

NOTE: Students who were admitted before 2013/2014 calendar term. Important to follow term you were admitted in.



Double Honours B.Sc. Mathematics and Physics

This challenging program consists of 21.5 credits (as opposed to a normal load of 20.0), of which 16.5 or 17.0 credits are in Mathematics, Physics or Engineering. This program is best suited for students who have achieved very high grades in secondary school in mathematics and physics and is excellent preparation for graduate school in either Physics or Mathematics. Typically each year, you will take 5.0 credits (10 "half-courses"), and shown below are the courses that are normally taken in a given year, designed to satisfy the prerequisite structure. Not specified are possible elective courses, as there is some flexibility starting in year two.

Your First Year

Physics: PHYS 1001 and 1002 (recommended) or 1003 and 1004 or 1007 and 1008 (with an average grade of B- or higher)
Mathematics: MATH 1002 and 102 and 102
Experimental Science: CHEM 1001 and CHEM 1002 or CHEM 1005 and CHEM 1006 or BIOL 1003 and BIOL 1004 or EARTH 1006 and EARTH 1009
Computer Science: COMP 1005
Electives: NSCI 1000 or 0.5 credits approved arts or social science

In first year university, much of your schedule will be required courses, which are prerequisites to upper year courses. These will give you the basics that you need in order to continue on in the program as well as some breadth of study into subjects other than your major.

Your Second Year

Physics: PHYS 2202, 2604 and 3701
Mathematics: MATH 2000 (full year), 2100 (full year), 2454, 3705 and STAT 2655
Computer Science: 0.5 credit approved Computer Science elective

Calculus and algebra credits give you the Mathematics background necessary for further study in the field. Ordinary differential equations and mathematical methods are used in your Physics courses, which are optics, modern physics and quantum mechanics in second year.

Your third year Physics courses include electromagnetism, thermodynamics and advanced dynamics as well as a modern physics courses and a pure laboratory credit. Mathematics credits cover real analysis and group theory, among other subjects.

In your fourth year, you will perform an independent research project under the supervision of a professor at the university. Projects may be in Mathematics or Physics depending on your interests.

Your Third Year

Physics: PHYS 3007, 3308, 3802 and 4409
Mathematics: MATH 3001, 3057, 3106 and 3008
1.0 credit in either PHYS 3606 & [0.5] credit in PHYS 4000-level or higher or 1.0 credit in PHYS at the 4000-level

Your Fourth Year

Physics: PHYS 4707, 4708 and 1.0 credit in PHYS at the 4000-level
Math/Phys: 1.0 credit from MATH 4905 or PHYS 4907 or PHYS 4908 plus 0.5 credit 4000-level MATH or PHYS
Project: PHYS 4909 (full year) or one of PHYS 4907 (fall) or 4908 (winter) or MATH 4905 (winter) and 0.5 credit in MATH or PHYS at the 4000-level

Note: In addition to the above required courses, you must take 1.5 elective credits in approved Arts or Social Sciences and 1.0 credit in free electives as outlined in the Undergraduate Calendar.

Questions?

Please feel free to contact the department: **Loc:** 3302 Herzberg **Tel:** (613) 520-4320

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