

**University of Detroit Mercy**  
**Bachelor of Architectural Engineering-Mechanical Track**  
**Course Requirements Flowchart (pg. 1 of 2) 2019**  
**Total Program Credits =137 (141)+7 (Co-op) =144(148) . (Sept. 2019)**  
**(Designations in Parentheses indicate core curriculum attributes and Prereq/coreq courses)**

<p>Freshman – Fall  13-16 Credits  <b>ENGR 1234</b> Engr Math (placement)  <b>ENGR 1050</b> Eng Graphic Design  <b>ARCH 1190</b> Introduction Prof. Arch.  <b>ARCH 1100</b> Architecture Studio I  <b>ARCH 1110</b> Visual Communication  <b>Optional Elective as needed</b> (e.g. ENL 1300, MTH TBD, UAS)</p>	<p>Freshman –Winter  17 Credits  <b>PHY 1600</b> Physics (<i>MTH 1234</i>) (C1, IT2)  <b>PHY 1610</b> Phys Lab (<i>co-PHY 1600</i>) (C1, IT2)  <b>ARCH 1200</b> Arch. Studio II (<i>ARCH 1100</i>)  <b>ENL 1310</b> Acad Writing (<i>placement</i>) (A2)  <b>ARCH 1860:</b> Environmental Principles  <b>ARCH 1880:</b> Construction Principles  <b>ARCH 1840</b> Structural Principles  <b>Elective</b> (Any math or science course)</p>	<p>Freshman-Summer  Vacation</p>
<p>Sophomore-Fall  17 Credits  <b>PHL 1000</b> Intro to Philosophy (D1)  <b>ARCH 2110</b> Viz Com 3 (<i>Arch 1110</i>)  <b>MTH 1410</b> Calc I (<i>MTH 1234</i>)  <b>ENGR 3120</b> Statics (<i>PHY 1600, MTH 1234</i>)  <b>ENGR 3000</b> Coop Prep (IT5)  <b>ARCH 2660:</b> Building Environment I  <b>ARCH 2680</b> – Building Construction I  <b>ARCH 2640</b> Building Structures 1</p>	<p>Sophomore – Winter  15 Credits  <b>PHY 1620</b> Physics II (<i>PHY 1600</i>)  <b>PHY 1630</b> Physics II Lab (<i>co-PHY 1620</i>)  <b>MTH 1420</b> Calc II (<i>MTH 1410</i>)  <b>CHM 1070</b> Chem I (<i>placement</i>) (C1)  <b>CHM 1100</b> Chem Lab I (<i>co-CHM 1070</i>) (C1)  <b>ARCH 2860:</b> Building Environment II  <b>ARCH 2880</b> – Building Construction II  <b>ARCH 2840</b> Building Structures II</p>	<p>Sophomore-Summer  2 Credits  CTA 3010 Coop I (IT5)</p>

Junior – Fall	Junior –Winter	Junior - Summer
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17 Credits <b>ENGR 3260</b> Mechanics of Materials ( <i>ENGR 3120</i> ) <b>ENGR 3270</b> Mechanics of Mat. Lab ( <i>co-ENGR 3260</i> ) <b>MTH 2410</b> Calc III ( <i>MTH 1420</i> ) <b>CST 1010</b> Speech ( <i>co-ENL 1310</i> ) (A1) <b>ENGR 3150</b> Thermo I ( <i>Phys 1, Chem, MTH 1234</i> ) RELS Course (Core D2*)	15 Credits <b>AENG 3800</b> Refrigeration & Psychometrics (3150) <b>ENGR 3140</b> Fluid Mechanics ( <i>co-Thermo</i> ) <b>ENGR 3190</b> Fluids Lab (CO-3140) <b>MTH 3720</b> Differential Equations ( <i>MTH 1420</i> ) <b>CIVE 3450</b> Construction Materials ( <i>ENGR 3260</i> ) <b>ARCH 2220</b> Arch Hist 2 ( <i>ARCH 2120</i> )	2 Credits CTA 3020 CoopII (IT5)
Senior-Fall 14-15 Credits <b>ENGR 3400</b> Heat Transfer ( <i>Thermo, Fluids, MTH 3720</i> ) <b>ENGR 3200</b> Principles of Electrical Circuits ( <i>Phy 2</i> ) <b>STAT 2250</b> Probability & Statistics ( <i>MTH 1410</i> ) (B2) <b>ENGR 4820 HVAC</b> (AENG 3800) <b>Technical Elective</b> (Any of: <b>AENG 4350</b> Lighting Design, <b>AENG 4300</b> Elect Bldg Systems, <b>ARCH 3650</b> Technical Analysis, <b>ARCH 3660</b> Building Environment III, or <b>ARCH 3680</b> Building Construction III)	Senior – Winter 13 Credits <b>ARCH 4840</b> Building Structures III <b>ENGR 3240</b> Engineering Economics ( <i>MTH 4270?Stat 2250</i> ) <b>AENG 3112</b> Fund. of Engr. Pract. ( <i>senior standing</i> ) <b>AENG 4100</b> Integrative Design (Capstone) RELS 3081 or 4140 (Core D3*, IT4)	Senior-Summer 2 Credits CTA 3030 Coop III (IT5)
Professional -Fall 16 Credits <b>ENGR 3170</b> Materials Science ( <i>Chem, Statics</i> ) <b>ENGR 1000</b> Engineering Ethics (F1, IT6) <b>ENGR 3110</b> Prof. Pract. Engr. ( <i>CTA 3010</i> )(C2, IT3) <b>ENGR 3130</b> Dynamics ( <i>Statics</i> ) <b>History Course (Core E1)</b> <b>Literary Course (Core E2)</b>		

\*One D2 or D3 course must also fulfill Knowledge Area IT4

The table below shows how the Bachelor of Architectural Engineering program meets the new core knowledge areas.

Knowledge Area	Required courses
A1	CST 1010
A2	ENL 1310

B1	MTH 1410 or MTH 1420
B2	MTH 4270
C1	CHM 1070 or PHY 1600/1610
C2	ENGR 3110
D1	PHL 1000
D2	Any approved course with limitation*
D3	Any approved course with limitation*
E1	Any approved course
E2	Any approved course
E3	Any approved course
F1	ENGR 1000
IT1	CIVE 3450,CIVE 4500
IT2	PHY 1600/1610 or ENGR 3150
IT3	ENGR 3110
IT4	Any RELS or PHL course that meets both IT4 and (D3 or D2)
IT5	(ENGR 3000 + CTA 3010 + CTA 3020)
IT6	ENGR 1000