Michigan Technological University Bachelor of Science Degree Audit Major Program: Robotics Engineering

Program Code ERE, Academic Year 2021-22 Total credits required for the degree: 123

Core Requirements: 54 to 56 credits

| Course | Credits |
|-------------------------------------|---------|
| CS 1111 | 3 |
| EE 2174 | 4 |
| EE 2180 | 3 |
| EE 3010 | 3 |
| EE 3160 | 3 |
| EE 3171 or EET 4141 | 4 |
| EE 3261 or MEEM 3750 | 3/4 |
| EE 3280 | 3 |
| EE 3373 or EET 3373 | 3 |
| EE 3901 | 2 |
| EE 4235 | 3 |
| ENG 1101 or (ENG 1001 and ENG 1100) | 3/4 |
| ENG 1102 | 3 |
| ENG 2120 | 4 |
| MEEM 2700 | 3 |
| MEEM 3400 | 3 |
| SAT 2711 | 4 |

Math and Science: 28 to 29 credits

| Course | Credits |
|-------------------------------|---------|
| CH 1150 | 3 |
| CH 1151 | 1 |
| MA 1121 or MA 1160 or MA 1161 | 4/5 |
| MA 2160 | 4 |
| MA 2320 or MA 2321 | 2 |
| MA 3160 | 4 |
| MA 3520 or MA 3521 | 2 |
| PH 1100 | 1 |
| PH 1200 | 1 |
| PH 2100 | 3 |
| PH 2200 | 3 |

Math and Science Elective List: 3 credits

MA2600, 2910, MA3XXX or higher (excluding MA3720, 3750, 3810, 3811, 3990, 4810, 4820, 4905, 4945); BL1010 or higher (excluding BL1580, 1590, 1710, 1800, 3970, 3990); CH1500 or higher; PH1090, 1091, 1600, 1610, 2300 or higher; EE3180

| Course | Credits |
|--------|---------|
| | |

Robotic Engineering (RE) Approved Electives: 3 credits

Choose one course (cannot double-count with HASS): HU3710, PSY3850, PSY3860, PSY4010, PSY4160

| Course | Credits |
|--------|---------|
| | 3 |

Robotics Engineering Technical Electives: 7 credits

Directed RE Technical Elective: 4 credits

Choose one option

| choose one option | |
|-------------------|---------|
| Course | Credits |
| EE 4219 and | 3 |
| EE 4220 | 1 |
| EE 4375 | 4 |
| MEEM 4705 | 4 |
| EE/EET 4373 | 4 |

Remaining RE Technical Elective: 3 credits

Take at least one course not already taken above. Minimum 3 cr. EE 4219, EE 4220, EE 4375, EE/EET 4373, EE/MEEM 4800,

MEEM4705

| Course | Credits |
|--------|---------|
| | |
| | |

Senior Design Path: 4 credits

Senior Design: 4 credits

(EE 4901 and EE 4910) OR (MEEM 4901 and MEEM 4911)

| Course | Credits |
|--------|---------|
| | 2 |
| | 2 |

or Enterprise Design Path: 6 credits

Engineering Design: 6 credits

ENT3950, ENT3960, ENT4950 and ENT4960 or

ENT3960, ENT4950, ENT4960 and ENT module from following:

ENT2961, ENT2962, ENT3959, ENT3963, ENT3966, ENT3967,

ENT3971, ENT3982, ENT3983, ENT4951

| Course | Credits |
|--------|---------|
| | 1 |
| | 1 |
| | 2 |
| | 2 |

General Education Core and HASS

Courses used to complete Core and HASS requirements may not be used to complete other degree requirements. Students must complete 12 credits of Core coursework and 12 credits of Humanities, Fine Arts, and Social Science (HASS) coursework. Repeatable courses may not be repeated for general education credit. Core and HASS courses can be found on the <u>General Education</u> page.

Core: 12 credits

| Course | Credits |
|---|---------|
| UN 1015 | 3 |
| UN 1025 or an upper level modern language | 3 |
| Critical and Creative Thinking | 3 |
| Social Responsibility and Ethical Reasoning | 3 |

HASS: 12 credits

Six of the 12 HASS credits must be at the 3000 or 4000 level (an upper division language course in place of UN1025 does not meet this requirement). No more than three credits may come from the HASS Restricted course list.

| Course | Credits |
|--|-----------|
| Communication/ Composition | Minimum 3 |
| Humanities and Fine Arts | Minimum 3 |
| Social and Behavioral Sciences | Minimum 3 |
| Course from any list above or from the Restricted HASS course list | 0 to 3 |

Co-curricular Activities: 3 credits

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree. Only courses on the co-curricular course list are eligible. Half credit (0.5) courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the <u>General Education</u> page.

| 0 | | Cara dita |
|--------|--|-----------|
| Course | | Credits |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Free Electives: 0 credits

Any coursework is allowable, excluding co-curricular and coursework below the 1000-level.

| Course | Credits |
|--------|---------|
| | |
| | |
| | |
| | |