Concurrent B.S.E. in **BENG/ME** (143 credits) Date _____

ID: _____ **FALL 2017** Catalog Year Curriculum Sheet

DEARBORN DISCOVERY CORE (DDC) Requirements 21

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)
IMSE 421 taken as 3 credits of Upper-level Tech Electives fulfills one Intersections course (3 cr)

Certain ANTH, HIST, POL and SOC classes can fulfill both an Intersections requirement and a Social & Beh. Analysis requirement. Certain ARTH classes can fulfill both an Intersections and a Humanities & Arts requirement (3 cr).

Prerequisites apply. See list for courses that fulfill both requirements:

HTTPS://APP.SMARTSHEET.COM/B/PUBLISH?EQBCT=DAFF687F800B4FE89910A9CEA66B1627

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
- BENG/ME students MUST graduate with a minimum **143 credits**

BASIC PREP Requirements 61

INTRO to ENGINEERING
ENGR 100 (2 credits)

ENGINEERING GRAPHICS
ENGR 126 (2)

MATHEMATICS – 5 courses (16)
(Fulfills DDC Quant. Thinking)
MATH 115 (4) *Calculus I*
MATH 116 (4) *Calculus II*
MATH 205 or 215 (3) *Calculus III*
MATH 216 (3) *Diff Equations*
MATH 217 or 227 (2) *Matrix/Linear Algebra*

CHEMISTRY I and II (8)
CHEM 134 or 144 (4)
CHEM 136 or 146 (4)

BIOLOGY (8 credits)
BIOL 103 (4) *Anatomy & Physiology*
BIOL 140 (4) *Molecular & Cellular Bio*

PHYSICS I and II (8)
(Fulfills DDC Natural Sciences)
PHYS 150 (4)
PHYS 151 (4)

ENGIN BASIC COURSES (17 credits)
ENGR 250 (3) *Enginreering Materials*
ENGR 216 (2) *Computer Methods*
ME 230 (4) *Thermodynamics*
ME 260 (4) *Design Stress Analysis*
ECE 305 (4) *Intro Electrical Engr.*

Consult the pre-med advisor for the list of courses recommended to students preparing for medical school admission

** **Beware NO-CREDIT courses**. **
NO-CREDIT listed at end of CECS Handbook:

https://umich.app.box.com/s/6a5c4j9hwlctnppzy7o2xjmvlrtumvoj

PROFESSIONAL Requirements 61

BENG/ME CORE – 13 courses (50)
ME 325 (4) *Thermal Fluid Sciences I*
BENG 351 (4) *Bio-sensors & Instruments*
BENG 370 (4) *Biomechanics I*
BENG 364 (3) *Prob & Stat in Bioeng*
BENG 375 (4) *Biomaterials, Tissue Engr.*
BENG 381 (4) *Bioprocessing*
ME 345 (4) *Engineering Dynamics* ME
ME 375 (4) *Thermal Fluid Sciences II*
ME 379 (3) *Thermal Fluid Sciences Lab*
ME 381 (4) *Manufacturing Processes I*
ME 3601 (4) *Design & Analysis of Machine Elements*
ME 442 (4) *Control Systems Analysis*
BENG 4671 (4) *Senior Design*
(Fulfills DDC Upper-Level Writing; Critical Thinking; & Capstone Experience)

ELECTIVES (11)
11 credits of upper-level technical elective courses from lists below. At least one course must be a design elective course (3 or 4 credits)

DESIGN ELECTIVES (at least one)
BENG 426 (4) BENG 451 (3)
BENG 460 (4) BENG 470 (3)
BENG 481 (3)
IMSE 4675(4) IMSE 4425(4)
ME 4191 (4) ME 4201 or ME 4202 (4),
ME 4361 (4) ME 4471 (4) ME 460 (3)
ME 469 (1-4) ME 472 (4) ME 483 (3)
ME 493 (3) ME490 or BENG 490 (1-3)

UPPER-LEVEL TECH ELECTIVES
BENG 410 (3) BENG 425 (3)
BENG 475 (3) CHEM 437 (3)
CHEM 395 (3) ENGR 350 (4)
ME 410 (3) ME 4301 (3)
ME 4461 (4) ME 452 (4) or ME 4521 (3)
ME 481 (3) ME 484 (3) ME 491 (1-3)
ME 492 or BENG 492 (1-3)
ME 496 (2-3) ME 4981 (4) ENGR 350 (4)
IMSE 421 (3) IMSE 381 (3)
CHEM 225 (3) CHEM 226 (3)
CHEM 227 (2) BCHM 370 (3)