ARTICULATION AGREEMENT with GUARANTEED ADMISSION

between

MILWAUKEE AREA TECHNICAL COLLEGE
Associate of Science

and

MILWAUKEE SCHOOL OF ENGINEERING®
Bachelor of Science Programs

Effective Fall 2026

This articulation agreement aims to enhance transfer opportunities for Milwaukee Area Technical College (MATC) students seeking to continue their education at Milwaukee School of Engineering (MSOE). Through collaboration among faculty, student services, and administration, students will have well-defined course equivalencies to help them achieve their academic goals.

Students who successfully complete the Associate of Science (AS) degree at MATC and who meet the admission requirements of Milwaukee School of Engineering and other conditions specified in this agreement will be guaranteed admission into one of the following MSOE bachelor's degree programs, as specified in the applicable program addendum:

Bachelor of Science in Biomedical Engineering
Bachelor of Science in Computer Science
Bachelor of Science in Cybersecurity Systems
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Software Engineering

Program-specific course equivalency requirements are detailed in the addenda attached to this agreement. Students must satisfy the requirements for their intended program of study.

PROVISIONS OF THIS AGREEMENT:

1. **Admissions & Eligibility:**

   It is the student's responsibility to meet the current admission requirements of MSOE at the time of entry. Information on transfer admissions requirements may be found at *https://www.msoe.edu/transfer*

   The terms of this agreement apply to Milwaukee Area Technical College (MATC) students who:

   a) Complete all course requirements in the Associate of Science program at MATC with a grade of C or better (not C-),
   b) Complete all additional specified courses at MATC, as outlined in the applicable program addendum, with a grade of C or better (not C-), and
   c) Achieve a cumulative grade point average (CGPA) of 3.00 or higher, meeting MSOE's CGPA transfer admission requirements for computing and engineering programs.

   MATC students who meet all transfer requirements will be guaranteed admission into their intended MSOE program and must fulfill the catalog requirements in effect for the year they begin.

2. **Advising & Recruitment**

   MSOE and MATC will provide academic advising to MATC students inquiring about MSOE programs. Students will be connected with transfer admission counselors and as needed, with program faculty prior to transfer. MSOE and MATC will share materials, catalogs, and other information to facilitate their understanding of requirements and programs. MATC will assist MSOE personnel in arranging recruitment events on its campuses, such as appropriate classroom settings and transfer fairs.

3. **Marketing**

   Each institution must obtain written approval before using the other's name in any promotional or marketing materials related to this agreement. All materials must specify that the transfer is to the specific engineering program at MSOE. Designated contacts in each institution's marketing departments will coordinate and approve these materials. Each institution may link to this agreement and the other's website with prior notice. Guidelines for using MSOE's name and logo are provided in this agreement.

4. **Accreditation**

   MATC and MSOE will work together to assess student learning outcomes as needed, supporting the effectiveness of this articulation agreement and providing documentation for program accreditation. MSOE may request samples of assessment materials, such as graded assignments and exams, with student names removed to protect privacy. These materials cannot be shared with anyone outside of the program faculty, administrators involved in the articulation courses, and accreditation agency visitors without written permission from the other institution.

   This agreement may be terminated by either MATC or MSOE if either fails to maintain regional accreditation or if the MSOE engineering program accreditation is discontinued or terminated.

5. **Periodic Review**

   An active articulation agreement begins at the commencement of the fall 2026 semester and will remain in effect through fall 2031, at which point it will be subject to renewal. Given the evolving nature of engineering curricula, MSOE and MATC will conduct an annual review of engineering course equivalencies to ensure continued alignment with program requirements. Any curriculum changes impacting the articulation pathway will not take effect during an active academic year unless both the MSOE Program Director and the designated representative at MATC provide explicit consent, or if changes are required by accreditation or institutional mandates. Minor revisions (such as course renumbering) are permitted but must be communicated to the other institution promptly.

6. Data Sharing

MSOE will provide MATC with aggregated transfer student data annually in June. This data will support ongoing collaboration and assessment of transfer student success between institutions. The data will include:

a) The number of students admitted, enrolled, and/or graduated from MSOE with MATC credits in the prior year.
b) The number of MATC credits accepted and any designated associate degrees earned prior to admission.
c) The average time to bachelor's degree completion for MATC transfer students, including time from initial enrollment at MSOE, if applicable.
d) The average GPA of MATC transfer students compared to the average GPA of non-MATC transfer students.

7. Cancellation

Both parties agree to give a minimum of one hundred eighty (180) days' written notice in advance if they intend to cancel this agreement. MATC students who apply to MSOE before the cancellation date will still be allowed to transfer credits according to the terms of this agreement.

8. Course Guides

MSOE and MATC have collaborated to create guides to serve as a resource for students, with every effort made to ensure the information is accurate.

9. Transfer Scholarships

MSOE is committed to supporting transfer students and offers a substantial merit-based scholarship. This scholarship is awarded based on cumulative GPA and is available to eligible students transferring from MATC. Transfer students are automatically considered for this scholarship upon admission, with no separate application required.

The transfer scholarship is renewable each year for students who continue to meet MSOE's Satisfactory Academic Progress requirements, provided they remain enrolled full-time (up to a maximum of six years). For the most up-to-date information on scholarship opportunities and eligibility criteria, students are encouraged to visit our scholarship webpage or contact the MSOE Financial Aid Office.

INSTITUTION-SPECIFIC INFORMATION

For more information about Milwaukee Area Technical College (MATC) and the Associate of Science Degree:

Administrative person(s) responsible for coordinating curricular matters and articulation agreements and renewals:

Dr. Pablo Muirhead Montesinos
Spanish Faculty and Chair of Associate of Arts & Sciences
414-297-6412
muirheap@matc.edu

Person(s) designated for coordination and signoff of public relations/marketing and other promotional materials:

Sarah Eslyn
Executive Director, Marketing and Communications (for sign off)
414-398-7739
eslyns@matc.edu

Darryll Fortune
Director, Content & Public Relations
414-297-6770
fortundl@matc.edu

For more information about Milwaukee School of Engineering (MSOE):

Administrative person(s) responsible for coordinating curricular matters and articulation agreements and renewals:

Dr. Kelsey Johnson
Director of Academic Partnerships
414-277-7194
Johnsonkd@msoe.edu

Person(s) designated for coordination and signoff of public relations/marketing and other promotional materials:

Sebastian Thachenkary (for sign-off)
Vice-President Marketing & Community Engagement
414-277-7141
thachenkary@msoe.edu

JoEllen Burdue
Senior Director of Communications & Media Relations
414-277-7117
burdue@msoe.edu

GUIDELINES FOR USE OF THE MILWAUKEE SCHOOL OF ENGINEERING® NAME AND/OR LOGO

In an effort to meet standards set by our accreditation agencies, to minimize any confusion on the part of prospective or current students, and to protect the use of MSOE's name and logo, it is imperative that use of or reference to our name or programs be limited to those deemed appropriate by MSOE. As specified in the articulation agreement, MSOE's Vice President of Marketing and Community Engagement or his/her designee will approve any and all narrative and graphic representation containing MSOE's name, logo or reference to our programs before it is published or distributed in any way.

To expedite the process of developing content for use in promotional literature or digital platforms, the following minimum guidelines should be followed. Noncompliance will result in disapproval.

Our preferred reference is MSOE, however, for clarity purposes it is sometimes appropriate to use Milwaukee School of Engineering (MSOE), then use MSOE in later references of the same communication. Furthermore, MSOE will be referred to as a university. In no instance shall MSOE be referred to as a college or school. Although MSOE refers to itself as a university and the word is present in the logo, the word "university" is not part of its name.

The official MSOE logo appears as below and should be used on all materials and on all digital platforms unless it would be so small that "UNIVERSITY" would be illegible. If that is the case, contact MSOE's Marketing Communications Department for an alternative solution.

In materials where color is used, MSOE's logo will always be red and black. MSOE red is PMS 200. This can be created in CMYK by using the formula C-3, M-100, Y70, K-12. For screens, RGB is used which is R-197, G-5, B-12. Finally, for the web the HEX code is #C5050C.

Official logos:



When possible the two-color logo should be used. For materials with a dark background there is a "reversed" version of this two-color logo. For black and white materials, the black logo should be used. If the background is dark, there is a "reversed" version of the black logo as well. Finally, for materials with a red background there is a special version of the logo in white. Reach out to MSOE's Marketing Communications to request any of these options.

The name Milwaukee School of Engineering®, the acronym MSOE® and the MSOE logo are all registered trademarks. The first time the name or acronym appear in any document they must have the ® mark. It is not necessary to include the ® mark with subsequent mentions in the same document or page. The logos have the ® mark embedded.

Given the need to provide clarity as to the limitations of the articulation agreement and avoid potential misunderstandings, any use of the MSOE logo in related marketing communications in print or digital form (brochures, catalogs, Web pages, blogs, letters, e-mail, social media, posters, etc.) must comply with the MSOE Brand standards and be reviewed and approved by MSOE. Visit *https://www.msoe.edu/faculty- staff/marketing* to obtain the brand standards.

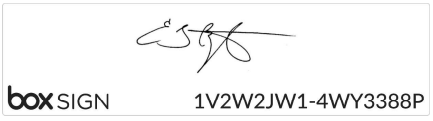
Contact the Vice President of Marketing & Community Engagement or Senior Director of Communications & Media Relations indicated on the Institution-Specific Information section in this articulation agreement with any questions you may have and for needed approvals.

SIGNATORIES

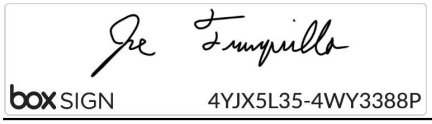
Sep 9, 2026

This agreement signed and dated this ____day of _____, 20___, has been thoroughly reviewed and approved by both institutions. The agreement is in effect for the 2026–2027 academic year.

Milwaukee School of Engineering



Dr. Eric T. Baumgartner
President



Dr. Joseph Tranquillo
Executive Vice President of Academics

Milwaukee Area Technical College



Dr. Anthony Cruz
President



Dr. Sadique Isahaku
Vice Provost for Learning

Addendum A: Biomedical Engineering (BSBME)

Satisfaction of the following MATC courses is assumed upon entry into the Biomedical Engineering program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
ART-201 (suggested)	Understanding Art - See appendix for more options	HUM 0104 Diversity CLO
SOCSCI-200 (suggested)	Introduction to Ethical Issues See appendix for more options	HUM 0103 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Curiosity CLO
General Education Elective	Many Options See appendix for options	Many Options Choice CLO
FLANG-202 (suggested)	Spanish 1 See appendix for more options	SPN 1001 Free Elective
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
PHYS-274	Calculus-Based Physics 1	PHY 1110
BIOSCI-257	Biology I	BIO 1110
CHEM-211	Chemistry 1	CHM 1010
Biomedical Engineering Courses		
INET-154	Scripting for Network Administrators	CSC 1310
MATH-232	Analytic Geometry & Calculus 2	MTH 1120
PHYS-275	Calculus-Based Physics 2	PHY 1120
BIOSCI-210 AND BIOSCI-202	Anatomy & Physiology 1 Anatomy & Physiology 2	BIO 2510 AND BIO 2520

Addendum A: Biomedical Engineering (BSBME)

Courses remaining in the Biomedical Engineering program (BSBME) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2140	Differential Equations	3
MTH 2480	Probability & Statistics	3
BSSE Program		
BME 1010	Introduction to Biomedical Engineering	2
BME 2310	Embedded Systems for Biomedical Engineers	3
ELE 2001	Electric Circuits I	4
ELE 2011	Electric Circuits II	4
IDS 2020	Career Development	0
MEC 2010	Engineering Mechanics: Statics	3
BME 3510	Biotransport Phenomena	4
BME 3710	Biomedical Instrumentation I	3
ELE 3300	Signals & Systems	3
BME 3010	Medical Device Regulation & Standards	3
BME 3310	Sensors, Actuators, & Interfaces	3
BME 3410	Biomechanics	4
ELE 3320	Digital Signal Processing	3
BME 3610	Biomaterials	3
BME 4210	Medical Imaging Systems	3
BME 4710	Biomedical Instrumentation II	3
BME 4901	Biomedical Senior Design I	3
BME 4902	Biomedical Senior Design II	3
BME 4110	Control Systems for Biomedical Applications	4
Elective	Technical	3
Elective	Technical	3
Total		70

Addendum B: Computer Science (BSCS)

Satisfaction of the following MATC courses is assumed upon entry into the Computer Science program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
ART-201 (suggested)	Understanding Art - See appendix for more options	HUM 0104 Diversity CLO
SOCSCI-200 (suggested)	Introduction to Ethical Issues See appendix for more options	HUM 0103 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Curiosity CLO
General Education Elective	Many Options See appendix for options	Many Options Choice CLO
FLANG-202 (suggested)	Spanish 1 See appendix for more options	SPN 1001 Free Elective
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
PHYS-274	Calculus-Based Physics 1	PHY 1110
CHEM-211	Chemistry 1	CHM 1010
CHEM-212 (suggested)	Chemistry 2 See appendix for more options	CHM 1020 Natural Science Elective
Computer Science Courses		
ITDEV-110 AND ITDEV-140	Introduction to Object-Oriented Prog. Programming with Java	CSC 1010
MATH-232	Analytic Geometry & Calculus 2	MTH 1120
Computer Science Free Elective – Choose 1		
ITDEV-117	Logic & Problem Solving	CSC 2980 (Free Elective)
CSG-114	Introduction to Game Dev./Programming	CSC 2980 (Free Elective)

Addendum B: Computer Science (BSCS)

Courses remaining in the Computer Science program (BSCS) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2310	Discrete Mathematics	3
MTH 2810	Linear Algebra and Optimization	4
MTH 2480	Probability & Statistics	3
BSCS Program		
IDS 2020	Career Development	0
CSC 1020	Data Structures and Graphical Interfaces	5
CSC 2623	Exploring Data	3
CYB 2001	Introduction to Cybersecurity Principles	3
SWE 2712	Software Tools and Processes	3
CSC 3601	Foundations of Machine Learning	3
CSC 2212	Procedural and Object-Oriented C++	4
CSC 3320	Databases	3
CSC 4603	Applied Deep Learning	3
CSC 3621	Data Science	3
CSC 3210	Operating Systems	3
SWE 2512	Web Applications and Networking	4
CSC 3310	Algorithms and Advanced Data Structures	3
CSC 4611	Introduction to Deep Learning	3
CSC 4801	Data Science Practicum	3
CSC 4901	Capstone I	3
CSC 4902	Capstone II	3
BUS 2411	Building Inclusive Teams	3
Elective	CS Upper-Level Tech. Elective	3
Elective	CS Upper-Level Tech. Elective	3
Total		**71**

Addendum C: Cybersecurity Systems (BSCYB)

Satisfaction of the following MATC courses is assumed upon entry into the Cybersecurity Systems program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
SOCSCI-200 (suggested)	Introduction to Ethical Issues See appendix for more options	HUM 0103 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Business Elective
MUSIC-205 (suggested)	Music Appreciation See appendix for more options	HST 2053 Curiosity CLO
General Education Elective	Many Options See appendix for options	Many Options Choice CLO
FLANG-202 (suggested)	Spanish 1 See appendix for more options	SPN 1001 Free Elective
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
CHEM-211	Chemistry 1	CHM 1010
CHEM-212	Chemistry 2	CHM 1020
PHYS-274	Calculus-Based Physics I	PHY 1110
Cybersecurity Systems Courses		
MATH-189	Introductory Statistics	MTH 1410
ITDEV-110 AND ITDEV-140	Introduction to Object-Oriented Prog. Programming with Java	CSC 1010
Cybersecurity Systems Program Lower-Level Technical (Choose 1)		
ITSEC-126	Computer Forensics	Program Lower-Level Technical
ITSEC-136	Unix/Linux Administration & Security	Program Lower-Level Technical

Addendum C: Cybersecurity Systems (BSCYB)

Courses remaining in the Cybersecurity Systems program (BSCYB) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2310	Discrete Mathematics	3
BSCYB Program		
CSC 1020	Data Structures & Graphical Interfaces	5
IDS 2020	Career Development	0
UXD 1001	Human-Centered Design	3
BUS 1850	Information & Operations Technology	3
CYB 2001	Introduction to Cybersecurity Principles	3
SWE 2512	Web Applications & Networking	4
SWE 2712	Software Tools and Process	3
CSC 2623	Exploring Data	3
CSC 2212	Procedural & Object-Oriented C++	4
CYB 2311	Introduction to Applied Cryptography	3
SWE 2410	Software Design	3
CSC 3210	Operating Systems	3
CYB 4540	Network Security Tools & Practices	3
SWE 2721	Introduction to Software Verification	3
CYB 3551	Digital Forensics	3
SOC 3001	Cybercrime: Human Perspectives	3
SWE 4511	DevSecOps	4
CYB 4721	Applied Penetration Testing	3
CYB 4901	Cybersecurity Systems Capstone I	3
CYB 4911	Cybersecurity Micro-Practicum	1
Elective	Program Upper-Level	3
CYB 4551	Software Reverse Engineering	3
CYB 4902	Cybersecurity Systems Capstone II	3
Total		72

Addendum D: Electrical Engineering (BSEE)

Satisfaction of the following MATC courses is assumed upon entry into the Electrical Engineering program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
ART-201 (suggested)	Understanding Art - See appendix for more options	HUM 0104 Diversity CLO
SOCSCI-200 (suggested)	Introduction to Ethical Issues See appendix for more options	HUM 0103 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Curiosity CLO
General Education Elective	Many Options See appendix for options	Many Options Choice CLO
FLANG-202 (suggested)	Spanish 1 See appendix for more options	SPN 1001 Free Elective
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
PHYS-274	Calculus-Based Physics 1	PHY 1110
PHYS-275	Calculus-Based Physics 2	PHY 1120
CHEM-211	Chemistry 1	CHM 1010
Electrical Engineering Courses		
MATH-232	Analytic Geometry & Calculus 2	MTH 1120
ELECTEC-110	DC/AC Electronics I	ELE 1000
ELECTEC-110 **AND** ELECTEC-111 **AND** ELECTEC-105	DC/AC Electronics I **AND** DC/AC Electronics II **AND** Advanced Circuits	ELE 2001

Addendum D: Electrical Engineering (BSEE)

Courses remaining in the Electrical Engineering program (BSEE) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2140	Differential Equations	3
MTH 2130	Calculus III	4
PHY 3700	Physics of Electronic Materials	4
BSEE Program		
CPE 1500	Digital Logic	4
IDS 2020	Career Development	0
ELE 1601	Introduction to Programming for EEs	3
ELE 2610	Embedded Systems	4
ELE 2011	Electric Circuits II: Theory & Applications	4
ELE 3510	Digital Systems	4
ELE 3101	Electronics I	4
ELE 3300	Signals & Systems	3
ELE 3401	Electric Power & Machines	4
ELE 3111	Electronics II	3
ELE 3201	Electromagnetics & Transmission Lines	4
ELE 3310	Introduction to Probability & Random Processes	3
ELE 3320	Digital Signal Processing	3
ELE 3900	Career & Professional Guidance	1
ELE 3701	Control Systems	4
ELE 4901	EE Senior Design Project I	3
ELE 4902	EE Senior Design Project II	3
Elective	ECBE or DSAC Technical	3
Elective	ECBE or DSAC Technical	3
Elective	EE Technical	3
Total		74

Addendum E: Mechanical Engineering (BSME)

Satisfaction of the following MATC courses is assumed upon entry into the Mechanical Engineering program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
ART-201 (suggested)	Understanding Art - See appendix for more options	HUM 0104 Diversity CLO
SOCSCI-149 (suggested)	Ethics for the Professions See appendix for more options	PHL 3101 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Curiosity CLO
General Education Elective Choice CLO	Many Options See appendix for options	Many Options Choice CLO
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
PHYS-274	Calculus-Based Physics 1	PHY 1110
PHYS-275	Calculus-Based Physics 2	PHY 1120
CHEM-211	Chemistry 1	CHM 1010
Mechanical Engineering Courses		
MCDESG-125 AND MCDESG-135	Design Problems PTC Creo	MEC 1602
MATH-232	Analytic Geometry & Calculus 2	MTH 1120
MATH-233	Analytic Geometry & Calculus 3	MTH 2130
MATRLS-102 AND MATRLS-151	Material Testing Metallurgy & Material Science	MEC 3210

Addendum E: Mechanical Engineering (BSME)

Courses remaining in the Mechanical Engineering program (BSME) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2140	Differential Equations	3
MTH 2480	Probability & Statistics	3
BSME Program		
MEC 1900	Introduction to ME	1
MEC 1910	Computer Applications in Engineering	3
MEC 2010	Engineering Mechanics I: Statics	3
MEC 2020	Engineering Mechanics II: Dynamics	3
MEC 2030	Mechanics of Materials	4
MEC 2110	Thermodynamics	3
MEC 3040 **OR** MEC 3140	Computer-Aided Design **OR** Thermodynamics II	3
MEC 3120	Fluid Mechanics	3
MEC 3310	Instrumentation & Measurements	3
MEC 3060	Design of Machine Components	3
MEC 3130	Heat Transfer	3
MEC 3220	Materials & Manufacturing Processes	4
MEC 3320	Dynamic Systems	3
MEC 4060 **OR** MEC 4160	Finite Element Analysis **OR** Computational Fluid Dynamics	3
MEC 4310	Automatic Control Systems	3
MEC 4810	Thermo-Fluid Systems Lab	3
MEC 4901	ME Capstone Design I	3
MEC 4902	ME Capstone Design II	3
IND 3510	Fundamentals of Enterprise Operations	3
ELE 2051	Circuit Theory for Mechanical Engineers	3
Elective	ME Technical	3
Elective	ME Technical	3
Elective	ME Technical	3
Total		**75**

Addendum F: Software Engineering (BSSE)

Satisfaction of the following MATC courses is assumed upon entry into the Software Engineering program at MSOE. Any course requirement that is not met must be satisfied at MSOE or with approved transfer credit.

MATC Course Number	MATC Course Name	Equivalent MSOE Course Number
Communication & General Education		
ENG-201	English 1	COM 1001
ENG-208	Technical Communications	COM 2001
SPEECH-201	Elements of Speech	COM 3001
ART-201 (suggested)	Understanding Art - See appendix for more options	HUM 0104 Diversity CLO
SOCSCI-200 (suggested)	Introduction to Ethical Issues See appendix for more options	HUM 0103 Ethics CLO
ECON-195 (suggested)	Economics See appendix for more options	BUS 2222 Curiosity CLO
General Education Elective	Many Options See appendix for options	Many Options Choice CLO
Mathematics & Natural Science		
MATH-231	Analytic Geometry & Calculus 1	MTH 1110
PHYS-274	Calculus-Based Physics 1	PHY 1110
CHEM-211	Chemistry 1	CHM 1010
CHEM-212	Chemistry 2	CHM 1020
Software Engineering Courses		
MATH-232	Analytic Geometry & Calculus 2	MTH 1120
ITDEV-110 AND ITDEV-140	Introduction to Object-Oriented Prog. Programming with Java	CSC 1010
Software Engineering Electives		
CSG-114	Introduction to Game Dev./Programming	CSC 2980 (lower-level tech. elective)
ITDEV-164 ITNET-101	Web Programming 2 Network Communications	SWE 2512

Addendum F: Software Engineering (BSSE)

Courses remaining in the Software Engineering program (BSSE) at MSOE, assuming successful completion of all courses listed on the preceding page.

MSOE Course Number	MSOE Course Name	Semester Credits
Mathematics & Natural Science		
MTH 2310	Discrete Mathematics	3
MTH 2480	Probability & Statistics	3
MTH 2810	Linear Algebra and Optimization	4
BSSE Program		
IDS 2020	Career Development	0
CSC 1020	Data Structures and Graphical Interfaces	5
SWE 2712	Software Tools and Process	3
SWE 2410	Software Design	3
SWE 2721	Introduction to Software Verification	3
SWE 3411	Software Requirements and Architecture	4
SWE 3710	Software Development Lab I	3
SWE 3720	Software Development Lab II	3
SWE 4511	DevSecOps	4
CYB 2001	Introduction to Cybersecurity Principles	3
SWE 4901	Software Engineering Capstone I	3
SWE 4902	Software Engineering Capstone II	3
CSC 2212	Procedural & Object-Oriented C++	4
CSC 3310	Algorithms and Advanced Data Structures	3
CSC 3320	Databases	3
CSC 3210	Operating Systems	3
UXD 1001	Human-Centered Design	3
BUS 2411	Building Inclusive Teams	3
Elective	Program-Upper Technical	3
Total		69

APPENDIX: GENERAL EDUCATION HUMANITIES & SOCIAL SCIENCE EQUIVALENCIES

MSOE requires courses that fulfill Common Learning Outcome (CLO) categories.
The following four CLO categories can be satisfied with MATC courses:

- Exhibit Curiosity CLO
- Embrace Diversity CLO
- Demonstrate Ethical Understanding CLO
- Choice of CLO - Select any course listed from the table below

Note: Each course counts towards only one CLO and the same course cannot fulfill multiple CLO categories.

General Education Humanities & Social Science

CLO	MATC Courses	Equivalent MSOE Courses
Exhibit Curiosity	SOCSCI-206 Intro to Cul. Anthropology	ANT 1001 Cultural Anthropology
	HIST-218 Native American History	ANT 2020 Native American Culture
	SPEECH-212 Introduction to Theater	FNA 2002 Drama and the Theater
	ENG-207 Creative Writing	FNA 3001 Creative Writing
	ENG-240 Introduction to Mod. Cinema	FNA 4010 Film & Media Studies
	ECON-195 Economics	BUS 2222 Macroeconomics
	ECON-202 Principles of Macro.	BUS 2222 Macroeconomics
	HIST-211 America through 1877	HST 1013 U.S. History I
	HIST-212 American Since 1977	HST 1014 U.S. History II
	MUSIC-205 Music Appreciation	HST 2053 Music History
	HIST-203 Western Civ. From Ancient	HUM 0106 Exhibit Curiosity
	HIST-204 Western Civ. From 1776	HUM 0106 Exhibit Curiosity
	HIST-228 World History to 1500	HUM 0106 Exhibit Curiosity
	SOCSCI-197 Cont. Amer. Society	HUM 0106 Exhibit Curiosity
	SOCSCI-250 Intro. To Philosophy	PHL 3201 Intro. To Philosophy
	SOCSCI-221 Amer. National Gov.	PSC 2011 Amer. Government
	PSYCH-198 Intro to Psychology	PSY 1001 Foundations of Psychology
	PSYCH-231 Introductory Psyc.	PSY 1001 Foundations of Psychology
	SOCSCI-204 Marriage and the Fam.	PSY 2005 The Family
	SOCSCI-210 Death & Dying	PSY 2006 Death, Dying, & Grief
	PSYCH-232 Abnormal Psychology	PSY 3002 Psychological Disorders
	PSYCH-159 Abnormal Psychology	PSY 3002 Psychological Disorders
	PSYCH-188 Developmental Psychology	PSY 3003 Developmental Psychology
	PSYCH-238 Lifespan Psychology	PSY 3003 Developmental Psychology
	SOCSCI-246 Human Sexuality	SSC 0106 Exhibit Curiosity
	PSYCH-199 Psychology of Human Rel.	PSY 3004 Social Psychology
	SOCSCI-203 Intro to Sociology	SOC 1001 Foundations of Sociology
	SOCSCI-205 Social Problems	SSC 0106 Exhibit Curiosity
	FLANG-202 Spanish 1	SPN 1001 Elementary Spanish
	FLANG-205 Spanish 2	SPN 2001 Intermediate Spanish
Embrace Diversity	ART-201 Understanding Art	HUM 0104 Embrace Diversity
	SOCSCI-206 Introduction to Cul. Anth.	ANT 1001 Cultural Anthropology

	HIST-218 Native American History	ANT 2020 Native American Culture
	HIST-219 Wis. Indians Past/Present/Fut.	HUM 0104 Embrace Diversity
	HIST-231 Latin American History	HUM 0104 Embrace Diversity
	HIST-215 African American History	HUM 0104 Embrace Diversity
	SOCSCI-204 Marriage & Family	PSY 2005 The Family
	PSYCH-232 Abnormal Psychology	PSY 3002 Psychological Disorders
	PSYCH-159 Abnormal Psychology	PSY 3002 Psychological Disorders
	SOCSCI-203 Intro to Sociology	SOC 1001 Foundations of Sociology
	SOCSCI-172 Intro to Diversity	SSC 0104 Embrace Diversity
	FLANG-202 Spanish 1	SPN 1001 Elementary Spanish
	FLANG-205 Spanish 2	SPN 2001 Intermediate Spanish
	FLANG-213 Spanish 3	SPN 3001 Advanced Spanish
Demonstrate Ethical Understanding	SOCSCI-149 Ethics for the Professions	PHL 3101 Ethics for Prof. Managers
	SOCSCI-166 Intro to Ethics	HUM 0103 Ethical Understanding
	SOCSCI-200 Intro to Ethical Issues	HUM 0103 Ethical Understanding