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	CHEM 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

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