

Michigan Technological University

Bachelor of Science Degree Audit

Major Program: Electrical Engineering, Concentration: Photonics

Program Code EEEP, Academic Year 2018-19

Total credits required for the degree: 128

Major Requirements: 81 credits

Course	Credits
CH 1150	3
CH 1151	1
CS 1111	3
EE 1110	1
EE 1111	1
EE 2111	3
EE 2112	4
EE 2174	4
EE 3131	4
EE 3140	3
EE 3160	3
EE 3180	3
EE 3250	3
EE 3261	3
EE 3901	2
ENG 1101 or ENG 1001 and ENG 1100	3/4
ENG 1102	3
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 Elective: 3 credits

EE3373, ENG2120, ENG3200, ENG4510, MEEM2110, MEEM2150, MEEM2201, MEEM2700, MEEM3210, MEEM3220, MSE2100, MSE4292, PH2300, PH2400, PH3300

Course	Credits

EE Technical Electives: 3 credits

Any EE course except CS1000, EE3010, 4000, 4805, 4901, 4910, and those listed in major requirements

Course	Credits
	3

Senior Design Path: 7 credits

Senior Design: 4 credits

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

Course	Credits
	2
	2

Approved Electives: Choose at least 3 credits from the list below

Course	Credits
	3

or 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

Course	Credits
	1
	1
	2
	2

Approved Elective: Choose at least 1 credit from the list below

Course	Credits
	1

List of Approved Electives

Three credits required with Senior Design Path

One credit required with Enterprise Design Path

Any BL1010 or higher excluding BL1580, 1590, 1710, 1800, 3970 or BL3990

Any CH course numbered above CH1151

Any CM course except CM3410

Any EE course except EE3010 (maximum of 4 credits)

ENG2000 - ENG4999 except ENG2990, 3530, 4300, 4900, 4905, 4910 and 4990

MA2600 or 2910 and any MA course at least 3000 level *except* MA3720, 3750, 3810, 3811, 3990, 4810, 4820, 4900, 4905, 4945

Any BE (*excluding* BE2700 and BE4770), CEE, CS, ENT (*excluding* ENT2958, 3964), GE, MEEM, MSE course

UN4000

4 credits maximum from UN3002, UN3003, UN3004, UN3005

Concentration Requirements: 20 credits

Course	Credits
EE 2190	3
EE 3190	3
EE 3290	4
EE 4490	4

Choose 6 credits from the following:

Course	Credits
EE 4252	4
EE 4253	3
EE 4257	3
EE 4290	3
EE 4411	3
MSE 4292	3
PH 4510	2
BE 4250	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 [General Education](#) page.

Course	Credits

Free Electives: 0 credits

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

Course	Credits

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 [General Education](#) 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