

DEARBORN DISCOVERY CORE (DDC)
Requirements 24

WRITTEN AND ORAL COMM. (6 credits)

Composition Placement Exam required

COMP 105 (3) and

COMP 270 (3)

Both required if not taken to fulfill DDC Written and Oral Communication

HUMANITIES AND THE ARTS (6 credits)

See DDC approved list in Degree Works or

<https://app.smartsheet.com/b/publish?EQBCT=DAFF687F800B4FE89910A9CEA66B1627>

SOCIAL AND BEH. ANALYSIS (9 credits)

ECON 201 or ECON 202 (3 cr) is **REQUIRED**

If not taken in fulfillment of DDC Soc. and Beh. Analysis

Other (6 credits) must be chosen from DDC approved list in Degree Works or

<https://app.smartsheet.com/b/publish?EQBCT=DAFF687F800B4FE89910A9CEA66B1627>

INTERSECTIONS (6 credits)

ENGR 400 (3 cr) is **REQUIRED** of major

IMSE 421 (3) is **REQUIRED** of major

Both fulfill major requirement and Intersections

ADDITIONAL COURSE (3 credits)

An additional (3 credit) course is required in one of the areas above, or in IMSE Electives, to reach 128 credits, the minimum required of a MFGE degree.

Important DDC Notes:

- DDC requirements apply to Freshmen admitted fall 2015 and later, and to Transfers admitted fall 2017 and later.
- Many DDC courses fulfill multiple categories. However, a single DDC course may be used for a **maximum of three** DDC categories
- MFGE students **MUST** graduate with a minimum **128 credits**

BASIC PREP Requirements 54

INTRO to ENGINEERING

ENGR 100 (2)

ENGINEERING GRAPHICS

ENGR 126 (2)

MATHEMATICS (16)

(Fulfills DDC Quant. Thinking)

MATH 115 (4) *Calculus I*

MATH 116 (4) *Calculus II*

MATH 205 (3) *Calculus III*

MATH 216 (3) *Diff Equations*

MATH 217 (2) *Matrix Algebra*

CHEMISTRY I and II (8)

CHEM 144 (4) & CHEM 146 (4)

PHYSICS I and II (8)

(Fulfills DDC Natural Sciences)

PHYS 150 (4) & PHYS 151 (4)

BASIC ENGINEERING (18)

IMSE 255 (3) *"C" Programming*

ENGR 250 (3) *Engr Materials*

ME 230 (4) *Thermodynamics*

Either ME 260 (4) Design Stress Analy

or ME 265 (4) Applied Mechanics

ECE 305 (4) *Intro to Electrical Engr*

See separate curriculum sheet for information on the optional concurrent BSE degree in Manufacturing and Industrial Engineering. The concurrent degree requires additional 15 credits.

PROFESSIONAL Requirements 50

MFGE CORE – 12 Courses (40-41)

IMSE 317 (3) *Engr Probability/Stats*

IMSE 382 (4) *Manufact Processes I*

IMSE 421 (3) *Engr Econ & Decision Analysis*

IMSE 4425 (4) *Human Factors/ Ergon*

IMSE 4675 (4) *Six Sigma & Statistical*

Methods for Process Improvement

IMSE 4795 (4) *Production/ Inventory*

Control & Lean Manufacturing

IMSE 4825 (4) *Industrial Controls*

OR

ME 442 (4) *Control Systems Analysis*

IMSE 4835 (4) *Computer-Aided Process*

Design & Manufacturing

ENGR 400 (3) *Applied Bus Techniques*

(ENGR 400 fulfills 3 cr. of DDC Intersections and Critical/Creative Thinking)

IMSE 4951 (2) *Design Project I*

IMSE 4952 (2) *Design Project II*

(Senior Design Courses fulfill DDC Upper-Level Writing and Capstone Experience)

UPPER LEVEL MFG PROC COURSE

Select one from the following

IMSE 4815 (4) *Manufact Processes II*

ME 484 (3) *Manufacturing Poly Comp Materials*

ENGR 350 (4) *Nanoscience and Nanotechnology*

IMSE 488 (3) *Metal Forming Processes*

TECHNICAL ELECTIVE (3-4)

One course (3-4 credits) from:

IMSE 3005 (4) *Operations Research*

IMSE 381 (4) *Industrial Robots*

IMSE 4545 (4) *Info System Design*

IMSE 4585 (4) *Simulation in Systems Design*

IMSE 4745 (4) *Facilities Design*

IMSE 486 (3) or ME 460 (3) *Design for Assembly and Mfg*

IMSE 4815 (4) *Manufact Processes II*

ME 484 (3) *Manufacturing Poly Comp Materials*

ENGR 350 (4) *Nanoscience and Nanotechnology*

IMSE 488 (3) *Metal Forming Processes*

GENERAL ELECTIVES (5-6 credits) **

Technical and General Electives must total at least 9 credits.

**** Beware NO-CREDIT courses. ****

NO-CREDIT listed at end of CECS Handbook:

<https://umich.app.box.com/s/6a5c4j9hwlcnpzy7o2xjmvltumvoj>