

The B.Sc. Honours Program in Physics

C1 Natural Science Requirement (15 credit units)

PHYS 115.3

PHYS 125.3 or PHYS 117.3

CMPT 111.3 or CMPT 116.3

CMPT 115.3 or CMPT 117.3

Choose 3 credit units from the following list:

BIOL 120.3, BIOL 121.3, CHEM 112.3, CHEM 115.3, GEOG 120.3,
GEOL 121.3, GEOL 122.3.

C2 Humanities Writing Requirement (6 credit units)

Choose 6 credit units from

100-Level ENG Courses

100-Level HIST Courses

LIT 100.6

PHIL 120.3, PHIL 133.3

C3 Social Science Requirement (6 credit units)

Choose 6 credit units from

ANTH 111.3, ARCH 112.3, ARCH 116.3, ECON 111.3, ECON 114.3, GEOG
130.3, LING 111.3, LING 112.3, NS 105.3, NS 106.3, POLS 111.3, POLS
112.3, PSY 110.6, SOC 111.3, SOC 112.3, WGST 110.6

C4 Mathematics/Statistics Requirement (6 credit units)

MATH 110.3, MATH 116.3

C5 General Requirement (6 credit units)

Choose 6 credit units from the areas of Humanities, Social Sciences,
Languages and/or Fine Arts.

No more than 6 credit units in C2, C3, or C5 may be chosen from any one
subject.

C6 Major Requirements (48 credit units)

Required core courses:

PHYS 230.1, PHYS 231.1, PHYS 223.3, PHYS 252.3, EP 253.1, PHYS 323.3, PHYS 356.3, PHYS 371.3, PHYS 383.3, PHYS 490.0

Choose additional credit units from the following list to satisfy the 48 credit unit requirement under C6:

At least 6 credit units must be at the 400-level.

ASTR 213.3, ASTR 214.3, ASTR 310.3, ASTR 312.3, ASTR 320.3, ASTR 411.3, EP 271.3, EP 311.3, EP 321.3, EP 353.2, EP 354.2, EP 317.3, EP 421.3, EP 431.3, EP 464.3, PHYS 322.3, PHYS 352.3, PHYS 402.3, PHYS 403.3, PHYS 452.3, PHYS 453.2, PHYS 456.3, PHYS 461.3, PHYS 470.3, PHYS 471.3, PHYS 481.3, PHYS 482.3, PHYS 491.3, PHYS 492.3, PHYS 493.6, PHYS 497.15, PHYS 498.3, PHYS 499.6.

Students can also choose a Specialization in their B.Sc. (Honours) degree in Physics. In this case they have to take the required core courses listed under C6, a 6 credit unit or 15 credit unit research project in the area of the Specialization, additional core courses for the Specialization, and some electives from restricted lists:

Specialization in Astronomy

PHYS 493.6 or PHYS 497.15 research project in Astronomy

Choose 18 credit units (if you take PHYS 493.6) or 9 credit units (if you take PHYS 497.15) from the following list:

ASTR 213.3, ASTR 214.3, ASTR 310.3, ASTR 312.3, ASTR 320.3, ASTR 411.3, PHYS 402.3, PHYS 403.3, PHYS 461.3, PHYS 481.3, PHYS 482.3. ASTR or PHYS Special Topics Courses can be used with departmental approval. At least 9 credit units must be taken in Astronomy courses, with at least 3 credit units at 300-level or above.

Specialization in Atmospheric, Space, and Plasma Sciences

PHYS 322.3, PHYS 461.3, EP 464.3

PHYS 493.6 or PHYS 497.15 research project in a subject of Atmospheric, Space, and Plasma Sciences

If you take PHYS 493.6 choose 9 credit units from the following list:

ASTR 312.3, ASTR 320.3, EP 311.3, EP 321.3, EP 421.3, EP 431.3, PHYS 352.3, PHYS 402.3, PHYS 403.3, PHYS 452.3, PHYS 470.3, PHYS 471.3, PHYS 481.3. PHYS Special Topics Courses can be used with departmental approval.

Specialization in Materials Science

(EP 271.3 and PHYS 470.3) or (CHEM 242.3 and CHEM 334.3)

PHYS 493.6 or PHYS 497.15 research project in Material Science

Choose 12 credit units (if you take PHYS 493.6) or 3 credit units (if you take PHYS 497.15) from the following list:

EP 311.3, EP 321.3, EP 317.3, EP 353.2, EP 354.2, EP 421.3, EP 431.3, EP 464.3, PHYS 402.3, PHYS 403.3, PHYS 453.2, PHYS 461.3, PHYS 471.3, PHYS 481.3, PHYS 482.3. PHYS Special Topics Courses can be used with departmental approval.

Students taking the Material Science Specialization must also take CHEM 112.3 and CHEM 115.3. These courses may be counted in Program Requirement C1 and/or Program Requirement C7.

Specialization in Nuclear Science

PHYS 352.3, EP 353.2, EP 354.2, PHYS 453.2, PHYS 452.3

PHYS 493.6 or PHYS 497.15 research project in Nuclear Science

If you take PHYS 493.6 choose 6 credit units from the following list:

PHYS 402.3, PHYS 403.3, PHYS 470.3, PHYS 471.3, PHYS 481.3, PHYS 482.3. PHYS Special Topics Courses can be used with departmental approval.

A student may also choose Nuclear Science courses from the University of Ontario Institute of Technology with departmental approval.

Specialization in Theoretical Physics

PHYS 402.3, PHYS 481.3, ASTR 411.3

PHYS 493.6 or PHYS 497.15 research project in Theoretical Physics

If you take PHYS 493.6 choose 9 credit units from the following list:

MATH 211.3, MATH 277.3, MATH 313.3, MATH 314.3, MATH 352.3, MATH 366.3, MATH 432.3, MATH 433.3, MATH 438.3, MATH 452.3, EP 464.3, PHYS 403.3, PHYS 452.3, PHYS 461.3, PHYS 470.3, PHYS 482.3. PHYS or MATH Special Topics Courses can be used with departmental approval.

C7 Electives Requirement

Required Cognate Courses (18 credit units)

MATH 223.3 or 225.3 or 276.3 (MATH 223.3 recommended),
MATH 224.3 or 226.3 or 238.3 (MATH 224.3 recommended),
MATH 264.3 or 266.3, MATH 338.6, MATH 379.3

Open electives

Courses to complete the requirements for a 120 credit unit Four-year program, of which at least 66 credit units must be at the 200-level or higher.
