

BA Physics (SPA) Degree

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

First Year

Fall

Course	Prerequisite	Credit
PH1160 Honors Physics I- Mechanics		3
PH1161 Intro to Experimental Physics 1		1
PH1162 Intro to Physics Seminar		1
MA1160/1 Calculus with Technology I		4-5*
CH1150 University Chemistry I		3
CH1151 University Chemistry Lab		1
UN1015 Composition		3
Total		16-17

Spring

Course	Prerequisite	Credit
PH1360 Honors Physics II		2 [‡]
PH1361 Intro to Experimental Physics II		1
PH2300 Univ Phys III – Fluids & Thermal		2 [‡]
MA2160 Calculus with Technology II		4
MA2320 or 2330 Elem./Intro. Linear Algebra		2-3
Ess. Ed. Foundations of the Human World		3 [§]
Total		14-15

Second Year

Fall

Course	Prerequisite	Credit
PH2021 Intro to Programming in Physics		1
PH2260 Honors Physics III- Electricity & Magnetism		4
PH2261 Intro to Experimental Physics III		1
MA3530 Intro to Differential Equations		3
Ess. Ed. Distribution or Minor course		3 [§]
Elective		3 ^{°#}
Total		15

Spring

Course	Prerequisite	Credit
PH2230 Electronics or Physics elective		3-4 ^{¶#}
PH2400 Univ Physics IV- Waves & Modern Phys.		3
MA3160 Multivariable Calculus		4
Ess. Ed. Distribution or Minor course		3 [§]
Ess. Ed. Well-being		1 [§]
Total		14-15

Third Year

Fall

Course	Prerequisite	Credit
PH3210 Optics or Physics elective		3 ^{¶#}
Ess. Ed Distribution or Minor course		3 [§]
Electives		9 [°]
Total		15

Spring

Course	Prerequisite	Credit
Physics electives		6 [#]
Ess. Ed. Distribution or Minor course		3 [§]
Electives		6 [°]
Ess. Ed. Well-being		1 [§]
Total		16

Fourth Year

Fall

Course	Prerequisite	Credit
Physics Elective		3 [#]
Ess. Ed. Distribution or Minor course		3 [§]
Electives		6-9 [°]
Ess. Ed. Well-being		1 [§]
Total		13-16

Spring

Course	Prerequisite	Credit
Physics electives		3 [#]
Electives		12 [°]
Total		15

Grand Total = 118-124 Credits

* Physics majors are expected to be calculus ready upon entering this program. Students who are placed in MA1032 should contact Dr. John Jaszczak (jaszczak@mtu.edu) or Dr. Katrina Black (keblack@mtu.edu) to discuss several options.

‡ Half-Semester Course

◊ 40 to 42 total credits of free electives. Students are encouraged to develop a coherent plan with an advisor

15 credits physics electives with a minimum of 9 credits at the 3000-level or higher. PH4010, PH4011, PH4050, PH4080 and more than 3 credits of PH4999 may not be counted toward the 3000-level or higher requirement

¶ Only one of PH2230 and PH3210 is required

§ For [Essential Education requirements](https://www.mtu.edu/registrar/essential-education/program-requirements/) see <https://www.mtu.edu/registrar/essential-education/program-requirements/>