding courses to the Remaining Degree Requirements;
- Materially modifying the educational experience or content of the MiTransfer Pathways courses.

If any of the aforementioned changes occur, participating institutions are expected to communicate with their sector representative from the Michigan Association of State Universities (MASU), Michigan Community College Association (MCCA), or Michigan Independent Colleges and Universities (MICU). These changes will be vetted among participating institutions, including reviewing and establishing equivalencies where needed. Changes to the worksheets and equivalencies will be documented and available at [mitransfer.org](http://mitransfer.org) website.

### *Joining the Agreement*

Institutions can join the agreement at any time and should contact their sector representative at the Michigan Association of State Universities, the Michigan Community College Association, or the Michigan Independent Colleges and Universities. Institutions that join the agreement will be required to comply with the terms of the agreement.

### *Renewing the Agreement*

This agreement will be up for renewal on June 30, 2022. The Michigan Community College Association, the Michigan Association of State Universities, and the Michigan Independent Colleges and Universities agree to coordinate renewal of this agreement during the 2021-2022 academic year. Participating institutions may choose to leave the agreement at that time.

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## SIGNATURES

By signing this agreement, institutions agree to the terms of the agreement and maintenance and review.

## MICHIGAN COMMUNITY COLLEGE ASSOCIATION

SIGNATURE	NAME	TITLE	INSTITUTION
<i>Deborah Bayer</i>	Deborah Bayer	Vice President of Instruction	Alpena Community College
<i>Dr. Don MacMaster</i>	Dr. Don MacMaster	President	Alpena Community College
<i>James Berles</i>	James Berles	Faculty	Alpena Community College
<i>Jeremy Belanger</i>	Jeremy Belanger	Executive Director of Transfer & Advising	Bay College
<i>Jean Goodnow, Ph.D.</i>	Jean Goodnow, Ph.D.	President	Delta College
<i>Reva Curry, Ph.D.</i>	Reva Curry, Ph.D.	Vice President of Instruction/Learning Services	Delta College
<i>David H. Devier, Ph.D.</i>	David H. Devier, Ph.D.	President	Glen Oaks Community College
<i>Michael M. Goldin, Ph.D.</i>	Michael M. Goldin, Ph.D.	Vice President of Academics	Glen Oaks Community College
<i>David Darrow</i>	David Darrow	Vice President of Academic Services	Gogebic Community College
<i>George McNulty</i>	George McNulty	President	Gogebic Community College
<i>Bill Pink</i>	Bill Pink	President	Grand Rapids Community College

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<i>Brian Knetl</i>	Brian Knetl	Provost	Grand Rapids Community College
<i>Michael A. Nealon</i>	Michael A. Nealon	Vice President of Academic Affairs	Henry Ford College
<i>Daniel J. Phelan</i>	Daniel J. Phelan	President	Jackson College
<i>Kate Thirolf</i>	Kate Thirolf	Vice President	Jackson College
<i>Todd Butler</i>	Todd Butler	Dean, Arts & Sciences	Jackson College
<i>Adrien Bennings</i>	Adrien Bennings	President	Kellogg Community College
<i>Carole J. Davis</i>	Carole J. Davis	Chair, Math and Science	Kellogg Community College
<i>Paul R Watson II</i>	Paul R Watson II	Vice President for Instruction	Kellogg Community College
<i>Tonya P. Forbes</i>	Tonya P. Forbes	Dean, Arts and Sciences	Kellogg Community College
<i>Dr. Leslie Kellogg</i>	Dr. Leslie Kellogg	Provost and Vice President of Academic Affairs	Lake Michigan College
<i>Dr. Steve Robinson</i>	Dr. Steve Robinson	President	Lansing Community College
<i>Donald Ritzenhein</i>	Donald Ritzenhein	Provost & VP for the Learning Unit	Macomb Community College
<i>Jennifer Fager, PhD</i>	Jennifer Fager, PhD	Vice President of Academic Affairs	Mid Michigan College
<i>Richard Smith, EdD</i>	Richard Smith, EdD	Associate Dean of Academic Outreach, Transfer Liaison	Mid Michigan College
<i>Kojo Quartey</i>	Kojo Quartey	President	Monroe County Community College

## MITRANSFER PATHWAYS ARTICULATION AGREEMENT: MECHANICAL ENGINEERING

<i>Grace Yackey</i>	Grace Yackey	Vice President of Instruction	Monroe County Community College
<i>Parmeshwar Coomar</i>	Parmeshwar Coomar	Dean of Applied Science and Engineering Technology Division	Monroe County Community College
<i>Dale Nesbary, Ph.D.</i>	Dale Nesbary, Ph.D.	President	Muskegon Community College
<i>Kelley Conrad</i>	Kelley Conrad	Vice President	Muskegon Community College
<i>David Roland Finley, Ph.D.</i>	David Roland Finley, Ph.D.	President	North Central Michigan College
<i>Peter Olson, Ph.D.</i>	Peter Olson, Ph.D.	Vice President of Academic Affairs and Student Success	North Central Michigan College
<i>Joseph Balinski</i>	Joseph Balinski	Director of Enrollment Services/ Registrar	North Central Michigan College
<i>Debra Pharo</i>	Debra Pharo	Science and Maths Academic Chair	Northwestern Michigan College
<i>Gerald Dobek</i>	Gerald Dobek	Science Department Head	Northwestern Michigan College
<i>Nick Nissley</i>	Nick Nissley	President	Northwestern Michigan College
<i>Stephen Siciliano</i>	Stephen Siciliano	Vice President for Educational Services	Northwestern Michigan College
<i>Peter M. Provenzano Jr.</i>	Peter M. Provenzano Jr.	Chancellor	Oakland Community College
<i>Cheryl Hawkins, PhD</i>	Cheryl Hawkins, PhD	Vice President and Chief Academic Officer	Schoolcraft College
<i>Conway Jeffress, PhD</i>	Conway Jeffress, PhD	President	Schoolcraft College
<i>Michele Kelly, PhD</i>	Michele Kelly, PhD	Dean Liberal Arts and Science	Schoolcraft College

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<i>Robert Leadley, PhD</i>	Robert Leadley, PhD	Dean Occupational Programs and Economic Development	Schoolcraft College
<i>David W Fleming</i>	David W Fleming	Vice President of Instruction	Southwestern Michigan College
<i>Tamara Kenny</i>	Tamara Kenny	Chief Academic Officer - Occupational Studies and Health Sciences	St. Clair County Community College
<i>Patrick J. McNally</i>	Patrick J. McNally	Vice Chancellor, Curriculum and Distance Learning	Wayne County Community College District

### MICHIGAN ASSOCIATION OF STATE UNIVERSITIES

SIGNATURE	NAME	TITLE	INSTITUTION
<i>Jane M. Davison</i>	Jane M. Davison	Interim Dean, College of Science and Engineering	Central Michigan University
<i>Mary C. Schutten</i>	Mary C. Schutten	Provost	Central Michigan University
<i>Robert O. Davies</i>	Robert O. Davies	President	Central Michigan University
<i>James Smith</i>	James Smith	President	Eastern Michigan University
<i>Mohamad Qatu</i>	Mohamad Qatu	Dean, College of Engineering and Technology	Eastern Michigan University
<i>Rhonda Longworth</i>	Rhonda Longworth	Provost and Executive Vice President	Eastern Michigan University
<i>Dr. David Eisler</i>	Dr. David Eisler	President	Ferris State University
<i>Jacqueline Huntoon</i>	Jacqueline Huntoon	Provost and Senior Vice President for Academic Affairs	Michigan Technological University

## MITRANSFER PATHWAYS ARTICULATION AGREEMENT: MECHANICAL ENGINEERING

<i>Janet Callahan</i>	Janet Callahan	Dean, College of Engineering	Michigan Technological University
<i>Richard Koubek</i>	Richard Koubek	President	Michigan Technological University
<i>William Predebon</i>	William Predebon	Department Chair, Mechanical Engineering -- Engineering Mechanics	Michigan Technological University
<i>Kerri Schuiling</i>	Kerri Schuiling	Provost and Vice President for Academic Affairs	Northern Michigan University
<i>Michael Rudisill</i>	Michael Rudisill	Department Head-Engineering Technology	Northern Michigan University
<i>C. Michelle Piskulich</i>	C. Michelle Piskulich	Interim Provost	Oakland University
<i>Deborah Huntley</i>	Deborah Huntley	Provost and Vice President for Academic Affairs	Saginaw Valley State University
<i>Susan E. Alcock</i>	Susan E. Alcock	Provost and Executive Vice Chancellor for Academic Affairs	University of Michigan-Dearborn
<i>James Alsup</i>	James Alsup	Chair, Department of Computer Science, Engineering, Physics	University of Michigan-Flint
<i>Shelby Newport</i>	Shelby Newport	Associate Provost & Dean of Undergraduate Studies	University of Michigan-Flint
<i>Susan Gano-Phillips</i>	Susan Gano-Phillips	Dean, College of Arts and Sciences	University of Michigan-Flint

# MITRANSFER PATHWAYS ARTICULATION AGREEMENT: MECHANICAL ENGINEERING

## MICHIGAN INDEPENDENT COLLEGES AND UNIVERSITIES

SIGNATURE	NAME	TITLE	INSTITUTION
<i>Amy Rebok Rosenthal</i>	Amy Rebok Rosenthal	Dean, Undergraduate Education	Andrews University
<i>Christon Arthur</i>	Christon Arthur	Provost	Andrews University
<i>James Z. Zhang</i>	James Z. Zhang	Sr. VP for Academic Affairs and Provost	Kettering University
<i>Dr. Chris Riedel</i>	Dr. Chris Riedel	Assistant Department Chair in Mechanical Engineering	Lawrence Technological University
<i>Jim Jolly</i>	Jim Jolly	Assistant Provost	Lawrence Technological University
<i>Antoine M. Garibaldi, Ph.D.</i>	Antoine M. Garibaldi, Ph.D.	President	University of Detroit Mercy
<i>Katherine E. Snyder, Ph.D.</i>	Katherine E. Snyder, Ph.D.	Dean, College of Engineering & Science	University of Detroit Mercy
<i>Pamela A. Zarkowski, J.D., M.P.H.</i>	Pamela A. Zarkowski, J.D., M.P.H.	Provost and Vice President for Academic Affairs	University of Detroit Mercy

**APPENDIX A:**  
**Participating Community College MiTransfer Mechanical Engineering Pathway**  
**Worksheets**



## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Alpena Community College</b>
Degree/Program	<b>Associate of Science/Pre-Engineering</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 131	Analytical Geometry and Calculus I	<b>MTA Math</b>
Calculus II	MTH 132	Analytical Geometry and Calculus 2	5
Calculus III	MTH 231	Analytical Geometry and Calculus 3	5
Differential Equations*	MTH 232	Differential Equations (with linear algebra)	4
Physics I (Calculus-based, w/lab)	PHY 221, PHY221R, AND PHY221L	Physics	<b>MTA Natural Science</b>
Physics II (Calculus-based, w/lab)	PHY 222, PHY222R, AND PHY222L	Physics	5
Chemistry 1 (w/lab)	CEM 121 and CEM 121L	General and Inorganic Chemistry	<b>MTA Natural Science</b>
Statics	EGR 221	Statics	3
Dynamics	not offered		
Mechanics of Solids/Strength of Materials (no lab required)	not offered		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

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## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Electives-selected based on transfer institution requirements			0
Additional Humanities/Fine Arts/Social Science credits (minimum 10 credits of Humanities/Fine Arts or Social Science from more than one discipline)	Students can select from the list of ACC Humanities/Fine Arts/Social Science -eligible courses		<b>MTA Social Science/ Humanities</b>
American Government requirement	PLS 221 or 222; or HST 221 and 222	American Government and Politics or State and Local Government; US History I and US History II	<b>MTA Social Science</b>
English Composition II	ENG 112	English Composition II	<b>MTA 2<sup>nd</sup> writing</b>
		Remaining hours	0

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Bay de Noc Community College</b>
Degree/Program	<b>Associate in Science-Pre-Engineering</b>
Credits Required	<b>63</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

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The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 141	Analytical Geometry & Calc I	5
Calculus II	MATH 142	Analytical Geometry & Calc II	5
Calculus III	MATH 243	Analytical Geometry & Calc III	5
Differential Equations*	MATH 244	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHYS 205	Engineering Physics I	5
Physics II (Calculus-based, w/lab)	PHYS 206	Engineering Physics II	5
Chemistry 1 (w/lab)	CHEM 110	General Chemistry I	5
Statics	PHYS 260	Statics	3
Dynamics	PHYS 261	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Linear Algebra (Program Req)	MATH 250	Linear Algebra	3
CS or Engineering Elective (Program Req)	CSCI 121 or CADD 120	C++ Programming, or AutoCAD	3
		Remaining hours	18

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Delta College</b>
Degree/Program	<b>Associate in Science</b>
Credits Required	<b>62</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 161	Analytic Geom. and Calculus I	4 (MTA)
Calculus II	MTH 162	Analytic Geom. and Calculus I	4
Calculus III	MTH 261	Analytic Geom. and Calculus I	4
Differential Equations*	MTH 264	Intro. to Ordinary Differential Equations	3
Physics I (Calculus-based, w/lab)	PHY 211	Physics I	5 (MTA)
Physics II (Calculus-based, w/lab)	PHY 212	Physics II	5
Chemistry 1 (w/lab)	CHM 111	General Chemistry I	5 (MTA)
Statics	EGR 215	Engineering Mechanics, Statics	3
Dynamics	EGR 216	Engineering Mechanics, Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	EGR 320	Mechanics of Materials	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Lifelong Wellness	LW 221 or LW & Any LWA	Fitness & Wellness or Lifelong Wellness and 1-LWA Activity	2
		Remaining hours	

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Glen Oaks Community College</b>
Degree/Program	<b>Associate of General Studies</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 161	Calculus I & Geometry	4
Calculus II	MATH 162	Calculus II & Geometry	4
Calculus III			
Differential Equations*			
Physics I (Calculus-based, w/lab)	PHYS 251	Physics I	5
Physics II (Calculus-based, w/lab)	PHYS 253	Physics II	5
Chemistry 1 (w/lab)	CHEM 133	General Chemistry I	4
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Computer Literacy	CIS 101	Introduction to Computers & Software	4
		Remaining hours	7

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Gogebic Community College</b>
Degree/Program	<b>Associate of Science</b>
Credits Required	<b>66</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH150	Calculus & Analytical Geo I	5
Calculus II	MTH151	Calculus & Analytical Geo II	4
Calculus III	MTH152	Calculus III	4
Differential Equations*	MTH220	Ord Diff Equations w/Lin Alg	4
Physics I (Calculus-based, w/lab)	PHY251	General Physics I	5
Physics II (Calculus-based, w/lab)	PHY252	General Physics II	5
Chemistry 1 (w/lab)	CHM151	Gen & Ord Chemistry I	5
Statics	PHY261	Statics	3
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)	PHY263	Mechanics of Materials	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	PHY110	Intro to Engineering	3
Program Requirement	DWG106	Advanced CAD	3
Program Requirement	COL101	College & Transfer Readiness	1
		Remaining hours	12

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Grand Rapids Community College</b>
Degree/Program	<b>Associate of Arts/Associate of Science</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MA 133	Calculus with Analytic Geometry I	5
Calculus II	MA 134	Calculus with Analytic Geometry II	5
Calculus III	MA 255	Calculus with Analytic Geometry III	4
Differential Equations*	MA 259 or MA 257 [based on transfer requirements]	Differential Equations Differential Equations and Linear Algebra	4
Physics I (Calculus-based, w/lab)	PH 245	Calculus Physics I	5
Physics II (Calculus-based, w/lab)	PH 246	Calculus Physics II	5
Chemistry 1 (w/lab)	CHM 130	General Chemistry I	4
	CHM 131	General Chemistry I Lab	1
Statics	N/A	N/A	-
Dynamics	N/A	N/A	-
Mechanics of Solids/Strength of Materials (no lab required)	N/A	N/A	-
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
With advising, students may select an A.A. degree program from the GRCC <a href="#">Catalog</a> , and select the above Mechanical Engineering Pathway Courses. GRCC has a specific Pre-Engineering, A.A. program that may have additional coursework outlined based on transfer institution requirements. However, besides MTA/General Education requirements, GRCC does not have any additional degree requirements (govt., wellness, etc.) for an A.A. degree.			
Above MTA/Gen. Ed. and Open Electives to reach at least 60 credits.			21 [Approximately]





## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Henry Ford College
Degree/Program	AAS Pre-Engineering: Mechanical/Industrial
Credits Required	78

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mittransfer.org](http://www.mittransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH-180	Calculus I	5
Calculus II	MATH-183	Calculus II	5
Calculus III	MATH-280	Calculus III	5
Differential Equations*	MATH-288	Differential Equations	5
Physics I (Calculus-based, w/lab)	PHYS-231	Engineering Physics I	5
Physics II (Calculus-based, w/lab)	PHYS-232	Engineering Physics II	5
Chemistry 1 (w/lab)	CHEM-141	Principles of General and Inorganic Chemistry I	5
Statics	ENGR-232	Statics	3
Dynamics	ENGR-233	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ENGR-235	Mechanics of Materials	2
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Intro to Engineering	ENGR-130	Introduction to Engineering	3
Introduction to Material Science	ENGR-201	Science of Materials	3
Design and Drafting	ENGR-121	Engineering Design and 3D Printing	3
Computer Technology	ENGR-125	Introduction to Computation for Engineers	3
Second Chemistry	CHEM-142	General Chemistry II	5
		Remaining hours	16

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Henry Ford College
Degree/Program	AS Pre-Engineering: Mechanical/Industrial
Credits Required	60

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH-180	Calculus I	5
Calculus II	MATH-183	Calculus II	5
Calculus III	MATH-280	Calculus III	5
Differential Equations*	MATH-288	Differential Equations	5
Physics I (Calculus-based, w/lab)	PHYS-231	Engineering Physics I	5
Physics II (Calculus-based, w/lab)	PHYS-232	Engineering Physics II	5
Chemistry 1 (w/lab)	CHEM-141	Principles of General and Inorganic Chemistry I	5
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Intro to Engineering	ENGR-130	Introduction to Engineering	3
Computer Technology	ENGR-125	Introduction to Computation for Engineers	3
General electives	Any course	Elective	1

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Jackson College
Degree/Program	Associate in Science
Credits Required	60

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MAT 151	Calculus I	4 (MTA)
Calculus II	MAT 154	Calculus II	5
Calculus III	MAT 251	Calculus III	4
Differential Equations*	MAT 254	Differential Equations	4
Physics I (Calculus-based, w/lab)	PHY 251	University Physics I	5 (MTA)
Physics II (Calculus-based, w/lab)	PHY 252	University Physics II	5
Chemistry 1 (w/lab)	CEM 141	General Chemistry I	5 (MTA)
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
First Year Experience	SEM 140	Seminar in Life Pathways	3
Communications (GEO 2)	COM 231 or COM 240	Communication Fund. Or Interpersonal Comm.	3
Diversity (GEO 7)	Selection from GEO 7 list		3
		Remaining hours	3

## ASSOCIATE DEGREE PROGRAM INFORMATION

<b>Institution</b>	<b>Kellogg Community College</b>
<b>Degree/Program</b>	<b>AS with a Concentration in Mechanical Engineering</b>
<b>Credits Required</b>	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

<b>Pathway Course</b>	<b>Subject/ Course Number</b>	<b>Course Title</b>	<b>Credit Hrs</b>
Calculus I	MATH 141	Calculus I	5
Calculus II	MATH 142	Calculus II	5
Calculus III	MATH 241	Calculus III	4
Differential Equations*	MATH 242	Differential Equations with linear algebra	4
Physics I (Calculus-based, w/lab)	PHYS 221	Physics for Engineers and Scientists I	5
Physics II (Calculus-based, w/lab)	PHYS 222	Physics for Engineers and Scientists II	5
Chemistry 1 (w/lab)	CHEM 110	General Chemistry I	4
Statics	ENGR 256	Statics	3
Dynamics	ENGR 258	Dynamics	4
Mechanics of Solids/Strength of Materials (no lab required)	Not offered		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

<b>General Education or Program Requirement</b>	<b>Subject/ Course Number</b>	<b>Course Title</b>	<b>Credit Hrs</b>
Program Requirement	ENGL 151 or ENGL 151H	Freshman Composition	3
Program Requirement	Communication course	Several Options	3
Program Requirement	Humanities & Fine Arts/GE Personal & Cultural Engagement	Many options – 2 courses from different disciplines	6
Program Requirement	Social Science/GE Personal & Cultural Engagement	Many options – 2 courses from different disciplines	6
Program Requirement	FYS 101	First Year Seminar	1

	Remaining hours (electives; see an academic advisor)	2
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## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Lake Michigan College
Degree/Program	Associate in Science (AS) – Pre-Engineering
Credits Required	60

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 151	Calculus I	5
Calculus II	MATH 201	Calculus II	5
Calculus III	MATH 202	Calculus III	5
Differential Equations*	MATH 252	Differential Equations	4
Physics I (Calculus-based, w/lab)	PHYS 201	Engineering Physics I (Mechanics)	4
Physics II (Calculus-based, w/lab)	PHYS 202	Engineering Physics I (Electricity & Magnetism)	4
Chemistry 1 (w/lab)	CHEM 111	General Chemistry I	4
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Req	CIS 164	C++ Programming	3
Program Req	CHEM 112	General Chemistry II	4
		Remaining hours (Additional Credits to Fulfill Associate in Science)	7

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Lansing Community College</b>
Degree/Program	<b>Engineering/Physics A.S.</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH151	Calculus I	4
Calculus II	MATH152	Calculus II	4
Calculus III	MATH253	Calculus III	4
Differential Equations*	MATH254 + MATH250	Intro to Differential Equation + Linear Algebra	4 + 4
Physics I (Calculus-based, w/lab)	PHYS251	Physics I with Calculus	5
Physics II (Calculus-based, w/lab)	PHYS252	Physics II with Calculus	5
Chemistry 1 (w/lab)	CHEM151 + CHEM161	General Chemistry I Lecture + General Chemistry I Lab	4 + 1
Statics	PHYS260	Statics for Engineers	3
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement - Electives	BIOL 127; CPSC 131; CPSC 230; STAT 215	Cell Biology; Numerical Methods and Math Lab; Algorithms and Computing with C++; 4 / 4; Introduction to Probability and Statistics	4 / 6; 3 / 4; 4 / 4
		Remaining hours	3-8

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Macomb Community College</b>
Degree/Program	<b>Associate of Science / Pre-Engineering</b>
Credits Required	<b>62</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 1760	Analytical Geometry and Calculus I	4
Calculus II	MATH 1770	Analytical Geometry and Calculus 2	4
Calculus III	MATH 2760	Analytical Geometry and Calculus 3	4
Differential Equations*	MATH 2770	Differential Equations	4
Physics I (Calculus-based, w/lab)	PHYS 2220	Analytical Physics 1	5
Physics II (Calculus-based, w/lab)	PHYS 2230	Analytical Physics 2	5
Chemistry 1 (w/lab)	CHEM 1170	General Chemistry 1	4
Statics	n/a	n/a	n/a
Dynamics	n/a	n/a	n/a
Mechanics of Solids/Strength of Materials (no lab required)	n/a	n/a	n/a

*\*Minimum 4 credits, linear algebra must be covered*

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program	ENGR 1000	Introduction to Engineering	3
Program	PHYS 1180	College Physics 1	4
Program	CHEM 1180	General Chemistry 2	4
Program	MATH 2000	Introduction to Linear Algebra	3
General Education	ECON 1160	Principles of Economics 1	3
		Remaining hours	17



## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Mid Michigan College
Degree/Program	Associate in Science/Math/Science Transfer
Credits Required	62

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MAT 126	Calculus I	5
Calculus II	MAT 225	Calculus II	4
Calculus III	MAT 226	Calculus III	4
Differential Equations*			
Physics I (Calculus-based, w/lab)	PHY 211	University Physics I	5
Physics II (Calculus-based, w/lab)	PHY 212	University Physics II	5
Chemistry 1 (w/lab)	CHM 111	General College Chemistry I	5
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours - Elective credits to reach degree minimum of 62. These remaining credits should be chosen in consultation with an advisor.	7

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Monroe County Community College</b>
Degree/Program	<b>Associate of Science</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH/171	Calculus I	4
Calculus II	MATH/172	Calculus II	4
Calculus III	MATH/271	Calculus III	4
Differential Equations*	MATH/273	Introduction to Differential Equations	3
	MATH/251	Linear Algebra	3
Physics I (Calculus-based, w/lab)	PHY/151	General Physics I	4
Physics II (Calculus-based, w/lab)	PHY/152	General Physics II	4
Chemistry 1 (w/lab)	CHEM/151	General College Chemistry I	4
Statics	METC/220	Statics & Strength of Materials	4
Dynamics	Not offered		
Mechanics of Solids/Strength of Materials (no lab required)	Not offered		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
General Education	MDTC/160	Mechanical Drafting & CAD I	4
Degree Requirement	Additional Social Sciences Course		3
		Remaining hours	0

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Muskegon Community College</b>
Degree/Program	<b>AS Engineering</b>
Credits Required	<b>62</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 161	Calculus I	4
Calculus II	MATH 162A	Calculus II	4
Calculus III	MATH 283	Calculus III	4
Differential Equations*	MATH 295	Differential Equations with Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHYS 203L&L	Engineering Physics	5
Physics II (Calculus-based, w/lab)	PHYS 204L&L	Engineering Physics	5
Chemistry 1 (w/lab)	CHEM 101LEC & CHEM 101A	General & Inorganic Chemistry Lecture & Lab	5
Statics	ENGR 202	Engineering Statics	3
Dynamics	ENGR 204	Engineering Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	Not offered		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	

No

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>North Central Michigan College</b>
Degree/Program	<b>Associate of Science with a Concentration in Mechanical Engineering</b>
Credits Required	<b>60</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 150	Analytic Geometry & Calc. I	5
Calculus II	MATH 210	Analytic Geometry & Calc. II	5
Calculus III	MATH 215	Analytic Geometry & Calc. III	4
Differential Equations*	MATH 225	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHY 230	Physics for Scientists & Engineers I	5
Physics II (Calculus-based, w/lab)	PHY 231	Physics for Scientists & Engineers II	5
Chemistry 1 (w/lab)	CEM 121	Principles of Chemistry	5
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	0



## MECHANICAL ENGINEERING MiTRANSFER PATHWAY

### ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Northwestern Michigan College</b>
Degree/Program	<b>Engineering, ASA + Engineering Certificate</b>
Credits Required	<b>70-80 (program dependent)</b>

### MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

### MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH141	Calculus I	5
Calculus II	MTH142	Calculus II	5
Calculus III	MTH241	Calculus III	5
Differential Equations*	MTH251	Linear Algebra & Diff. Eqns	4
Physics I (Calculus-based, w/lab)	PHY221	Prob/princ of Physics I	5
Physics II (Calculus-based, w/lab)	PHY222	Prob/Princ of Physics II	5
Chemistry 1 (w/lab)	CHM150	General Chemistry I	5
Statics	EGR201	Statics	3
Dynamics	EGR203	Dynamics	4
Mechanics of Solids/Strength of Materials (no lab required)	EGR202	Mechanics of Materials	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			

### REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	EGR101	Intro to Engineering	1
Program Requirement	EGR232	Introductory Thermodynamics	3
Program Requirement	EGR221	Material Science	3
Remaining hours to equal 60			



## MECHANICAL ENGINEERING MiTRANSFER PATHWAY

### ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Oakland Community College</b>
Degree/Program	<b>Associate in Science</b>
Credits Required	<b>60</b>

### MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

### MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MAT 1730	Calculus I	4 (MTA)
Calculus II	MAT 1740	Calculus II	4
Calculus III	MAT 2740	Calculus III	4
Differential Equations	MAT 2810	Differential Equations	4
Linear Algebra	MAT 2880	Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHY 2400	Engineering Physics I	5 (MTA)
Physics II (Calculus-based, w/lab)	PHY 2500	Engineering Physics II	5
Chemistry 1 (w/lab)	CHE 1510	General Chemistry I	4 (MTA)
Statics			
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

### REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Schoolcraft College
Degree/Program	Associate in Science or Associate in General Studies or Associate in Arts
Credits Required	60

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 150	Calculus with Analytical Geometry 1	5
Calculus II	MATH 151	Calculus with Analytical Geometry 2	5
Calculus III	MATH 240	Calculus with Analytical Geometry 3	5
Differential Equations*	MATH 252	Differential Equations	5
Physics I (Calculus-based, w/lab)	PHYS 211	Physics for Scientists/ Eng 1	5
Physics II (Calculus-based, w/lab)	PHYS 212	Physics for Scientists/ Eng 2	5
Chemistry 1 (w/lab)	CHEM 111	General Chemistry 1	4
Statics	ENGR 201	Statics	3
Dynamics	ENGR 203	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ENGR 202	Mechanics of Materials	3

*\*Minimum 4 credits, linear algebra must be covered*

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	11



## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>Southwestern Michigan College</b>
Degree/Program	<b>AS – Science, Engineering, and Math Professional</b>
Credits Required	<b>63</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 141	Analytical Geometry & Calc I	5
Calculus II	MATH 142	Analytical Geometry & Calc II	5
Calculus III	MATH 201	Calculus III	5
Differential Equations*	MATH 205	Differential Equations & Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHYS 201	General Physics I	5
Physics II (Calculus-based, w/lab)	PHYS 202	General Physics II	5
Chemistry 1 (w/lab)	CHEM 101	General Chemistry I	5
Statics	N/A		
Dynamics	N/A		
Mechanics of Solids/Strength of Materials (no lab required)	N/A		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program	CHEM 102	General Chemistry II	5
General Education	EDUC 120	Educational Exploration	1
		Remaining hours	6





## MECHANICAL ENGINEERING MiTRANSFER PATHWAY

### ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	<b>St. Clair County Community College</b>
Degree/Program	<b>Associates in Science Transfer</b>
Credits Required	<b>60</b>

### MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mittransfer.org](http://www.mittransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

### MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 114	Calculus I	4
Calculus II	MTH 215	Calculus II	4
Calculus III	MTH 216	Calculus III	4`
Linear Algebra	MTH 210	Linear Algebra	3
Differential Equations*	MTH 217	Differential Equations	4
Physics I (Calculus-based, w/lab)	PHY 221	Mechanics, Heat, and Sound	5
Physics II (Calculus-based, w/lab)	PHY 222	Electricity, Light, and Modern Physics	5
Chemistry 1 (w/lab)	CHM 101	Intro to Inorganic Chemistry	4
Statics	PHY 231	Statics	3
Dynamics			
Mechanics of Solids/Strength of Materials (no lab required)			
<i>*Minimum 4 credits, linear algebra must be covered</i>			

### REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	

## ASSOCIATE DEGREE PROGRAM INFORMATION

Institution	Wayne County Community College District
Degree/Program	AS - Pre Engineering
Credits Required	64

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MAT 171	Calculus I	4
Calculus II	MAT 172	Calculus II	4
Calculus III	MAT 271	Analytical Geometry and Calculus III	4
Differential Equations*	MAT 273	Differential Equation	4
	MAT 272	Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHY 265	Physics for Science and Engineer I	4
Physics II (Calculus-based, w/lab)	PHY 275	Physics for Science and Engineer II	4
Chemistry 1 (w/lab)	CHM 136	General Chemistry I	4
Statics	Not offered		
Dynamics	Not offered		
Mechanics of Solids/Strength of Materials (no lab required)	Not offered		
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are additional associate degree requirements that are not MTA or MiTransfer Pathways courses. They might not be accepted for transfer by universities participating in the agreement.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
		Remaining hours	28

## APPENDIX B:

Participating Four-Year College and University MiTransfer Mechanical Engineering Pathway  
Worksheets

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Andrews University</b>
Degree/Program	<b>BSE Engineering, Mechanical Engineering Concentration</b>
Credits Required	<b>135 for bachelor's; 63 in major</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 191	Calculus I	4
Calculus II	MATH 192	Calculus II	4
Calculus III	MATH 240	Calculus III	4
Differential Equations*	MATH 286	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHYS 241, 271 (lab)	Physics for Scientists & Engineers I & Lab	5
Physics II (Calculus-based, w/lab)	PHYS 242, 272 (lab)	Physics for Scientists & Engineers II & Lab	5
Chemistry 1 (w/lab)	CHEM 131	General Chemistry	4
Statics	ENGR 185	Engineering Statics	3
Dynamics	ENGR 285	Engineering Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ENGR 340	Mechanics of Materials	3
*Minimum 4 credits, linear algebra must be covered (See below, MATH 215)			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Cognate	CPTR 151	Computer Science	3
Program Cognate	MATH 215	Intro to Linear Algebra	3
Program Cognate	STAT 340	Probability & Statistics	3
GE Writing Course	ENGL 220	Technical Writing	3

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Central Michigan University</b>
Degree/Program	<b>Mechanical Engineering - BSME</b>
Credits Required	<b>130 – 134</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 132	Calculus I	4
Calculus II	MTH 133	Calculus II	4
Calculus III	MTH 233	Calculus III	4
Differential Equations*	MTH 232	Linear Algebra & Differential Equations	3
Physics I (Calculus-based, w/lab)	PHY 145	University Physics I	4
	PHY 175	University Physics I Laboratory	1
Physics II (Calculus-based, w/lab)	PHY 146	University Physics II	4
	PHY 176	University Physics II Laboratory	1
Chemistry 1 (w/lab)	CHM 131	Introduction to Chemistry I	4
Statics	EGR 251	Statics	3
Dynamics	EGR 253	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	EGR 255	Strength of Materials	3
Computer Programming	EGR 200	Computer Aided Problem Solving for Engineers	3
Intro CAD/Graphics	IET 154	Engineering Design Graphics	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			
TOTAL CREDITS			43

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
General Education	ENG 201	Intermediate Comp	3
Program Requirement	EGR 120	Introduction to Engineering	3
Program Requirement	EGR 190	Digital Circuits	3
TOTAL CREDITS			9

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Eastern Michigan University</b>
Degree/Program	<b>Mechanical Engineering, Bachelor of Science</b>
Credits Required	<b>124 Credit Hours</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 120	Calculus I	4
Calculus II	MATH 121	Calculus II	4
Calculus III	MATH 223	Multivariable Calculus	4
Differential Equations*	MATH 325	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHY 223	Mechanics and Sound	5
Physics II (Calculus-based, w/lab)	PHY 224	Electricity and Light	5
Chemistry 1 (w/lab)	CHEM 121/122	General Chemistry I & Lab	3/1
Statics	ME 211	Statics	3
Dynamics	ME 312 or PHY 230	Dynamics  Engineering Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ME 313	Mechanics of Materials	3
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	MATH 122	Elementary Linear Algebra	3
Program Requirement	ME 100	Introduction to Engineering	3
General Education Requirement	<i>Perspectives on a Diverse World</i> - Demonstrate the application of learning in either Global Awareness or U.S. Diversity by completing one course, which may be transferred in as a part of the MTA. See EMU Undergraduate Catalog for a list of approved courses.		3

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Ferris State University</b>
Degree/Program	<b>B.S. Mechanical Engineering Technology</b>
Credits Required	<b>132-133</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 220	Analytical Geometry–Calculus I	4
Calculus II	MATH 230	Analytical Geometry–Calculus 2	4
Calculus III	MATH 320	Analytical Geometry–Calculus 3	4
Differential Equations*	MATH 330	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHYS 211	Introductory Physics 1	4
Physics II (Calculus-based, w/lab)	PHYS 212	Introductory Physics 2	4
Chemistry 1 (w/lab)	CHEM 121	General Chemistry 1	4
Statics	<b>NO COURSE</b>		
Dynamics	MECH 360	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	<b>NO COURSE</b>		
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
General Education	CHEM 103	Preparatory Chemistry	3
General Education	MATH 126 or MATH 130	Varies	4
General Education	MATH 216 or MATH 220	Varies	4
General Education	MATH 226 or MATH 230	Varies	4
Program	MECH 111	MET Seminar	1
Program	MECH 122	Computer Apps 1 for Tech	2
Program	MECH 211	Fluid Mechanics	4
Program	MECH 222	Kinematics of Mechanisms	2
Program	MECH 223	Thermodynamics	3



## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Kettering University</b>
Degree/Program	<b>Mechanical Engineering</b>
Credits Required	<b>161</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH-101	Calculus I	4
Calculus II	MATH-102	Calculus II	4
Calculus III	MATH-203	Calculus III	4
Differential Equations*	MATH-204	Differential Equations*	4
Physics I (Calculus-based, w/lab)	PHYS-114/115	Newtonian Mechanics (Calc-based w/lab)	3+1=4
Physics II (Calculus-based, w/lab)	PHYS 224/225	Electricity and Magnetism (Calc-based, w/lab)	3+1=4
Chemistry 1 (w/lab)	CHEM-135/136	Principles of Chemistry (w/lab)	3+1=4
Statics	MECH-210	Statics	4
Dynamics	MECH-310	Dynamics	4
Mechanics of Solids/Strength of Materials (no lab required)	MECH-212	Mechanics of Materials	4
*Minimum 4 credits, linear algebra must be covered			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Degree Requirement	MECH-100	Engineering Graphical Communications	4
Degree Requirement	IME-100	Interdisciplinary Design & Manufacturing	4
Degree Requirement	EE-212/MECH-231L	Applied Electrical Circuits & Signals lab	4
Degree Requirement	MATH-307	Matrix Algebra	4



## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Lawrence Technological University</b>
Degree/Program	<b>Bachelor of Science in Mechanical Engineering</b>
Credits Required	<b>132</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MCS 1414	Calculus 1	4
Calculus II	MCS 1424	Calculus 2	4
Calculus III	MCS 2414	Calculus 3	4
Differential Equations*	MCS 2423	Differential Equations	3
Physics I (Calculus-based, w/lab)	PHY 2413+PHY 2421	University Physics I + Lab	4
Physics II (Calculus-based, w/lab)	PHY 2423+PHY 2431	University Physics II + Lab	4
Chemistry 1 (w/lab)	CHM 1213+CHM1221	University Chemistry I + Lab	4
Statics	EGE 2013	Statics	3
Dynamics	EME 3043	Dynamics	3
Mechanics of Solids/Strength of Materials	EME 3013	Mechanics of Materials	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			
TOTAL CREDITS			36

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	EME 1011	Foundations of Mechanical Engr	1
Program Requirement	EGE 1001	Fundamentals of Eng. Design Projects	1
Program Requirement	EGE 1102	Engr. Computer Applications Lab	2
Program Requirement	EME 2012	ME Graphics	
TOTAL CREDITS			2

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Michigan Technological University</b>
Degree/Program	<b>Mechanical Engineering</b>
Credits Required	<b>128</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MA1160 or MA1161	Calculus with Technology I or Calculus Plus with Technology I	4 or 5
Calculus II	MA2160	Calculus with Technology II	4
Calculus III	MA3160	Multivariable Calculus with Technology	4
Differential Equations <i>Minimum 4 credits, linear algebra must be covered</i>	MA2320 or MA2330 AND MA3520 or MA3530	Elementary Linear Algebra or Introduction to Linear Algebra AND Elementary Differential Equations or Introduction to Differential Equations	2 or 3 AND 2 or 3
Physics I (Calculus-based, w/lab)	PH1100 PH2100	Physics by Inquiry I (Lab) University Physics I-Mechanics	1 3
Physics II (Calculus-based, w/lab)	PH1200 PH2200	Physics by Inquiry II (Lab) Univ. Physics II-Electricity & Magnetism	1 3
General Chemistry I (w/lab)	CH1150 CH1151	University Chemistry I University Chemistry Lab I	3 1
Statics	MEEM2110	Statics	3
Dynamics	MEEM2700	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	MEEM2150	Mechanics of Materials	3

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	ENG1101	Engineering Analysis & Problem Solving	3
Program Requirement	ENG1102	Engineering Modeling and Design	3
Program Requirement	MSE2100	Intro to Materials Science & Engineering	3
Program Requirement	MEEM2201	Introductory Thermodynamics	3
Program Requirement	MEEM2901	Mechanical Engineering Practice I	2
Program Requirement	MEEM2911	Mechanical Engineering Practice II	3

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Northern Michigan University</b>
Degree/Program	<b>BS Mechanical Engineering Technology</b>
Credits Required	<b>126</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MA 161	Calculus I	4
Calculus II	MA 163	Calculus II	4
Calculus III	MA 265	Calculus III	4
Differential Equations*	MA 361	Differential Equations	3
Physics I (Calculus-based, w/lab)	PH201 or, PH220	College Physics I or, Introductory Physics I	5
Physics II (Calculus-based, w/lab)	PH 202 or PH 221	College Physics II or, Introductory Physics II	5
Chemistry 1 (w/lab)	CH 105 or CH 111	Chemical Principles or, General Chemistry I	4 or, 5
Statics	MET 211	Statics	4
Dynamics	MET 310	Dynamics	4
Mechanics of Solids/Strength of Materials (no lab required)	MET 311	Strength of Materials	4
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement (rec'd)	MET 213	Material Science I	3
Program Requirement (rec'd)	MA 211	Linear Algebra	3

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Oakland University</b>
Degree/Program	<b>Mechanical Engineering, B.S.E.</b>
Credits Required	<b>128</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 1554	Calculus I	4
Calculus II	MTH 1555	Calculus II	4
Calculus III	MTH 2554	Multivariable Calculus	4
Differential Equations	APM 2559 or APM 2555	Intro to Differential Equations with Matrix Alg or Intro to Differential Equations	4
Physics I (Calculus-based, w/lab)	PHY 1510/1100	Introductory Physics lec/lab	5
Physics II (Calculus-based, w/lab)	PHY 1520/1110	Introductory Physics lec/lab	5
Chemistry 1 (w/lab)	CHM 1440/1470	General Chemistry lec/lab	5
Statics	N/A		-
*Dynamics	ME 3200	Engineering Mechanics	4
*Mechanics of Solids/Strength of Materials (no lab required)	ME 3250	Mechanics of Materials	4
Computer Programming	EGR 1400	Computer Problem Solving in Engineering & Computer Science	4
Intro CAD/Graphics	EGR 1200	Engineering Graphics & CAD	1
TOTAL CREDITS			44
*Requires an additional one credit lab course at OU			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
General Education	ECN 2000 or 2010	Macroeconomics or Microeconomics	4
General Education	Approved Math/Science Elective	Varies	4-5

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Program Requirement	MTH 2775	Linear Algebra	4
TOTAL CREDITS			12-13

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>Saginaw Valley State University</b>
Degree/Program	<b>B.S. in Mechanical Engineering (BSME)</b>
Credits Required	<b>124</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

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The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs.
Calculus I	MATH 161	Calculus I	4
Calculus II	MATH 162	Calculus II	4
Calculus III	MATH 261	Calculus III	4
Differential Equations*	MATH 262	Differential Equations	4
Physics I (Calculus-based, w/lab)	PHYS 211 Lecture & lab	Analytical Physics I & Intro. Physics I Lab.	5
Physics II (Calculus-based, w/lab)	PHYS 212 Lecture & lab	Analytical Physics II & Intro. Physics II Lab.	5
Chemistry 1 (w/lab)	CHEM 111 Lecture & lab	General Chemistry I Lecture & Lab.	5
Statics	ME 251	Engineering Statics	3
Dynamics	ME 252	Engineering Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ME 250/ME 353 Lecture & lab	Solid Mechanics /Principles of Engineering Materials	4/4

*\*Minimum 4 credits, linear algebra must be covered*

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs.
Engineering Careers & Concepts	ME 101	Engineering Careers & Concepts	2

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>University of Detroit Mercy</b>
Degree/Program	<b>BME/Mechanical Engineering</b>
Credits Required	<b>142</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

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The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 1410	Analytic Geometry & Calculus I	4
Calculus II	MTH 1420	Analytic Geometry & Calculus II	4
Calculus III	MTH 2410	Analytic Geometry & Calculus III	4
Differential Equations*	MTH 3720	Differential Equations with Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHY 1600 + PHY 1610	General Physics I + Physics Lab I	4
Physics II (Calculus-based, w/lab)	PHY 1620 + PHY 1630	General Physics II + Physics Lab II	4
Chemistry 1 (w/lab)	CHM 1070 + CHM 1100	General Chemistry I + Chemistry Lab 1	4
Statics	ENGR 3120	Statics	3
Dynamics	ENGR 3130	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	ENGR 3260	Mechanics of Materials	3
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	ENGR 1000	Engineering Ethics	2
Program Requirement	ENGR 1080	Fundamentals of Eng. Design	2
Course meeting IT4 "Human Difference" Core Curriculum Requirement	Varies	Varies	3



## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>University of Michigan-Dearborn</b>
Degree/Program	<b>BSE/ME</b>
Credits Required	<b>128</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

The MiTransfer Pathways builds on the Michigan Transfer Agreement (MTA). The MTA allows transfer students to select designated courses to complete a minimum of 30 credit hours fulfilling MTA distribution requirements. Students following MiTransfer Pathway agreements should complete the MTA in accordance with the sending institutions' course designations and consider whether any recommended MiTransfer Pathways major-specific courses will "double count" to fulfill MTA distribution requirements in planning their transfer. More information about the MTA is available at [www.mitransfer.org](http://www.mitransfer.org).

The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MATH 115	Calculus I	4
Calculus II	MATH 116	Calculus II	4
Calculus III	MATH 215	Calculus III	4
Differential Equations*	MATH 216 or MATH 228	Intro to Diff Equations or Differential Equations w/Linear Algebra	4
Physics I (Calculus-based, w/lab)	PHYS 150/150L	General Physics I lec/lab	4
Physics II (Calculus-based, w/lab)	PHY 151/151L	General Physics II lec/lab	4
Chemistry 1 (w/lab)	CHEM 134/134L	General Chemistry IB lec/lab	4
Statics	ME 260 is both our Statics & Mechanics of Solids/Strengths course	Design Stress Analysis	4
Dynamics	The Dynamics course is a junior/senior required level course so this can not be brought in from the CC. Students will earn ME general credit to apply to the bachelor's degree.		-
Mechanics of Solids/Strength of Materials (no lab required)*	ME 260 is both our Statics & Mechanics of Solids/Strengths course	Design Stress Analysis	-
<i>*Minimum 4 credits, linear algebra must be covered</i>			

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
General Education	ECON 201 or 202 (can be taken as part of MTA)	Macroeconomics or Microeconomics	4



General Education	Comp 270 (can be taken as part of MTA)	Technical Writing	3
Program Requirement	ENGR 250	Principles of Engineering Materials	3
Program Requirement	ENGR 100/100L	Introduction to Engineering	2

## BACHELOR'S DEGREE PROGRAM INFORMATION

Institution	<b>University of Michigan-Flint</b>
Degree/Program	<b>BSE</b>
Credits Required	<b>128</b>

## MICHIGAN TRANSFER AGREEMENT (MTA)

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The MTA Mathematics distribution area allows students to complete one of three math pathways. The Mechanical Engineering MiTransfer Pathways faculty recommended that students complete a course in the Calculus pathway.

## MiTRANSFER PATHWAYS COURSES

These courses are commonly agreed upon for transfer in this program around the state among participating institutions.

Pathway Course	Subject/ Course Number	Course Title	Credit Hrs
Calculus I	MTH 121	Calculus I	4
Calculus II	MTH 122	Calculus II	4
Calculus III	MTH 222	Multi-variate Calculus	4
Differential Equations*	MTH 303	Introduction to Differential Eqns	4
Physics I (Calculus-based, w/lab)	PHY 243	Principles of Physics I	5
Physics II (Calculus-based, w/lab)	PHY 245	Principles of Physics II	5
Chemistry 1 (w/lab)	CHM 260	Principles of Chemistry I	4
Statics	EGR 230	Statics	3
Dynamics	EGR 370	Dynamics	3
Mechanics of Solids/Strength of Materials (no lab required)	EGR 260	Mechanics of Deformable Solids	3

*\*Minimum 4 credits, linear algebra must be covered*

## REMAINING DEGREE REQUIREMENTS

These are required, recommended, or optional courses that transfer students could complete at a community college to fulfill degree requirements at the university/ receiving institution. Specifically, universities should include courses like Introduction to Engineering, and additional Linear Algebra courses as applicable.

General Education or Program Requirement	Subject/ Course Number	Course Title	Credit Hrs
Program Requirement	EGR 102	Introduction to Engineering	3

## APPENDIX C:

### MiTransfer Mechanical Engineering Pathway Course Equivalencies

Find live versions of each of these reports in the secure user area at [www.mittransfer.org](http://www.mittransfer.org).



<b>MECHANICAL ENGINEERING MiTransfer Pathway Calculus II</b>	Central Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Northern Michigan University	Oakland University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Flint	Andrews University	Kettering University	Lawrence Technological University	University of Detroit Mercy
By Receiving Institution													
	MTH 133	MATH 121	MATH 230	MA 2160	MA 163	MTH 1555	MATH 162	MATH 116	MTH 122	MATH 192	MATH 102	MCS 1424	MTH 1420
<b>Community College<sup>1</sup></b>													
Alpena Community College	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132	MTH 132
Bay de Noc Community College	MATH 142	MATH 142	MA 142 MATH 142	MATH 142	MA 142 MATH 142	MA 142 MATH 142	MATH 142	MA 142	MATH 142	MATH 142	MA 142	MATH 142	MATH 142
Delta College	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MTH 162	MATH 180 MTH 162	MTH 162
Glen Oaks Community College	MATH 162	MATH 162	MATH 162 NSM 162	MATH 162	MATH 162	MATH 162	MATH 162	NSM 162	NSM 162 MATH 162	MATH 162	MATH 162 NSM 162	MATH 162	MATH 162 NSM 162
Gogebic Community College	MTH 151	MTH 151	MTH 151	MTH 151	MTH 151	MTH 152 MTH 151	MTH 151	MTH 151	MTH 151	See Appendix D	MTH 151	MTH 151	MTH 151
Grand Rapids Community College	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134	MA 134
Henry Ford College	MATH 183	MATH 183	MATH 183	MATH 183	MATH 183	MATH 183	MATH 183	MATH 183 MATH 48	MATH 183	MATH 183	MATH 183	MATH 183	MATH 183
Jackson College	MAT 154	MAT 154	MAT 154 MTH 154	MAT 154	MAT 154 MTH 154	MAT 154	MAT 154	MAT 154 MTH 154	MTH 154 MAT 154	MAT 154 MTH 154	MTH 154	MAT 154	MAT 154 MTH 154
Kellogg Community College	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 141B MATH 142	MATH 142	MATH 162	MATH 142	MATH 142	MATH 142
Lake Michigan College	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201
Lansing Community College	MATH 152	MATH 152	MATH 152 MATH 162 MTH 215	MATH 162 MATH 152	MATH 152 MATH 162	MATH 152 MATH 162	MATH 162 MATH 152	MATH 152 MATH 162	MATH 152 MATH 162 MTH 215	MATH 152	MATH 152 MATH 162	MATH 152	MATH 152 MATH 162
Macomb Community College	MATH 1770	MATH 1770	MATH 1770 MTH 177	MATH 1770	MATH 1770 MTH 177	MATH 1770 MTH 156 MTH 167 MTH 177	MATH 1770	MATH 1770 MTH 156 MTH 167 MTH 177	MTH 177 MATH 1770	MATH 1770	MATH 1770	MATH 1770	MATH 1770 MTH 177
Mid Michigan College	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225	MAT 225
Monroe County Community College	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172	MATH 172
Muskegon Community College	MATH 162A	MATH 162A	MATH 162 MATH 162A	MATH 162A MATH 162	MATH 162 MATH 162A	MATH 162 MATH 162A MATH 272	MATH 162	MATH 162 MATH 272	MATH 162	MATH 162	MATH 162	MATH 162	MATH 162
North Central Michigan College	MATH 210	MATH 210	MATH 210 MTH 211	MATH 210	MATH 210 MTH 211	MATH 210	MATH 210	MTH 211	MATH 210	MATH 210 MATH 250	MATH 210 MTH 211	MATH 210	MATH 210 MTH 211
Northwestern Michigan College	MTH 142	MTH 142	MTH 211 SMMA 242	MTH 142	MTH 142	MTH 142	MTH 142	MTH 142 SMMA 143	MTH 142	MTH 142	MTH 142	MTH 142	MTH 142
Oakland Community College	MAT 1740	MAT 1740	MAT 1720 MAT 2710 MAT 1740 MAT 271	MAT 1740	MAT 1740	MAT 1740 MAT 271 MAT 273 MAT 271 MAT 172	MAT 1740	MAT 172 MAT 1720 MAT 174 MAT 1740	MAT 1740 MAT 1720	MAT 174 MAT 1740	MAT 1740	MAT 1740	MAT 1720 MAT 1740
Schoolcraft College	MATH 151	MATH 151	MATH 151	MATH 151	MATH 151	MATH 151	MATH 151	MATH 134 MATH 151	MATH 151	MATH 151	MATH 151	MATH 151	MATH 151
Southwestern Michigan College	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142 MATH 142	MATH 142	MATH 142	MATH 142	MATH 142	MATH 142
St. Clair County Community College	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215	MTH 215
Wayne County Community College District	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172	MAT 172

<sup>1</sup> Kalamazoo Valley Community College, Kirtland Community College, Montcalm Community College, Mott Community College, Washtenaw Community College, and West Shore Community College are not participating in the Mechanical Engineering Pathway.

MECHANICAL ENGINEERING MiTransfer Pathway Calculus III	Central Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Northern Michigan University	Oakland University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Flint	Andrews University	Kettering University	Lawrence Technological University	University of Detroit Mercy
By Receiving Institution													
	MTH 233	MATH 223	MATH 320	MA 3160	MA 265	MTH 2554	MATH 261	MATH 215	MTH 222	MATH 240	MATH 203	MCS 2414	MTH 2410
Community College <sup>1, 2</sup>													
Alpena Community College	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231	MTH 231
Bay de Noc Community College	MATH 243	MATH 243	MA 243 MATH 243	MATH 243	MA 243 MATH 243	MA 243 MATH 243	MATH 243	MA 243	MATH 243	MATH 243	MA 243 MATH 243	MATH 243	MATH 243
Delta College	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 261	MTH 250 MTH 261	MTH 261
Gogebic Community College	MTH 152	MTH 152	MTH 152	MTH 152	MTH 152	MTH 152 MTH 151 MTH 152	MTH 152	MTH 152	MTH 152	MTH 152	See Appendix D	MTH 152	MTH 152
Grand Rapids Community College	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255	MA 255
Henry Ford College	MATH 280	MATH 280	MATH 280	MATH 280	MATH 280	MATH 280	MATH 280	MATH 280 MATH 53 MATH 54	See Appendix D	MATH 280	MATH 280	MATH 280	MATH 280
Jackson College	MAT 251	MAT 251	MAT 251 MTH 251	MAT 251	MAT 251 MTH 251	MAT 251	MAT 251	MAT 251 MTH 251	See Appendix D	MAT 251	MTH 251	MAT 251	MAT 251 MTH 251
Kellogg Community College	MATH 241	MATH 241	MATH 241	MATH 241	MATH 241	MATH 241	MATH 241	MATH 241 MATH 241A MATH 241B	MATH 241	MATH 241 MATH 241A MATH 241B	MATH 241	MATH 241	MATH 241
Lake Michigan College	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202	MATH 202 MATH 202	MATH 202	MATH 202	MATH 202
Lansing Community College	MATH 253	MATH 253	MATH 253 MTH 216	MATH 253	MATH 253	MATH 253	MATH 253	MATH 253	MATH 253 MTH 216	MATH 253	MATH 253	MATH 253	MATH 253
Macomb Community College	MATH 2760	MATH 2760	MATH 2760 MTH 276	MATH 2760	MATH 2760 MTH 276	MATH 2760 MTH 266 MTH 276	MATH 2760 MTH 2760	MATH 2760 MTH 276 MTH 267 MTH 266	MATH 2760 MTH 2760	MATH 2760 MTH 2760	MATH 2760	MATH 2760	MATH 2760
Mid Michigan College	MAT 226	MAT 226	MAT 226	MAT 226	MAT 226	MAT 226	MAT 226	MAT 226	See Appendix D	MAT 226	MAT 226	MAT 226	MAT 226
Monroe County Community College	MATH 271	MATH 271	MATH 271	MATH 271	MATH 271	MATH 271 MATH 252 MATH 271	MATH 271	MATH 271	MATH 271	MATH 271	MATH 271	MATH 271	MATH 271
Muskegon Community College	MATH 283	MATH 283	MATH 283	MATH 283	MATH 283	MATH 283	MATH 283	MATH 283	See Appendix D	See Appendix D	MATH 283	MATH 283	MATH 283
North Central Michigan College	MATH 215	MATH 215	MATH 215 MTH 212	MATH 215	MATH 215 MTH 212	MATH 215	MATH 215	MTH 212	MATH 215	MATH 215	MTH 212	MATH 215 MTH 215	MATH 215 MTH 212
Northwestern Michigan College	MTH 241	MTH 241	MTH 241 SMMA 243	MTH 241	MTH 241	MTH 241	MTH 241	MTH 241 MTH 241B	MTH 241	MTH 241	MTH 241	MTH 241 MTH 131	MTH 241
Oakland Community College	MAT 2740	MAT 2740	MAT 2710 MAT 2730 MAT 273	MAT 2740	MAT 2740	MAT 273 MAT 271 MAT 273 MAT 271 MAT 273 MAT 271 MAT 273 MAT 2710 MAT 2730	MAT 2740	MAT 2710 MAT 274 MAT 2740 MAT 271 MAT 273 MAT 2710 MAT 2730	MAT 2740	MAT 2740 MAT 271	MAT 2740	MAT 2740	MAT 2740
Schoolcraft College	MATH 240	MATH 240	MATH 240	MATH 240	MATH 240	MATH 240	MATH 240	MATH 233 MATH 240	MATH 240	MATH 240	MATH 240	MATH 240	MATH 240
Southwestern Michigan College	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201	MATH 201 MATH 201	See Appendix D	MATH 201	MATH 201	MATH 201	MATH 201
St. Clair County Community College	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216	MTH 216
Wayne County Community College District	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271	See Appendix D	MAT 271	MAT 271	MAT 271
1. Kalamazoo Valley Community College, Kirtland Community College, Montcalm Community College, Mott Community College, Washtenaw Community College, and West Shore Community College are not participating in the Mechanical Engineering Pathway. 2. Glen Oaks Community College is participating in the Mechanical Engineering Pathway, but does not offer a Calculus III course.													

MECHANICAL ENGINEERING MITransfer Pathway Chemistry 1	Central Michigan University	Eastern Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Michigan Technological University	Northern Michigan University	Oakland University	Oakland University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Flint	Andrews University	Kettering University	Kettering University	Lawrence Technological University	Lawrence Technological University	University of Detroit Mercy	University of Detroit Mercy
By Receiving Institution	CHEM 131	CHEM 121	CHEM 122	CHEM 121	CH 1150	CH 1151	CH 111	CHEM 1440	CHEM 1470	CHEM 111	CHEM 134	CHEM 260	CHEM 131	CHEM 135	CHEM 135	CHEM 1213	CHEM 1221	CHEM 1070	CHEM 1100
Community College <sup>1</sup>																			
Alpena Community College	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 121	CHEM 111	CHEM 121	CHEM 111	CHEM 121	CHEM 121	CHEM 121
Bay de Noc Community College	CHEM 110	CHEM 110	CHEM 110	CH 105 CHEM 110	CHEM 108 CHEM 110	CHEM 108 CHEM 110	CH 105 CHEM 108 CHEM 110	CH 105 CHEM 110	CH 105 CHEM 110	CHEM 110	CHEM 110	CH 105	CHEM 110 CH 103 CH 105	CH 105	CH 105	CHEM 110	CHEM 110	CHEM 110	CHEM 110
Delta College	CHEM 111 CHEM 111H	CHEM 111 CHEM 111H	CHEM 111 CHEM 111H	CHEM 111 CHEM 111H	CHEM 111	CHEM 111	CHEM 111 CHEM 111H	CHEM 111 CHEM 111	CHEM 111 CHEM 111	CHEM 111 CHEM 111H	CHEM 111	HM 111 CHEM 111H	CHEM 111 CHEM 111H	CHEM 100W CHEM 105W CHEM 111 CHEM 111H	CHEM 100W CHEM 105W CHEM 111 CHEM 111H	CHEM 131 CHEM 132 CHEM 111	CHEM 131L CHEM 111	CHEM 111	CHEM 111
Glen Oaks Community College	CHEM 133	CHEM 133	CHEM 133	CHEM 133 NSC 133	CHEM 133	CHEM 133	CHEM 133	CHEM 133 NSC 133	CHEM 133 NSC 133	CHEM 133	CHEM 133	NSC 133 CHEM 133	NSC 133 CHEM 133	CHEM 130 NSC 133	CHEM 130 NSC 133	CHEM 133	CHEM 133	CHEM 133	CHEM 133
Gogebic Community College	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151
Grand Rapids Community College	CHEM 130 CHEM 131	CHEM 130 CHEM 131	CHEM 130 CHEM 131	CHEM 130 CHEM 131	CHEM 130	CHEM 131	CHEM 130 CM 103 CM 113	CHEM 130 CHEM 150	CHEM 131 CHEM 151	CHEM 130 CHEM 151	CHEM 130 CHEM 151	CM 103	CHEM 130 CHEM 151	CHEM 130	CHEM 130	CHEM 130	CHEM 130	CHEM 131	CHEM 130
Henry Ford College	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141	CHEM 141 CHEM 141	CHEM 131	CHEM 131	CHEM 141	CHEM 141	CHEM 141	CHEM 141
Jackson College	CHEM 141	CHEM 141	CHEM 141	CHEM 141 CEM 151	CHEM 141	CHEM 141	CHEM 141 CEM 151	CHEM 141 CEM 151	CHEM 141 CEM 151	CHEM 141	CHEM 141	CHEM 130 CEM 141	CHEM 141	CHEM 141 CEM 151	CHEM 141 CEM 151	CHEM 141	CHEM 141	CHEM 141	CHEM 141
Kellogg Community College	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110	CHEM 110L CHEM 110	CHEM 110 CHEM 110	CHEM 100 CHEM 110	CHEM 100 CHEM 110	CHEM 110	CHEM 110	CHEM 110 CHEM 111	CHEM 110
Lake Michigan College	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111 CHEM 101	CHEM 101	CHEM 101	CHEM 101	CHEM 111	CHEM 111	CHEM 111
Lansing Community College	CHEM 151 CHEM 161	CHEM 151	CHEM 161	CHEM 110 CHEM 111 CHEM 181 CHEM 151 CHEM 161	CHEM 151	CHEM 161	CHEM 161 CHEM 151	CHEM 151	CHEM 161	CHEM 151	CHEM 161 CHEM 151	CHEM 151 CEM 171	CHEM 151	CHEM 125 CHEM 151	CHEM 125 CHEM 151	CHEM 151	CHEM 151	CHEM 161	CHEM 151
Macomb Community College	CHEM 1170	CHEM 1170	CHEM 1170	CHEM 1170 CHEM 117	CHEM 1170	CHEM 1170	CHEM 1170 CHEM 117	CHEM 1170 CHEM 117	CHEM 1170 CHEM 117	CHEM 1170	CHEM 1170	CHEM 1170	CHEM 117 CHEM 1170	CHEM 1170	CHEM 1170	CHEM 1170	CHEM 1170	CHEM 1170	CHEM 1170
Mid Michigan College	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111	CHEM 111
Monroe County Community College	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 151	CHEM 145 CHEM 151	CHEM 145 CHEM 151	CHEM 151	CHEM 151	CHEM 151
Muskegon Community College	CHEM 101LE CHEM 101A CHEM 151			CHEM 101 CHEM 101A			CHEM 101 CHEM 101A CHE												

MECHANICAL ENGINEERING MiTransfer Pathway Differential Equations  By Receiving Institution	Central Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Michigan Technological University	Michigan Technological University	Michigan Technological University	Northern Michigan University	Oakland University	Oakland University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Dearborn	University of Michigan-Flint	Andrews University	Kettering University	Lawrence Technological University	University of Detroit Mercy
	MTH 334	MATH 325	MATH 330	MA 2320	MA 2330	MA 3520	MA 3530	MA 361	APM 2555	APM 2559	MATH 262	MATH 216	MATH 228	MTH 303	MATH 286	MATH 204	MCS 2423	MTH 3720
				MA 2320 OR MA 2330		MA 3520 OR MA 3530			APM 2555 OR APM 2559			MATH 216 OR MATH 228						
Community College <sup>1, 2</sup>																		
Alpena Community College	MTH 232	MTH 232	MTH 232	MTH 231			MTH 232	MTH 232		MTH 232	MTH 232	MTH 232		See Appendix D	MTH 232	MTH 232	MTH 232	MTH 232
Bay de Noc Community College	MATH 244	MATH 244	MA 244 MATH 244		MATH 250		MATH 244	MA 244 MATH 244		MA 244 MATH 244	MATH 244	MA 244		See Appendix D	MATH 244	MA 244	MATH 244	MATH 244
Delta College	MTH 264	MTH 264	MTH 264		MTH 263		MTH 264	MTH 264		MTH 264	MTH 264	MTH 264		See Appendix D	MTH 264	MTH 264	MATH 280 MTH 264	MTH 264
Gogebic Community College	MTH 220	MTH 220	MATH 220 MTH 220	MTH 220		MTH 220		MTH 220	MTH 220		MTH 220		MTH 220	See Appendix D	MTH 220	See Appendix D	MTH 220	MTH 220
Grand Rapids Community College	MA 259	MA 259	MA 257 MA 259	MA 257		MA 257		MA 259	MA 257	MA 259	MA 257	MA 257		See Appendix D	MA 257	MA 257	MA 257	MA 257
Henry Ford College	MATH 288	MATH 288	MATH 289		MAT 283		MATH 288	MATH 288 MATH 289		MATH 288 MATH 289	MATH 289	MATH 286 MATH 289	MATH 288	See Appendix D	MATH 288	MATH 289	MATH 288 MATH 289	MATH 288 MATH 289
Jackson College	MAT 254	MAT 254	MAT 254 MTH 254				MAT 254	MAT 254 MTH 254		MAT 254	MAT 254	MAT 254		See Appendix D	MAT 254	MTH 254	MAT 254	MAT 254 MTH 254
Kellogg Community College	MATH 242	MATH 242	MATH 242				MATH 242	MATH 242	MATH 242			MATH 242	MATH 241B	MATH 242	MATH 242	MATH 242	MATH 242	MATH 242
Lake Michigan College	MATH 252	MATH 252	MATH 252 MTH 252	MATH 252		MATH 252		MATH 252		MATH 252	MATH 252	MATH 252		MATH 252	MATH 252	MATH 252	MATH 252	MATH 252
Lansing Community College	MATH 254	MATH 254	MATH 254		MATH 260		MATH 254	MATH 254		MATH 254	MATH 254	MATH 254		MATH 254	MATH 254	MATH 254	MATH 254	MATH 254
Macomb Community College	MATH 2770	MATH 2770	MATH 2770 MTH 277		MATH 2000		MATH 2770	MTH 277		MATH 2770	MATH 2770	MATH 2770 MTH 270		See Appendix D	MATH 2770	MATH 2770	MATH 2770	MATH 2770
Monroe County Community College	MATH 273	MATH 273	MATH 273		MATH 251		MATH 273	MATH 273		MATH 273	MATH 273	MATH 272 MATH 273		See Appendix D	MATH 273	MATH 273	MATH 273	MATH 273
Muskegon Community College	MATH 295	MATH 295	MATH 294 MATH 295	MATH 276			MATH 295	MATH 295	MATH 295	MATH 294	MATH 295	MATH 294		MATH 295	MATH 295	MATH 295	MATH 295	MATH 295
North Central Michigan College	MATH 225	MATH 225	MATH 225 MTH 215		MATH 235		MATH 225	MATH 225 MTH 215		MATH 225 MTH 215	MATH 225	MATH 225		See Appendix D	MATH 225	MTH 215	MATH 225	MATH 225 MTH 215
Northwestern Michigan College	MTH 251	MTH 251	MTH 251	MTH 251		MTH 251		MTH 251	MTH 251		MTH 251	MTH 251		MTH 251	MTH 251	MTH 251	MTH 251	MTH 251
Oakland Community College	MAT 2810	MAT 2810	MAT 2810		MAT 2880	MAT 2810	MAT 2810	MAT 2810		MAT 2810	MAT 2810	MAT 2810	MAT 2810	See Appendix D	MAT 2810	MAT 2810	MAT 2810	MAT 2810
Schoolcraft College	MATH 252	MATH 252	MATH 252		MATH 230		MATH 252	MATH 252		MATH 252	MATH 252	MATH 235 MATH 252		See Appendix D	MATH 252	MATH 252	MATH 252	MATH 252
Southwestern Michigan College	MATH 205	MATH 205	MATH 204 MATH 205	MATH 205		MATH 205		MATH 204 MATH 205	MATH 205	MATH 204	MATH 204		MATH 205	MATH 205	MATH 204 MATH 205	MATH 204	MATH 205	MATH 204
St. Clair County Community College	MTH 217	MTH 217	MTH 217		MTH 210		MTH 217	MTH 217		MTH 217	MTH 217	MTH 217		See Appendix D	MTH 217	MTH 217	MTH 217	MTH 217
Wayne County Community College District	MAT 273	MAT 273	MAT 273		MAT 272		MAT 273	MAT 273		MAT 273	MAT 273	MAT 273		See Appendix D	MAT 273	MAT 273	MAT 273	MAT 273
1. Kalamazoo Valley Community College, Kirtland Community College, Montcalm Community College, Mott Community College, Washtenaw Community College, and West Shore Community College are not participating in the Mechanical Engineering Pathway.																		
2. Glen Oaks Community College and Mid Michigan College are participating in the Mechanical Engineering Pathway, but do not offer a Differential Equations course.																		





MECHANICAL ENGINEERING MITransfer Pathway Physics I (Calc-based, w/lab)	By Receiving Institution																				
	Central Michigan University	Central Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Michigan Technological University	Northern Michigan University	Oakland University	Oakland University	Saginaw Valley State University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Flint	Andrews University	Andrews University	Kalamazoo University	Kalamazoo University	Lawrence Technological University	Lawrence Technological University	University of Detroit Mercy	University of Detroit Mercy
	PHY 1450R	PHY 175	PHY 223	PHYS 211	PH 1100	PHY 2100	PHY 220	PHY 1100	PHY 1510	PHYS 211	PHYS 211L	PHYS 150	PHY 243	PHYS 241	PHYS 271	PHYS 114	PHYS 115	PHY 2413	PHY 2421	PHY 1600	PHY 1610
Community College <sup>1</sup>																					
Alpena Community College	PHY 221	PHY 221	PHY 221	PHY 121	PHY 221	PHY 221	PHY 221	PHY 121 PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221
Bay de Noc Community College		PHYS 205	PHYS 205	PH 201 PHYS 201	PHYS 205	PHYS 205	PH 201 PH 203 PH 205 PHYS 205	PH 201 PHYS 205 PHYS 205	PH 205 PHYS 205	PHYS 205	PHYS 205	PH 203	PHYS 205	PHYS 205	PHYS 205		PH 201 PH 203	PH 203	PHYS 205	PHYS 205	PHYS 205
Delta College	PHY 211	PHY 211	PHY 211	PHY 111	PHY 211	PHY 211	PHY 211	PHY 111	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 267 PHY 211	PHY 267 PHY 211	PHY 211	PHY 211
Glen Oaks Community College	PHYS 251	PHYS 251	PHYS 251	NSP 151 NSP 152 PHYS 155	PHYS 251	PHYS 251	PHYS 251	PHYS 251 PHYS 243 PHYS 243	PHYS 251 PHYS 243 PHYS 243	PHYS 251	PHYS 251	PHYS 251	PHYS 251 PHYS 251 PHYS 252 NSP 155	NSP 251 NSP 252 NSP 241	PHYS 251	PHYS 251	PHYS 251	PHYS 251	PHYS 252	NSP 154 NSP 251 NSP 252 NSP 253 PHYS 155 PHYS 251	NSP 251 NSP 252 PHYS 251 PHYS 251
Gogebic Community College	PHY 251	PHY 251	PHY 251	PHY 201	PHY 251	PHY 251	PHY 251	PHY 201 PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251
Grand Rapids Community College	PH 245	PH 245	PH 245	PH 125	PH 245	PH 245	PH 245	PH 125 PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245	PH 245
Henry Ford College		ENGR 270 ENGR 211 PHYS 231 ENGR 211 ENGR 211 PHYS 231 PHYS 211	PHYS 231	PHYS 131	PHYS 211 PHYS 211	PHYS 211 PHYS 211	PHYS 241 PHYS 243 PHYS 243	PHYS 241 PHYS 243 PHYS 243	PHYS 231	PHYS 231	PHYS 231	PHYS 241 PHYS 53		See Appendix D	See Appendix D		PHYS 231	PHYS 231	PHYS 231	PHYS 231	PHYS 241 PHYS 241 PHYS 243 PHYS 241
Jackson College	PHY 251	PHY 251	PHY 251	PHY 231	PHY 251	PHY 251	PHY 251	PHY 221 PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	See Appendix D	See Appendix D		PHY 251	PHY 251	PHY 251	PHY 251	PHY 251
Kalamazoo Community College	PHYS 221	PHYS 221	PHYS 221	PHYS 111	PHYS 221	PHYS 221	PHYS 201 PHYS 221	PHYS 111 PHYS 221	PHYS 221	PHYS 221	PHYS 221	PHYS 201 PHYS 221	PHYS 221	PHYS 221	PHYS 221	PHYS 221	PHYS 201	PHYS 201	PHYS 221	PHYS 221	PHYS 221
Lake Michigan College	PHYS 201	PHYS 201	PHYS 201	PHYS 101	PHYS 201	PHYS 201	PHYS 201	PHYS 101 PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	phys 201	phys 201	PHYS 201	PHYS 201
Lansing Community College	PHYS 251	PHYS 251	PHYS 251	PHY 202 PHY 203 PHYS 221 PHYS 221	PHYS 251	PHYS 251	PHYS 221 PHYS 241 PHYS 215 PHYS 241	PHYS 221 PHYS 241 PHYS 241 PHYS 221	PHYS 241 PHYS 241 PHYS 241 PHYS 221	PHYS 251	PHYS 251	PHYS 241 PHYS 241 PHYS 241 PHYS 225	PHYS 241 PHYS 241 PHYS 241 PHY 201	PHYS 251	PHYS 251	PHYS 251	PHYS 251	PHYS 251	PHYS 251	PHYS 251	PHYS 251
Macomb Community College				PHY 111 PHY 116 PHYS 116 PHYS 1160 PHYS 1160			PHY 219 PHY 291 PHYS 2160 PHYS 2220	PHY 219 PHY 291 PHY 116 PHY 117 PHY 218 PHY 219	PHYS 2220 PHY 218 PHY 218 PHY 218 PHY 218	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220	PHYS 2220
Mid Michigan College	PHY 211	PHY 211	PHY 211	PHY 105	PHY 211	PHY 211	PHY 211	PHY 105 PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211	PHY 211
Monroe Community College	PHY 251	PHY 251	PHY 251	MEET 200 PHY 251	PHY 151	PHY 251	PHY 251	PHY 151 PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251
Muskegon Community College	PHYS 203JML	PHYS 203JML	PHYS 203JML	PHYS 201CL	PHYS 203	PHYS 203	PHYS 203	PHYS 201 PHYS 203 PHYS 203	PHYS 203	PHYS 203	PHYS 203	PHYS 203	PHYS 203	PHYS 203	PHYS 203JML	PHYS 203JML	PHYS 203	PHYS 203	PHYS 203	PHYS 203	PHYS 203
North Central Michigan College	PHY 230	PHY 230	PHY 230	PHY 210	PHY 230	PHY 230	PHY 210 PHY 212 PHY 212 PHY 230	PHY 210 PHY 212 PHY 212 PHY 230	PHY 230	PHY 230	PHY 230	PHY 230	PHY 230	See Appendix D	See Appendix D		PHY 230	PHY 230	PHY 230	PHY 230	WBL 297 PHA 251 PHA 252 CEM 111 CEM 111 CEM 211 PHY 230
Northwestern Michigan College		EGR 201 PHY 221 EGR 201 EGR 203	PHY 121 PHY 121 SMPS 131 SMPS 132 SMPS 123 SMPS 134		PHY 221	PHY 221	PHY 221 PHY 221 PHY 221 PHY 221 PHY 221	PHY 121 PHY 121 PHY 222 PHY 121 PHY 121L PHY 221	PHY 221 PHY 222 PHY 222 PHY 121 PHY 121L PHY 221	PHY 221	PHY 221	PHY 221	PHY 221			PHY 221 PHY 221L	PHY 221 PHY 221L	PHY 221 PHY 221L	PHY 221 PHY 221L	PHY 221 PHY 221L	PHY 221 PHY 221L
Oakland Community College	PHY 2400	PHY 2400	PHY 2400		PHY 2400	PHY 2400	PHY 2400	PHY 154 PHY 161 PHY 161A PHY 240 PHY 2400 PHY 2400 PHY 161A	PHY 154 PHY 161 PHY 161A PHY 240 PHY 2400 PHY 2400 PHY 161A	PHY 2400	PHY 2400	PHY 2400	PHY 154 PHY 240 PHY 2400	PHY 2400	PHY 2400	PHY 2400	PHY 2400	PHY 2400	PHY 2400	PHY 2400	PHY 2400
Schoolcraft College	PHYS 211	PHYS 211	PHYS 211	PHYS 181	PHYS 211	PHYS 211	PHYS 211	PHYS 181 PHYS 211 PHYS 211 PHYS 211 PHYS 181	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211	PHYS 211
Southwestern Michigan College	PHYS 201	PHYS 201	PHYS 201	PHYS 101	PHYS 201	PHYS 201	PHYS 201	PHYS 181 PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201	PHYS 201
St. Clair County Community College	PHY 221	PHY 221	PHY 221	PHY 121	PHY 221	PHY 221	PHY 221	PHY 121 PHY 221 PHY 121 PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 221	PHY 121 PHY 121 PHY 121 PHY 221	
Wayne County Community College District	PHY 265	PHY 265	PHY 265	PHY 235	PHY 265	PHY 265	PHY 265 PHY 265 PHY 265 PHY 265	PHY 235 PHY 265 PHY 265 PHY 265	PHY 265	PHY 265	PHY 265	PHY 265	PHY 265	See Appendix D	See Appendix D	PHY 265	PHY 265	PHY 265	PHY 265	PHY 265	PHY 265

MECHANICAL ENGINEERING MITtransfer Pathway Physics II (Calc-based, w/lab)	Central Michigan University	Central Michigan University	Eastern Michigan University	Ferris State University	Kalamazoo Technological University	Kalamazoo Technological University	Northern Michigan University	Oakland University	Oakland University	Saginaw Valley State University	Saginaw Valley State University	University of Michigan-Dearborn	University of Michigan-Triton	Andrews University	Andrews University	Kettering University	Kettering University	Lawrence Technological University	Lawrence Technological University	University of Detroit Mercy	University of Detroit Mercy
	PHY 146	PHY 176	PHY 224	PHYS 212	PH 1200	PH 2200	PHY 221	PHY 1110	PHY 1520	PHYS 212	PHYS 212L	PHYS 151	PHY 245	PHYS 242	PHYS 272	PHYS 224	PHYS 225	PHY 2423	PHY 2431	PHY 1620	PHY 1630
Community College <sup>1</sup>																					
Alpena Community College	PHY 222	PHY 222	PHY 222	PHY 122	PHY 122	PHY 222	PHY 222	PHY 122	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 202	PHY 202	PHY 222	PHY 222
Bay de Noc Community College	PHYS 206	PHYS 206	PHYS 206	PH 202	PHYS 206	PHYS 206	PH 202	PH 204	PHYS 202	PHYS 206	PHYS 206	PHYS 206	PH 204	PHYS 206	See Appendix D	See Appendix D	PH 206	PH 206	PHYS 206	PHYS 206	PHYS 206
Delta College	PHY 212	PHY 212	PHY 212	PHY 112	PHY 112	PHY 212	PHY 212	PHY 112	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHYS 288	PHYS 288L	PHY 212	PHY 212
Glen Oaks Community College	PHYS 253	PHYS 253	PHYS 253	NSP 154	PHYS 253	PHYS 253	PHYS 254	PHYS 253	PHYS 253	PHYS 253	PHYS 253	PHYS 252	NSP 254	See Appendix D	See Appendix D	PHYS 253	PHYS 253	PHYS 253	PHYS 254	PHYS 253	PHYS 254
Gogebic Community College	PHY 252	PHY 252	PHY 252	PHY 154	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	See Appendix D	See Appendix D	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252
Grand Rapids Community College	PH 246	PH 246	PH 246	PH 126	PH 126	PH 246	PH 246	PH 126	PH 246	PH 246	PH 246	PH 246	PH 246	See Appendix D	See Appendix D	PH 246	PH 246	PH 246	PH 246	PH 246	PH 246
Henry Ford College	PHYS 232	PHYS 232	PHYS 232	PHYS 132	PHYS 132	PHYS 232	PHYS 232	PHYS 241	PHYS 232	PHYS 232	PHYS 232	PHYS 243	PHYS 232	See Appendix D	See Appendix D	PHYS 232	PHYS 232	PHYS 232	PHYS 232	PHYS 232	PHYS 232
Jackson College	PHY 252	PHY 252	PHY 252	PHY 232	PHY 252	PHY 252	PHY 252	PHY 232	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	See Appendix D	See Appendix D	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252
Kellogg Community College	PHYS 222	PHYS 222	PHYS 222	PHYS 112	PHYS 112	PHYS 222	PHYS 222	PHYS 222	PHYS 222	PHYS 222	PHYS 222	PHYS 202	PHYS 222	See Appendix D	See Appendix D	PHYS 202	PHYS 202	PHYS 222	PHYS 222	PHYS 222	PHYS 222
Lake Michigan College	PHYS 202	PHYS 202	PHYS 202	PHYS 102	PHYS 202	PHYS 202	PHYS 202	PHYS 102	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	See Appendix D	See Appendix D	PHYS 202	PHYS 202	phys 202	phys 202	PHYS 202	PHYS 202
Lansing Community College	PHYS 252	PHYS 252	PHYS 252	PHY 201	PHYS 252	PHYS 252	PHYS 216	PHYS 222	PHYS 252	PHYS 252	PHYS 252	PHYS 216	PHYS 216	PHYS 252	PHYS 252	PHYS 252	PHYS 252	PHYS 252	PHYS 252	PHYS 252	PHYS 252
Macomb Community College	PHYS 2230	PHYS 2230	PHYS 2230	PHY 117	PHYS 1170	PHYS 2230	PHY 218	PHYS 2180	PHY 218	PHYS 2230	PHYS 218	PHY 219	PHYS 2190	See Appendix D	See Appendix D	PHYS 2230	PHYS 2230	PHYS 2230	PHYS 2230	PHYS 2230	PHYS 2230
Mid Michigan College	PHY 212	PHY 212	PHY 212	PHY 106	PHY 212	PHY 212	PHY 212	PHY 106	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	See Appendix D	See Appendix D	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212	PHY 212
Monroe County Community College	PHY 252	PHY 252	PHY 252	PHY 152	PHY 152	See Appendix D	PHY 252	PHY 152	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252
Muskegon Community College	PHYS 204L&L	PHYS 204L&L	PHYS 204L&L	PHYS 202	PHYS 202	PHYS 204L&L	PHYS 162	PHYS 204	PHYS 202	PHYS 204	PHYS 204	PHYS 204	PHYS 204	PHYS 204L&L	PHYS 204L&L	PHYS 204	PHYS 204	PHYS 204	PHYS 204L	PHYS 204	PHYS 204
North Central Michigan College	PHY 231	PHY 231	PHY 231	PHY 211	PHY 211	PHY 231	PHY 211	PHY 211	PHY 211	PHY 231	PHY 231	PHY 231	PHY 231	See Appendix D	See Appendix D	See Appendix D	See Appendix D	PHY 231	PHY 231	PHY 231	PHY 231
Northwestern Michigan College	PHY 222	PHY 222	PHY 222	PHY 122	PHY 122	PHY 222	PHY 222	PHY 222	PHY 221	PHY 222	PHY 222	PHY 222	PHY 222	See Appendix D	See Appendix D	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222L	PHY 222L
Oakland Community College	PHY 2500	PHY 2500	PHY 2500	PHY 162	PHY 2500	PHY 2500	PHY 2500	PHY 162	PHY 2500	PHY 2500	PHY 2500	PHY 2500	PHY 2500	See Appendix D	See Appendix D	PHY 2500	PHY 2500	PHY 2500	PHY 2500	PHY 2500	PHY 2500
Schoolcraft College	PHYS 212	PHYS 212	PHYS 212	PHYS 182	PHYS 182	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212	PHYS 212
Southwestern Michigan College	PHYS 202	PHYS 202	PHYS 202	PHYS 102	PHYS 102	PHYS 202	PHYS 202	PHYS 102	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202	PHYS 202
St. Clair County Community College	PHY 222	PHY 222	PHY 222	PHY 122	PHY 222	PHY 222	PHY 222	PHY 122	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222	PHY 222
Wayne County Community College District	PHY 275	PHY 275	PHY 275	PHY 240	PHY 241	PHY 275	PHY 275	PHY 275L	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275	PHY 275
1. Kalamazoo Valley Community College, Grand Rapids Community College, Kalamazoo College, Kalamazoo Community College, Kalamazoo College,																					

<b>MECHANICAL ENGINEERING MiTransfer Pathway Mechanics of Solids/Strengths of Materials</b>	Central Michigan University	Eastern Michigan University	Ferris State University	Michigan Technological University	Northern Michigan University	Oakland University	Saginaw Valley State University	University of Michigan- Dearborn	University of Michigan- Flint	Andrews University	Kettering University	Lawrence Technological University	University of Detroit Mercy
By Receiving Institution													
	EGR 255	ME 313	<b>NO COURSE</b>	MEEM 2150	MET 311	ME 3250	ME 250	ME 260	EGR 260	ENGR 340	MECH 212	EME 3013	ENGR 3260
<b>Community College<sup>1, 2</sup></b>													
Delta College	EGR 320	EGR 320	NO COURSE See Appendix D	EGR 320	EGR 320	EGR 320	EGR 320	EGR 320 EGR 215	EGR 320	EGR 320	EGR 320	EGR 320	EGR 320
Henry Ford College	ENGT 245	ENGR 235	NO COURSE See Appendix D	ENGR 235	ENGR 235	ENGR 235	ENGR 201	ENGR 232 ENGR 235 ENGR 232	ENGR 201	ENGR 235	ENGR 201 ENGR 235	ENGR 235	ENGR 235
Northwestern Michigan College	EGR 202	EGR 202	NO COURSE See Appendix D	EGR 202	EGR 202	EGR 202	EGR 202	EGR 201 EGR 202	EGR 202	EGR 202	EGR 202	EGR 202	EGR 202
Schoolcraft College	ENGR 202	ENGR 202	NO COURSE See Appendix D	ENGR 202	ENGR 202	ENGR 202	ENGR 202	ENGR 202 ENGR 201	ENGR 202	ENGR 202	ENGR 202	ENGR 202	ENGR 202
	1. Kalamazoo Valley Community College, Kirtland Community College, Montcalm Community College, Mott Community College, Washtenaw Community College, and West Shore Community College are not participating in the Mechanical Engineering Pathway.												
	2. Alpena Community College, Glen Oaks Community College, Gogebic Community College, Grand Rapids Community College, Jackson College, Kellogg Community College, Lake Michigan College, Lansing Community College, Macomb Community College, Mid Michigan College, Monroe County Community College, Muskegon Community College, North Central Michigan College, Oakland Community College, Southwestern Michigan College, St. Clair County Community College, and Wayne County Community College District, are participating in the Mechanical Engineering Pathway, but do not offer a Solids/Strengths of Materials course.												



**APPENDIX D:**  
**MiTransfer Mechanical Engineering Pathway Course Equivalency Exceptions**

Find Excel versions of Appendix D at [www.mittransfer.org](http://www.mittransfer.org).

# MECHANICAL ENGINEERING

Course	College/ University	Community College	Explanation
Calculus II	ANDREWS UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	Course does not cover Infinite Series
Calculus III	ANDREWS UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Calculus III	ANDREWS UNIVERSITY	MUSKEGON COMMUNITY COLLEGE	Cannot confirm the course covers Green's, Stoke's, divergence theorems
Calculus III	ANDREWS UNIVERSITY	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	Cannot confirm the course covers Green's, Stoke's theorems
Calculus III	KETTERING UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Calculus III	KETTERING UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Calculus III	N/A	GLEN OAKS COMMUNITY COLLEGE	No Course
Calculus III	UNIVERSITY OF MICHIGAN-FLINT	HENRY FORD COLLEGE	Topics missing that are covered in MTH 222 includes all regular Mutivariable Calculus plus the entire chapter in Vector Calculus
Calculus III	UNIVERSITY OF MICHIGAN-FLINT	JACKSON COLLEGE	Topics missing that are covered in MTH 222 includes all regular Mutivariable Calculus plus the entire chapter in Vector Calculus
Calculus III	UNIVERSITY OF MICHIGAN-FLINT	MID MICHIGAN COLLEGE	Topics missing that are covered in MTH 222 includes all regular Mutivariable Calculus plus the entire chapter in Vector Calculus
Calculus III	UNIVERSITY OF MICHIGAN-FLINT	MUSKEGON COMMUNITY COLLEGE	Topics missing that are covered in MTH 222 includes all regular Mutivariable Calculus plus the entire chapter in Vector Calculus
Calculus III	UNIVERSITY OF MICHIGAN-FLINT	SOUTHWESTERN MICHIGAN COLLEGE	Topics missing that are covered in MTH 222 includes all regular Mutivariable Calculus plus the entire chapter in Vector Calculus
Differential Equations	ANDREWS UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Differential Equations	KETTERING UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Differential Equations	N/A	GLEN OAKS COMMUNITY COLLEGE	No Course

Differential Equations	N/A	GOGEBIC COMMUNITY COLLEGE	No Course
Differential Equations	N/A	MID MICHIGAN COLLEGE	No Course
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	ALPENA COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	BAY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	DELTA COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	GOGEBIC COMMUNITY COLLEGE	No equivalency to Gogebic's MTH 220. An out of print textbook is used; in the course description they mention Laplace Transforms, but in the course schedule they do not cover chapters 10 and 11 from the book that is covered at UM-F.
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	GRAND RAPIDS COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	HENRY FORD COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	JACKSON COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303



			including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	MACOMB COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	MONROE COUNTY COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	NORTH CENTRAL MICHIGAN COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	OAKLAND COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	SCHOOLCRAFT COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	ST. CLAIR COUNTY COMMUNITY COLLEGE	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants,

			gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Differential Equations	UNIVERSITY OF MICHIGAN-FLINT	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	Their content lacks the intense Linear Algebra components that are covered in UM-F's MTH 303 including linear independence and dependence, matrix operations, invertibility, determinants, gaussian elimination, eigen values/vector, using the eigenvalue method to solve/analyze linear systems od ODEs, linearization of non-linear systems, stability of autonomous 2X2 systems
Dynamics	ANDREWS UNIVERSITY	BAY COLLEGE	Not adequate, no vibration or 3D being covered
Dynamics	ANDREWS UNIVERSITY	KELLOGG COMMUNITY COLLEGE	Not adequate, no 3D, chapters don't correlate to the book
Dynamics	ANDREWS UNIVERSITY	SCHOOLCRAFT COLLEGE	No 3D and no vibrations covered
Dynamics	FERRIS STATE UNIVERSITY	KELLOGG COMMUNITY COLLEGE	Parts of the syllabus do not align with the text being used; Kinematics topic is covered in a different course at FSU; Vibrations topic lacks detail
Dynamics	KETTERING UNIVERSITY	BAY COLLEGE	Limited coverage of planar rigid Kinematics and Kinetics
Dynamics	N/A	ALPENA COMMUNITY COLLEGE	No Course
Dynamics	N/A	GLEN OAKS COMMUNITY COLLEGE	No Course
Dynamics	N/A	GOGEBIC COMMUNITY COLLEGE	No Course
Dynamics	N/A	GRAND RAPIDS COMMUNITY COLLEGE	No Course
Dynamics	N/A	JACKSON COLLEGE	No Course
Dynamics	N/A	LAKE MICHIGAN COLLEGE	No Course
Dynamics	N/A	LANSING COMMUNITY COLLEGE	No Course
Dynamics	N/A	MACOMB COMMUNITY COLLEGE	No Course
Dynamics	N/A	MID MICHIGAN COLLEGE	No Course
Dynamics	N/A	MONROE COUNTY COMMUNITY COLLEGE	No Course

Dynamics	N/A	NORTH CENTRAL MICHIGAN COLLEGE	No Course
Dynamics	N/A	OAKLAND COMMUNITY COLLEGE	No Course
Dynamics	N/A	SOUTHWESTERN MICHIGAN COLLEGE	No Course
Dynamics	N/A	ST. CLAIR COUNTY COMMUNITY COLLEGE	No Course
Dynamics	N/A	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	No Course
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	BAY COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	DELTA COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	HENRY FORD COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	KELLOGG COMMUNITY COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	MUSKEGON COMMUNITY COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	NORTHWESTERN MICHIGAN COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Dynamics	UNIVERSITY OF MICHIGAN-DEARBORN	SCHOOLCRAFT COLLEGE	Junior/Senior class that requires advance standing; course will apply to general elective credit.
Physics I	ANDREWS UNIVERSITY	HENRY FORD COLLEGE	Course did not include waves or thermal
Physics I	ANDREWS UNIVERSITY	JACKSON COLLEGE	Course did not include thermal; used algebra-based text
Physics I	ANDREWS UNIVERSITY	NORTH CENTRAL MICHIGAN COLLEGE	Course did not include waves or thermal
Physics I	ANDREWS UNIVERSITY	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	Course is algebra-based
Physics II	ANDREWS UNIVERSITY	BAY COLLEGE	Modern Physics topics not covered (basic levels of atomic, quantum physics, relativity)
Physics II	ANDREWS UNIVERSITY	GLEN OAKS COMMUNITY COLLEGE	Modern Physics topics not covered (basic levels of atomic, quantum physics, relativity)

Physics II	ANDREWS UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	Only E&M, limited topics
Physics II	ANDREWS UNIVERSITY	GRAND RAPIDS COMMUNITY COLLEGE	No Modern Physics
Physics II	ANDREWS UNIVERSITY	HENRY FORD COLLEGE	No Modern Physics
Physics II	ANDREWS UNIVERSITY	JACKSON COLLEGE	Algebra based Physics Text
Physics II	ANDREWS UNIVERSITY	KELLOGG COMMUNITY COLLEGE	Only Bohr for Modern
Physics II	ANDREWS UNIVERSITY	LAKE MICHIGAN COLLEGE	Too limited in Modern Physics
Physics II	ANDREWS UNIVERSITY	MACOMB COMMUNITY COLLEGE	Only E&M and Optics
Physics II	ANDREWS UNIVERSITY	MID MICHIGAN COLLEGE	Only E&M
Physics II	ANDREWS UNIVERSITY	NORTH CENTRAL MICHIGAN COLLEGE	No Physical Optics, Algebra based text
Physics II	ANDREWS UNIVERSITY	NORTHWESTERN MICHIGAN COLLEGE	No Modern Physics
Physics II	ANDREWS UNIVERSITY	OAKLAND COMMUNITY COLLEGE	Only E&M and waves. Good for electronics but not for foundational course
Physics II	KETTERING UNIVERSITY	NORTH CENTRAL MICHIGAN COLLEGE	Course is not calculus-based
Physics II	MICHIGAN TECHNOLOGICAL UNIVERSITY	MONROE COUNTY COMMUNITY COLLEGE	Approved for PH 1200 (lab); unable to approve for PH 2200 (lecture) because content is only a 50% match.
Solids/Strengths	FERRIS STATE UNIVERSITY	DELTA COLLEGE	No Course
Solids/Strengths	FERRIS STATE UNIVERSITY	HENRY FORD COLLEGE	No Course
Solids/Strengths	FERRIS STATE UNIVERSITY	NORTHWESTERN MICHIGAN COLLEGE	No Course
Solids/Strengths	FERRIS STATE UNIVERSITY	SCHOOLCRAFT COLLEGE	No Course
Solids/Strengths	N/A	ALPENA COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	BAY COLLEGE	No Course
Solids/Strengths	N/A	GLEN OAKS COMMUNITY COLLEGE	No Course

Solids/Strengths	N/A	GOGEBIC COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	GRAND RAPIDS COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	JACKSON COLLEGE	No Course
Solids/Strengths	N/A	KELLOGG COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	LAKE MICHIGAN COLLEGE	No Course
Solids/Strengths	N/A	LANSING COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	MACOMB COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	MID MICHIGAN COLLEGE	No Course
Solids/Strengths	N/A	MONROE COUNTY COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	MUSKEGON COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	NORTH CENTRAL MICHIGAN COLLEGE	No Course
Solids/Strengths	N/A	OAKLAND COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	SOUTHWESTERN MICHIGAN COLLEGE	No Course
Solids/Strengths	N/A	ST. CLAIR COUNTY COMMUNITY COLLEGE	No Course
Solids/Strengths	N/A	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	No Course
Statics	ANDREWS UNIVERSITY	MONROE COUNTY COMMUNITY COLLEGE	Not enough Statics covered
Statics	KETTERING UNIVERSITY	GOGEBIC COMMUNITY COLLEGE	No syllabus provided; will be reviewed for the Nov. 1 signing deadline
Statics	KETTERING UNIVERSITY	MONROE COUNTY COMMUNITY COLLEGE	Course blends statics and solids; not enough course time dedicated to statics

Statics	MICHIGAN TECHNOLOGICAL UNIVERSITY	MONROE COUNTY COMMUNITY COLLEGE	We require 3 credits of Statics. This is a combined Statics and Strength of Materials course. It is equivalent to our ENG 2120, Statics-Strength of Material.
Statics	N/A	GLEN OAKS COMMUNITY COLLEGE	No Course
Statics	N/A	GOGEBIC COMMUNITY COLLEGE	No Course
Statics	N/A	GRAND RAPIDS COMMUNITY COLLEGE	No Course
Statics	N/A	JACKSON COLLEGE	No Course
Statics	N/A	LAKE MICHIGAN COLLEGE	No Course
Statics	N/A	MACOMB COMMUNITY COLLEGE	No Course
Statics	N/A	MID MICHIGAN COLLEGE	No Course
Statics	N/A	NORTH CENTRAL MICHIGAN COLLEGE	No Course
Statics	N/A	OAKLAND COMMUNITY COLLEGE	No Course
Statics	N/A	SOUTHWESTERN MICHIGAN COLLEGE	No Course
Statics	N/A	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	No Course
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	ALPENA COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	BAY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	GOGEBIC COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit.
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	KELLOGG COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	LANSING COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	MONROE COUNTY COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit

Statics	UNIVERSITY OF MICHIGAN-DEARBORN	MUSKEGON COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit
Statics	UNIVERSITY OF MICHIGAN-DEARBORN	ST. CLAIR COUNTY COMMUNITY COLLEGE	UM-D course is a combined Solids/Strengths and Statics course; Statics course will be accepted as general elective credit