Michigan Technological University
Registrar's Office

Academic Year 2020-21 Bachelor of Science in Electrical Engineering Concentration: Photonics

EEEPUG

Student Name and ID Number
Estimated Graduation Date

| Major Requirements: 82 Credits |  |  |
| :---: | :---: | :---: |
| Course Number | Credits | Course Status Code M, R, P, WVD, SUB* |
| Core Requirements: 41 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 3261 | 3 |  |
| EE 3901 | 2 |  |
| EE 4250 | 3 |  |
| ENG 1101 or <br> ENG 1001 and ENG 1100 | 3/4 |  |
| ENG 1102 | 3 |  |
| Math and Science: 28 Credits |  |  |
| CH 1150 | 3 |  |
| CH 1151 | 1 |  |
| MA 1160 or MA 1161 | 4/5 |  |
| MA 2160 | 4 |  |
| MA 2321 | 2 |  |
| MA 3160 | 4 |  |
| MA 3521 | 2 |  |
| PH 1100 | 1 |  |
| PH 1200 | 1 |  |
| PH 2100 | 3 |  |
| PH 2200 | 3 |  |
| SELECT Approved Electives: $\mathbf{3}$ credits |  |  |
| BE2400, BL2010, CS1142, CEE3501, CEE3502, EE3373, ENG2120, ENG3200, ENG4510, MEEM2110, MEEM2150, MEEM2201, MEEM2700, MEEM3210, MEEM3220, MSE2100, MSE4292, PH2300 PH2400, PH3300 |  |  |
|  |  |  |
|  |  |  |
| EE Technical Electives: 3 credits |  |  |
| Any EE course except CS1000, EE3010, EE3173, EE4000, EE4805, EE4901, EE4910 and those listed in major requirements. No more than 3 credits of EE2000-EE2999. Department approval required fo EEnXXE. |  |  |
|  |  |  |
|  |  |  |
| Credit Subtotal |  |  |

Major Requirements: $\mathbf{8 2}$ Credits

| Course Number | Credits | Course Status Code <br> M, R, P, WVD, SUB* |
| :--- | :---: | :---: |
| Senior Design Path - 7 credits |  |  |
| Select 4 credits of approved design from the following: <br> (EE 4901 and EE 4910) OR (MEEM 4901 and MEEM 4911) |  |  |
|  | 2 |  |
|  | 2 |  |
| Approved Electives: Choose at least 3 credits from the list below |  |  |
| 3 |  |  |
| Enterprise Design Path - 7 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 |  |  |
|  |  |  |
| 1 |  |  |
|  | 1 |  |
| 2 |  |  |
| Approved Elective: Choose at least 1 credit from the list below |  |  |
| 1 |  |  |
| Credit Subtotal |  |  |
|  |  |  |

## 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, CM4000CM4999, EE1112-EE1999, EE2000-EE2999, EE3000-EE3999, EE4000EE4999, ENG2000-ENG2999, ENG3000-ENG3999, ENG4000-ENG4999, MA2600, MA2910-MA2999, MA3000-MA3999, MA4000-MA4999, PH1090, PH1091, PH1600, PH1610, PH2300-PH2999, PH3000PH3999, PH4000-PH4999, BE1000-BE1999, BE2000-BE2999, BE3000, BE3999, BE4000-BE4999, CEE1000-CEE1999, CEE2000-CEE2999, CEE3000-CEE3999, CEE4000-CEE4999, CS1001-CS1999, CS2000CS2999, CS3000-CS3999, CS4000-CS4999, ENT1000-ENT1999, ENT2000-ENT2999, ENT3000-ENT3999, ENT4000-ENT4999, GE1000GE1999, GE2000-GE2999, GE3000-GE3999, GE4000-GE4999, MEEM2000-MEEM2999, MEEM3000-MEEM3999, MEEM4000MEEM4999, MSE1000-MSE1999, MSE2000-MSE2999, MSE3000MSE3999, 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 Requirements: 24 Credits

| Course Number | Credits | Course Status Code <br> M, R, P, WVD, SUB* |
| :---: | :---: | :---: |

Courses used to complete General Education may not be used to complete other degree requirements.

| Core: 12 Credits |  |  |
| :---: | :---: | :---: |
| UN 1015 | 3 |  |
| UN 1025 or upper level modern language | 3 |  |
| Critical and Creative Thinking | 3 |  |
| Social Responsibility and Ethical Reasoning | 3 |  |
| HASS: 12 Credits |  |  |
| $\checkmark$ Students must complete 12 credits of HASS course work <br> $\checkmark$ Six of the 12 credits must be at the 3000- or 4000- level* <br> $\checkmark$ At least three credits each in the following: Communication/Comp, Humanities and Fine Arts, and Social \& Behavioral Sciences. <br> $\checkmark$ No more than three credits may come from the Restricted List |  |  |
| Communication/ Composition | $\begin{gathered} \text { minimum } \\ 3 \end{gathered}$ |  |
| Humanities and Fine Arts | $\begin{gathered} \text { minimum } \\ 3 \end{gathered}$ |  |
| Social and Behavioral Sciences | $\begin{gathered} \text { minimum } \\ 3 \end{gathered}$ |  |
| Course from any list above or Restricted List | 0-3 |  |

*an upper division language course in place of UN1025 does not meet this requirement.

## Co-Curricular Activities: 3 Credits

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree.

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Concentration Requirements: 20 Credits

| Course Number | Credits | Course Status Code <br> M, R, P, WVD, SUB* |
| :--- | :---: | :---: |
| EE 2190 | 3 |  |
| EE 3190 | 3 |  |
| EE 3290 | 4 |  |
| EE 4490 | 4 |  |
| 6 credits from the following: |  |  |
| BE 4250 | 3 |  |
| BE 4410 | 3 |  |
| EE 4240 | 4 |  |
| EE 4252 | 3 |  |
| EE 4253 | 3 |  |
| EE 4259 | 1 |  |
| EE 4290 | 3 |  |
| EE 4411 | 3 |  |
| MSE 4292 | 3 |  |
| PH 3410 | 2 |  |
| PH 4510 | 3 |  |
| PH 4640 |  |  |
|  |  |  |

Free Electives: 2 Credits

| Course Number | Credits | Course Status Code <br> M, R, P, WVD, SUB* |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  |  |  |
| Credit Subtotal |  |  |  |

Advisor Use Only
Total Credits Required
Total Credits Completed
Total Credits Needed

* $\mathbf{M}$-Passed with valid grade, transfer, or Advance Placement credit; Registered in course; Plan to take in future, WVD-Waived course or credit (does not reduce total degree credits required), SUB-Petitioned as substitute course.

