Michigan Technological University – Department of Physics
Typical Schedule: BA Physics Major (SPA) Calculus Start

Note: The following is intended to serve as a guide. This is not an official list of degree requirements. Adjustments may be required due to curriculum changes. Students are encouraged to discuss and review their schedules with their advisors. Three units of Co-Curricular activities are also required.

Year 1 – Fall Semester

PH1160 Honors Physics I- Mechanics (4)
PH1161 Intro to Experimental Physics 1 (1)
MA1160/1 Calculus with Technology I (4-5)[*]
CH1150 University Chemistry I (3)
CH1151 University Chemistry Lab (1)
[CH1153 University Chemistry Recitation (1)][†]
UN1015 Composition (3)

Total Credits: 16-18

Year 1 – Spring Semester

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)
UN1025 Global Issues (3)
Elective or Physics elective (3)[◊] [#]

Total Credits: 15-18

Year 2 – Fall Semester

PH2020 Sci. Programming & Error Analysis (2)
PH2260 Honors Physics III- Electricity & Magnetism (4)
PH2261 Intro to Experimental Physics III (1)
MA3530 Intro to Differential Equations (3)
Gen Ed Critical & Creative Thinking or Social Responsibility & Ethical Reasoning core course (3)[§]
Elective or Physics elective (3)[◊] [#]
Co-curricular (0-1)

Total Credits: 16-17

Year 2 – Spring Semester

PH2230 Electronics or Physics elective (3-4) [φ] [#]
PH2400 Univ Physics IV- Waves & Modern Phys. (3)
MA3160 Multivariable Calculus (4)
Gen Ed Critical & Creative Thinking or Social Responsibility & Ethical Reasoning core course (3)[§]
Elective or Physics elective (3) [◊] [#]
Co-curricular (0-1)

Total Credits: 16-18

Year 3 – Fall Semester

PH3210 Optics and/or Physics electives (3-6) [φ] [#]
Gen Ed HASS course (3) [§]
Electives (6-9) [◊]
Co-curricular (0-1)

Total Credits: 15-16

Year 3 – Spring Semester

Physics electives (3-6) [#]
Gen Ed HASS course (3) [§]
Electives (6-9) [◊]
Co-curricular (0-1)

Total Credits: 15-16

Year 4 – Fall Semester

Physics Electives (3-6) [#]
Gen Ed HASS course (3) [§]
Electives (6-9) [◊]
Co-curricular (0-1)

Total Credits: 15-16

Year 4 – Spring Semester

Physics electives (3-6) [#]
Gen Ed HASS course (3) [§]
Electives (6-9) [◊]
Co-curricular (0-1)

Total Credits: 15-16

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

[†] Recommended but not required for students seeking more practice in chemistry problem solving

[‡] Half-Semester Course

[◊] 39 to 41 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

[φ] Only one of PH2230 and PH3210 is required

[§] For General Education requirements see http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

Michigan Technological University – Department of Physics
Typical Schedule: BA Physics Major (SPA) Non-Calculus Start

Note: The following is intended to serve as a guide. This is not an official list of degree requirements. Adjustments may be required due to curriculum changes. Students are encouraged to discuss and review their schedules with their advisors. Three units of Co-Curricular activities are also required.

Year 1 – Fall Semester

MA1032 Pre-calculus (4)[*]
CH1150 University Chemistry I (3)
CH1151 University Chemistry Lab (1)
[CH1153 University Chemistry Recitation (1)][†]
UN1015 Composition (3)
Elective or Physics elective (3) [◊] [#]

Total Credits: 14-15

Year 1 – Spring Semester

MA1161 Calculus Plus with Technology I (5)
UN1025 Global Issues (3)
Electives and/or physics elective (9) [◊] [#]

Total Credits: 17

Year 2 – Fall Semester

PH1160 Honors Physics I- Mechanics (4)
PH1161 Intro to Experimental Physics I (1)
MA2160 Calculus with Technology II (4)
Gen Ed Critical & Creative Thinking or Social Responsibility & Ethical Reasoning core course (3) [§]
Elective (3) [◊]
Co-curricular (0-1)

Total Credits: 15

Year 2 – Spring Semester

PH1360 Honors Physics II (2)
PH1361 Intro to Experimental Physics II (1)
PH2300 Univ Phys III – Fluids & Thermal (2)
MA2320 Elementary Linear Algebra (2)
Gen Ed Critical & Creative Thinking or Social Responsibility & Ethical Reasoning core course (3) [§]
Elective (3-6) [◊]
Co-curricular (0-1)

Total Credits: 16-17

Year 3 – Fall Semester

PH2020 Sci. Programming & Error Analysis (2)
PH2260 Honors Physics III- Electricity & Magnetism (4)
PH2261 Intro to Experimental Physics III (1)
MA3530 Intro to Differential Equations (3)
Gen Ed HASS course (3) [§]
Elective (3) [◊]
Co-curricular (0-1)

Total Credits: 16-17

Year 3 – Spring Semester

PH2400 Univ Physics IV- Waves & Modern Phys. (3)
MA3160 Multivariable Calculus (4)
Gen Ed HASS course (3) [§]
Electives and/or physics electives (6) [◊] [#]
Co-curricular (0-1)

Total Credits: 16-17

Year 4 – Fall Semester

PH3210 Optics [or PH2230 in spring] (3) [φ]
Gen Ed HASS course (3) [§]
Electives and/or physics electives (9) [◊] [#]
Co-curricular (0-1)

Total Credits: 15-16

Year 4 – Spring Semester

PH2230 Electronics [or PH3210 in fall] (4) [φ]
Gen Ed HASS course (3) [§]
Electives and/or physics electives (9) [◊] [#]
Co-curricular (0-1)

Total Credits: 16-17

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[*] Students who place into MA1030 should contact Dr. Katrina Black (keblack@mtu.edu) or Dr. John Jaszczak (jaszczak@mtu.edu) to discuss several options.

[†] Recommended but not required for students seeking more practice in chemistry problem solving

[◊] 39 to 41 total credits of free electives, including MA1032. 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

[φ] Only one of PH2230 and PH3210 is required

[§] For General Education requirements see http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/