

Cleveland State University
Washkewicz College of Engineering
Bachelor of Mechanical Engineering (MCE)
Fall 2022

MCE Degree Map for students immediately eligible for College Writing I, General Chemistry I, and Calculus I

First Year

Fall Semester				Spring Semester			
	Credits	Major	Gen. Ed.		Credits	Major	Gen. Ed.
ENG 100 Intensive Writing or ENG 100 Writing I	3		W/C	ESC 102 Tech. Writing or ENG 102 College Writing II	3		W/C
MTH 181 Calculus I	4	X	M	MTH 182 Calculus II	4	X	M
CHM 261 General Chemistry I	3	X	NS	ESC 152 Programming with MATLAB	3	X	
CHM 266 General Chemistry Laboratory I	1	X	NS&Lab	PHY 241 University Physics I	5	X	NS
ESC 100 New Student Orientation	1		INTRO	MCE 181 Computer Aided Engineering II	2	X	
ESC 120 Introduction to Engineering	2	X					
MCE 180 Computer Aided Engineering II	2	X					
Semester Total	16			Semester Total	17		

Second Year

Fall Semester				Spring Semester			
	Credits	Major	Gen. Ed.		Credits	Major	Gen. Ed.
ESC 250 Differential Equations	3	X		ESC 202 Dynamics	3	X	
MTH 281 Multivariable Calculus	4	X		ESC 301 Fluid Mechanics	3	X	
ESC 201 Statics	3	X		PHY 242 University Physics II	5	X	NS
MCE 276 Materials & Manufacturing Processes	3	X		ESC 211 Strength of Materials	3	X	
MCE 286 Manufacturing Processes Lab	1	X		General Education Elective	3		DIV US
ESC 130 Engineering Co-op Orientation*	1						
Semester Total	15			Semester Total	17		

Third Year

Fall Semester				Spring Semester			
	Credits	Major	Gen. Ed.		Credits	Major	Gen. Ed.
MCE 260 Kinematics	3	X		ESC 315 Electrical Engineering Concepts	3	X	
MCE 324 Intro to Heat Transfer	3	X		MCE 365 Machine Design I	3	X	
MCE 362 Machine Analysis	3	X		MCE 371 Vibrations	3	X	
ESC 321 Engineering Thermodynamics I	3	X		MCE 421 Applied Thermodynamics	3	X	
ESC 350 Linear Algebra for Engineers	3	X		MCE 481 Thermodynamics Lab	1	X	
				General Education Elective**	3		SS
Semester Total	15			Semester Total	16		

Fourth Year

Fall Semester				Spring Semester			
	Credits	Major	Gen. Ed.		Credits	Major	Gen. Ed.
MCE 450 Design Project I	2	X	CAP&WAC	MCE 451 Design Project II	3	X	CAP&WAC
MCE 441 Introduction to Linear Controls	3	X		Mechanical Engineering Elective	3	X	
MCE 470 Engineering Measurements	3	X		Mechanical Engineering Lab Elective	3	X	
MCE 480 Measurements Lab	1	X		PHL 215 Engineering Ethics	3	X	AH&WAC
Mechanical Engineering Elective	3	X		General Education Elective	3		DIV AA
ESC 282 Engineering Economy	3	X	SS	General Education Elective**	3	X	AH
Semester Total	15			Semester Total	18		

Degree Total Hours: 128 or 129 with ESC 130

Assumption: University Requirement of Foreign Language has been met by either successfully completing two (2) years of the same language in high school; or two (2) semesters of the same language in college; or passing CSU's language placement test in reading, writing, and speaking of a second language other than English.

College/Program Notes:

The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of General Education courses, although the M and W/C requirements should be completed during the first year of study. General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 128 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon other elective choices made, students may not need as many general electives as indicated above or may need additional electives. For information about acquiring a Math Minor by completing one additional course, STA 323 Statistical Methods, visit: MCE Math Minor or email: impt.engr.info@csuohio.edu to request guidance.

University Notes:

General Education Key + Notes	
General Ed. Electives can be taken in any order except ESC 282 (Engineering Economy) after MTH 182 (Calculus II) as well as PHL 215 (Engineering Ethics after ESC 102 /ENG 102 (Tech. Writing/College Writing II).	
INTRO = Introduction to University Life Requirement (one course required)	SS = Social Sciences Requirement (2 courses required, one of which must be focused outside the US)
W/C = Writing/Composition Requirement (two courses, required (each C or better)	A&H = Arts & Humanities Requirement (2 courses required, one of which must be focused outside the US)
M = Mathematics (two courses required, each C or better)	DIV = Social Diversity Requirement (2 courses required, one US Diversity and one African American Experience)
NS = Natural Sciences (two courses required, one of which must have a lab – NS&LAB)	WAC/SPAC = Writing/Speaking Across the Curriculum Requirement (3 courses required, one in the major)
ESC 100 is waived for transfer students with 60 credits or more	CAP = Capstone Requirement
* Introduction to Co-op Orientation is highly recommended, yet not required.	**of the SS and A&H courses, at least one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)

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