_____ _____ **B.S.E. in ROBOTICS ENGINEERING** (125 credits) Date _____

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

DEARBORN DISCOVER CORE 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)
ENT 400 (3 cr) is a REQUIRED RE major course

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

BASIC PREP Requirements 37

INTRO to ENGINEERING
ENGR 100 (2)

MATHEMATICS (16 credits)
(***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 & PHYSICS (12)
(Fulfills DDC Natural Sciences)
CHEM 144 (4) *Chemistry I*
PHYS 150 (4) *Physics I*
PHYS 151 (4) *Physics II*

One ME course (4)
ME 265 *Applied Mechanics*

PROBABILITY & STATISTICS (3)
IMSE 317 (3) *Engr Prob & Stats*

PROFESSIONAL Requirements 64

ECE CORE – 5 Courses (20 credits)
ECE 210 (4) *Circuits*
ECE 270 (4) *Computer Methods I*
ECE 273 (4) *Digital Systems*
ECE 311 (4) *Electronics Circuits I*
ECE 3731 (4) *Microprocessors and Embedded Systems*
(ECE 3731 Fulfills DDC Critical and Creative Thinking)

RE CORE – 11 courses (38 credits)
ECE 347 (4) *Applied Dynamics*
ECE 3641 (4) *Robots I w. Lab*
ECE 3171 (4) *Analog & Discrete Signals & Sys*
IMSE 381 (4) *Industrial Robots*
ECE 460 (4) *Automatic Control Systems//ME442Cont. Sys. Ana & des*
ECE 4641 (4) *Robots II w. Lab*
ME 472 (4) *Prin & Appl of Mechatronic Sys*
ECE 4881 (3) *Introduction to Robot Vision*
ECE 4951 (3) *System Design w/ Microcontrollers*
ECE 4987 (2) *Robotics Engineering Capstone Design I*
ECE 4988 (2) *RoboticsEngineering Capstone Design II*
(***Senior Design Courses fulfill DDC Upper-Level Writing And Capstone Experience)***

PROFESSIONAL ELECTIVES (6 credits)
Choose two courses from the following list

CIS/ECE 479 (4) *Artificial Intelligence*
ECE 370 (4) *Adv. Software. Tech. in C.E.*
ECE 434 (4) *Machine Learning in Eng.*
ECE 471 (4) *Data Communications and Networks*
ECE 473 (4) *Embedded System*
ECE 480 (4) *Digital Signal Processing*
ECE 491 (1~4) *Directed Studies*
IMSE 489 (3) *Robotics Systems Simulation*
ME 3601 (4) *Des and Ana. Mach Elem*

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
- RE students MUST graduate with a minimum **125 credits**

** **Beware NO-CREDIT courses**. **
NO-CREDIT listed at end of CECS Handbook:
https://umich.app.box.com/s/6a5c4j9hwlctnppzy7o2xjmvlrtumvoj

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