

University of Detroit Mercy  
Bachelor of Architectural Engineering-Construction Track  
Course Requirements Flowchart (pg. 1 of 2) 2022

**Freshman Fall**

13-17 credits

**ENGR 1234** Engr Math (placement)  
**ENGR 1050** Engr Graphic Design  
**ARCH 1190** Introduction Prof. Arch.  
**ARCH 1100** Architecture Studio I  
**ARCH 1110** Visual Communication  
**Optional Elective as needed** (e.g. ENL 1300, MTH TBD, UAS)

**Freshman Winter**

17 credits

**PHY 1600** Physics (*MTH 1234*)  
**PHY 1610** Phys Lab (*co-PHY 1600*)  
**ARCH 1200** Arch. Studio II (*ARCH 1100*)  
**ENL 1310** Acad Writing (*placement*)  
**ARCH 1860:** Environmental Principles  
**ARCH 1880:** Construction Principles  
**ARCH 1840** Structural Principles  
**Elective** (Any math or science course)

**Summer**

Vacation

**Sophomore Fall**

17 credits

**ARCH 2110** Viz Com 3 (*Arch 1110*)  
**MTH 1410** Calc I (*MTH 1234*)  
**ENGR 3120** Statics (*PHY 1600, MTH 1234*)  
**ENGR 3000** Coop Prep  
**PHL 1000** Intro to Philosophy  
**ARCH 2660:** Building Environment I  
**ARCH 2680** – Building Construction I  
**ARCH 2640** Building Structures 1

**Sophomore Winter**

15 credits

**PHY 1620** Physics II (*PHY 1600*)  
**PHY 1630** Physics II Lab (*co-PHY 1620*)  
**MTH 1420** Calc II (*MTH 1410*)  
**CHM 1070** Chem I (*placement*)  
**CHM 1100** Chem Lab I (*co-CHM 1070*)  
**ARCH 2860:** Building Environment II  
**ARCH 2880** – Building Construction II  
**ARCH 2840** Building Structures II

**Summer**

2 credits

**CTA 3010** Coop I (*ENGR 3000*)

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**Junior Fall**

17 credits

**ENGR 3260** Mechanics of Materials  
(*ENGR 3120*)  
**ENGR 3270** Mechanics of Mat. Lab (*co-ENGR 3260*)  
**MTH 2410** Calc III (*MTH 1420*)  
**CST 1010** Speech (*co-ENL 1310*)  
**ENGR 3150** Thermo I (*Phys I, Chem, MTH 1234*)  
**Core D2** RELS

**Junior Winter**

13 credits

**ENGR 3140** Fluid Mechanics (*co-Thermo*)  
**MTH 3720** Differential Equations  
(*MTH 1420*)  
**CIVE 3450** Construction Materials  
(*ENGR 3260*)  
**ARCH 2220** Arch Hist 2 (*ARCH 2120*)

**Summer**

2 credits

**CTA 3020** Coop II

**Senior Fall**

17-4 credits

**ENGR 3400** Heat Transfer (*Thermo, Fluids, MTH 3720*)  
**ENGR 3200** Principles of Electrical Circuits (*Phy 2*)  
**STAT 2250** Probability & Statistics (*MTH 1410*)  
LEED or Passive House (alternate years)  
**Technical Elective (ARCH 3680 Building Construction III)**

**Core E2** Lit

**Professional Fall**

17 credits

**ENGR 3170** Materials Science (*Chem, Statics*)  
**ENGR 1000** Engineering Ethics  
**ENGR 3110** Prof. Pract. Engr. (*CTA 3010*)  
**ENGR 3130** Dynamics (*Statics*)  
Core E1 Hist

**CIVE 3480 / 3490** Geotechnical Engineering  
(*ENGR 3260*)

**Senior Winter**

16 credits

**ARCH 4840** Building Structures III  
**ENGR 3240** Engineering Economics  
(*MTH 4270*)  
**AENG 4112** Fund. of Engr. Pract. (*senior standing*)  
**AENG 4100** Integrative Design (Capstone)  
**Core D3 + IT4** = RELS 3081 or 4140 Construction Design

**Summer**

2 credits

**CTA 3030** Coop III