

## Michigan Technological University Bachelor of Science Degree Audit

### Major Program: Electrical Engineering, Concentration: Photonics

Program Code: EEEP, Academic Year 2023-2024

Total credits required for the degree: 128

#### Core Requirements: 35 credits

- CS 1111 (3)
- EE 2111 (3)
- EE 2112 (4)
- EE 2174 (4)
- EE 3131 (4)
- EE 3140 (3)
- EE 3160 (3)
- EE 3180 (3)
- EE 3901 (2)
- ENG 1101 (3) or ENG 1001 (2) and ENG 1100 (2)
- ENG 1102 (3)

#### Math and Science: 28 credits

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

#### SELECT Approved Elective: 3 credits

BE2400, BL2010, EC3400, CS1142, CEE3501, CEE3502, EE3373, ENG2120, ENG3200, ENG4515, MEEM2110, MEEM2150, MEEM2201, MEEM2700, MEEM3210, MEEM3220, MET3130, MSE 2100, MSE 4292, PH2300, PH2400, PH3300

#### EE Technical Electives: 9 credits

Any EE course except CS1000, EE3010, EE3173, EE4000, EE4805, EE4901, EE4910, and those in major requirements. No more than three credits of EE2000 – EE2999 are allowed. Department approval is required for EEnXXe.

#### Free Electives: 2 credits

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

#### Choose one Option: 7 credits

##### Option 1: Senior Design Path

- EE 4901 (2) and EE 4910 (2), or
- MEEM 4901 (2) and MEEM 4911 (2), or
- BE 4901 (2) and BE 4910 (2)
- Approved Electives: Choose at least 3 credits from the list of approved electives on page 2.

##### Option 2: Enterprise Design Path

- ENT3950, ENT3960, ENT4950 and ENT4960, or
- ENT 3960, ENT4950, ENT4960 and ENT Module from the following: ENT2961, ENT2962, ENT3959, ENT3963, ENT3966, ENT3967, ENT3971, ENT4951
- Approved Elective: Choose at least one credit from the list on page 2.

#### Concentration Requirements: 20 credits

- EE 2190 (3)
- EE 3190 (3)
- EE 3290 (4)
- EE 4490 (4)

#### Complete 6 credits from the following:

- BE 4250 (3)
- BE 4410 (3)
- EE 4235 (3)
- EE 4240 (4)
- EE 4252 (4)
- EE 4253 (3)
- EE 4290 (3)
- EE 4411 (3)
- MSE 4292 (3)
- PH 3410 (3)
- PH 4510 (2)
- PH 4640 (3)

## List of Approved Electives

BL1100-BL1999, BL2000-BL2999, BL3000-BL3999, BL4000-BL4999, CH1152-CH1999, CH2000-CH2999, CH3000-CH3999, CH4000-CH4999, CM1000-CM1999, CM2000-CM2999, CM3000-CM3999, CM4000-CM4999, EC3400, EC4620, EE1112-EE1999, EE2000-EE2999, EE3000-EE3999, EE4000-EE4999, ENG2000-ENG2999, ENG3000-ENG3999, ENG4000-ENG4999, MA2600, MA2710, MA2720, MA2910-MA2999, MA3000-MA3999, MA4000-MA4999, PH1090, PH1091, PH1600, PH1610, PH2300-PH2999, PH3000-PH3999, PH4000-PH4999, BE1000-BE1999, BE2000-BE2999, BE3000, BE3999, BE4000-BE4999, CEE1000-CEE1999, CEE2000-CEE2999, CEE3000-CEE3999, CEE4000-CEE4999, CS1001-CS1999, CS2000-CS2999, CS3000-CS3999, CS4000-CS4999, ENT1000-ENT1999, ENT2000-ENT2999, ENT3000-ENT3999, ENT4000-ENT4999, GE1000-GE1999, GE2000-GE2999, GE3000-GE3999, GE4000-GE4999, MEEM2000-MEEM2999, MEEM3000-MEEM3999, MEEM4000-MEEM4999, MSE1000-MSE1999, MSE2000-MSE2999, MSE3000-MSE3999, MSE4000-MSE4999, UN4000, UN3002-UN3005. The following courses are not allowed: BE2700, BE4770, BL1580, BL1590, BL1710, BL1800, BL3970, BL3990, CM3410, CS4431, EE3010, ENG2060, ENG2990, ENG3060, ENG3530, ENG3990, ENG4070, ENG4300, ENG4900, ENG4905, ENG4910, ENG4990, ENT3958, ENT3964, MA3720, MA3750, MA3811, MA3990, MA4810, MA4820, MA4900, MA4905, MA4945

## General Education Core, Humanities, Fine Arts, and Social Science (HASS) Requirements: 24 credits

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 [General Education](#) page.

### Core: 12 credits required

- 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 required, six of the 12 credits must be at the 3000- or 4000- level

- Communication/Composition (minimum 3 credits)
- Humanities and Fine Arts (minimum 3 credits)
- Social and Behavioral Sciences (minimum 3 credits)
- Any course from the General Education Core, HASS, or Restricted HASS [course list](#) (0 to 3 credits)

### Co-curricular Activities: 3 credits required

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 (0.5) credit courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the [General Education](#) page.