

Course selection for Integrated Science



Integrated Science is a full-time, first-year program designed to prepare BSc students for undergraduate *science honours degrees*. The program emphasizes the connections among the different science disciplines and provides students with research training and experience. Students take the core program as a cohort (max 80 students).

The core consists of two 9-credit-hour courses, Integrated Science I (SCIE 1506.09), and Integrated Science II (SCIE1507.09), as well as Ethics in Science (PHIL 1050.03). In the fall, students have lectures, laboratories and field trips in Biology, Psychology and Statistics, and receive training in research skills (experimental design, analysis, scientific writing). The winter term consists of lectures and laboratories in Biology, Psychology and Earth Sciences, and students conduct a 10-week independent research project in a Dalhousie or Dalhousie-affiliated research lab. Students present the results of their research at a conference-style event.

Integrated Science I and II are equivalent to two terms of Biology and Psychology, and one term of Statistics and Earth Sciences. Together with PHIL 1050 (Ethics in Science), the core fulfills the writing requirement for BSc students.

Students also register for several other science courses; these are taken along with other BSc students, typically in larger classes. Students take a full year of Chemistry (CHEM 1011.03 in fall and CHEM 1012.03 in winter), and one or two terms of Calculus (see below). Note that students taking a full year of calculus will have a course overload (18 credit hours) in the fall term and should expect a significantly heavier workload. A regular full course load is 15 credit hours per term.

DISP Core classes taken by DISP cohort of 80 students - 21 credit hours

| Fall | Winter |
|---|---|
| Integrated Science I (SCIE 1506.09) <i>Biology, Psychology, Statistics, Writing in Science (field trip reports)</i> | Integrated Science II (SCIE 1507.09) <i>(Biology, Psychology, Earth Sciences, Writing in Science (research projects))</i> |
| Ethics in Science (Phil 1050.03) | |

Courses taken by DISP students in sections with other first year BSc students – 9 to 12 credit hours

| Fall | Winter |
|---|--|
| Concepts in Chemistry: Structure and Reactivity (CHEM 1011.03) | Concepts in Chemistry: Energy and Equilibrium (Chem 1012.03) |
| Select a calculus course: Math 1215.03 OR Math 1000.03 + Math 1010.03* | |
| | Life Sciences Calculus (Math 1215.03) if not taking Math 1000.03 |
| Differential and Integral Calculus I (Math 1000.03) if not taking Math 1215.03 in winter | Differential and Integral Calculus II (Math 1010.03) taken after Math 1000.03 |

* See the table on the next page for advice on Calculus course selection. Students choose EITHER Life Sciences Calculus (Math 1215.03) OR Differential and Integral Calculus (Math 1000.03 + Math 1010.03)

30 credit hours (15 credit hours per term) is considered a full course load for regular BSc students. Students registered in Math 1215.03 will have a full course load of 15 credit hours per term. Students in Math 1000.03 + Math 1010.03 will have a course overload (18 credits total) in fall term and 15 credit hours in the winter term.

| BSc programs with Math 1215 recommended** | BSc programs requiring Math 1000+1010 |
|---|---------------------------------------|
| Biochemistry & Molecular Biology | Earth Science (Math 1000 only) |
| Biology | Actuarial Science |
| Environmental Science | Economics |
| Microbiology & Immunology | Mathematics |
| Neuroscience | Statistics |
| Psychology | Chemistry |
| Marine Biology | Ocean Sciences |
| Medical Sciences | Physics |

***Math 1215.03 and Math 1000.03 are equivalent classes. Students achieving a B in Math 1215.03 may continue on to Math 1010.03 in a later year if needed.*

Students considering a double major should consider the Math requirements for their second major when deciding between Math 1215 and Math 1000+1010.

DISP Physics Majors – Important Information

In previous years, a full year (6 credit hour) of physics was included as an option for DISP students. Students who chose to include physics in previous years had an exceptionally heavy workload (21 credit hours fall, 18 credit hours winter). Therefore, DISP students considering Physics as a Major requiring them to take Physics in first year must contact Dr. Gabrielle Tompkins to discuss whether the DISP program is the best fit, or to discuss options for meeting course requirements within 18 credit hours per term.

Apart from students intending to Major in Physics, we advise students interested in taking physics to do so in their second year of their BSc instead. The following programs require 6 credit hours of Physics (PHYC 1190/1290 or PHYC 1310/1320***): **Ocean Sciences (1190/1290 or 1310/1320), Chemistry (1190/1290 or 1310/1320), Earth Science (1190/1290), Physics (1190/1290)**. Medical Sciences students take 3 credit hours of physics in 3rd year.

****If considering Physics courses, please consult the course descriptions in the Dalhousie Academic Calendar.*

BSc degree requirements and the Integrated Science program

The Integrated Science program core satisfies the Writing requirement, the Social Science requirement, the Science requirement, and the Math requirement for BSc students at Dalhousie. It satisfies *half* of the Humanities/Language requirement; another 3 credit hour Humanities or Language course is needed before graduation.

Dalhousie University BSc Degree Requirements

| Requirement | Covered by: |
|--|--|
| Mathematics (6 credit hours) | SCIE 1506 Statistics + MATH 1215.03 or MATH 1000.03 |
| Social Science (6 credit hours) | SCIE 1506/1507 Psychology |
| Life/Physical Science (6 credit hours) | SCIE 1506/1507 Biology, Earth Science, Psychology, Chemistry |
| Languages & Humanities (6 credit hours) | Ethics in Science (PHIL 1050.03) + additional 3 credits required before graduating |
| Writing | SCIE 1506/1507 Writing in Science + PHIL 1050.03 |

Integrated Science is a unique program, housed in the Faculty of Science at Dalhousie University. For more details, including entrance requirements and admissions procedures, please see disp.science.dal.ca or contact us by phone (902) 494-2765 or e-mail: disp@dal.ca. To discuss your options and whether this program is right for you, please e-mail Dr. Gabrielle Tompkins at gabrielle.tompkins@dal.ca.