



**EXHIBIT A - Articulation Guide**  
**Henry Ford College**  
 Mechanical/Industrial Associate in Applied Science Degree  
**University of Michigan - Dearborn**  
*Bachelor of Science in Engineering in Industrial and Systems Engineering*  
**Effective: April 1, 2023 to March 31, 2028**



**RECOMMENDED COURSES BY MAJOR**

*Students need not complete all recommended coursework prior to transfer.*

**Henry Ford College Mechanical/Industrial Associate in Applied Science degree and the University of Michigan Dearborn Bachelor of Science in Engineering in Industrial and Systems Engineering**

Requirement Description	HFC Course / Title	UMD Equivalent	Meets DDC	UMD Major Requirement
GENERAL EDUCATION (29-30 credits)				
MTA ENGLISH COMP/COMMUNICATIONS (6 credits)	ENG 131: Introduction to College Writing ENG 135: Business and Technical Writing	COMP 105 COMP 270	✓ ✓	✓ ✓
MTA SOCIAL SCIENCE (6 credits)	BEC 151 or 152: Behavioral and Social Sciences Course	ECON 201 or ECON 202 Behavioral and Social Sciences Course	✓ ✓	✓ ✓
MTA HUMANITIES & FINE ARTS (6 credits)	Humanities and Arts Course Humanities and Arts Course	Humanities and Arts Course Humanities and Arts Course	✓ ✓	✓ ✓
MTA MATHEMATICS (3-4 credits)	MATH 180: Calculus I	MATH 115	✓	✓
MTA NATURAL SCIENCES (7-8 credits, course with lab)	CHEM 141: Prin of Gen & Inorganic Chem I PHYS 231: Engineering Physics I	CHEM 134 PHYS 150	✓ ✓	✓ ✓
Total MTA Credits		33		
COLLEGE DEGREE REQUIREMENT				
REQUIRED COURSES	MATH 183: Calculus II MATH 280: Calculus III MATH 288: Diff Eq + Linear	Math 116 Math 215 Math 228		✓ ✓ ✓
FOCUS AREA ELECTIVE	(choose <u>one</u> ) BEC 151: Principles of Macroeconomics BEC 152: Principles of Microeconomics	ECON 201 ECON 202		✓ ✓
REQUIRED COURSES	CHEM 142: General Chemistry II PHYS 232: Engineering Physics II	CHEM 136 PHYS 152		✓ ✓
REQUIRED COURSES	ENGR 130: Intro to Engr. <u>and</u> ENGR 125: Intro to Computation for Engr. ENGR 121: Engr. Design and 3D printing <u>or</u> Draf 120: Intro to CAD ENGR 201: Science of Materials ENGR 232: Statics <u>and</u> ENGR 235: Mechanics of Materials	ENGR 100 ENGR 126 ENGR 250 ME 260		✓ ✓ ✓ ✓
*Additional elective course will be met at UMD from HFC Associate Degree Credits.				
Total Degree Credits		40		
Total Associates Degree Credits		73		

## COURSES TO BE TAKEN AT UMD

Requirement Description	UMD Course / Title	Credit Hours	Meets DDC	UMD Major Requirement
MAJOR REQUIREMENT				
CORE COURSES	IMSE 317: Engr Prob & Stat	3		
	IMSE 255: C Programming	3		
	IMSE 3005: Oper. Research	4		
	IMSE 382: Man. Proc 1	4		
	IMSE 4675: Six Sigma	4		
	IMSE 440: Appl. Statistics	4		
	IMSE 4745: Facilities Design	4		
	IMSE 4555: Systems Engineering: Processes, Methods and Practice	4		✓
	IMSE 4425: Ergonomics	4		
	IMSE 421: Engr. Econ	3		
	IMSE 4585: Simulation	4		
	ECE 305: Intro to Electric	4		
	IMSE 4951: ISE Senior Design 1	2		
	IMSE 4952: ISE Senior Design 2	2		
	IMSE 4795: Lean Manufacturing	4		
	ISE Focus Area Elective	4		
	ISE Focus Area Elective	4		
Total Core Course Credits		57 Credits		
Total Credits to be Taken at UMD		57 Credits		