PHYSICS AND GEOPHYSICS MAJOR (B.SC.) (69 CREDITS)

Offered by: Physics (Faculty of Science)
Degree: Bachelor of Science
Program credit weight: 69

Program Description

The joint program in Physics and Geophysics focuses on geophysics and related fields.

Degree Requirements — B.Sc.

This program is offered as part of a Bachelor of Science (B.Sc.) degree.

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Program Prerequisites

Students entering Physics programs from the Freshman program must have successfully completed the courses below or their equivalents. Quebec students must have completed the DEC with appropriate science and mathematics courses.

Expand allContract all

Course	Title	Credits
CHEM 110	General Chemistry 1.	4
CHEM 120	General Chemistry 2.	4
PHYS 131	Mechanics and Waves.	4
PHYS 142	Electromagnetism and Optics.	4

One of:

Expand allContract all

Course	Title	Credits
BIOL 111	Principles: Organismal Biology.	3
BIOL 112	Cell and Molecular Biology.	3

MATH 133 Linear Algebra and Geometry. and either MATH 140 Calculus 1./MATH 141 Calculus 2. or MATH 150 Calculus A./MATH 151 Calculus B..

Expand allContract all

Course	Title	Credits
MATH 133	Linear Algebra and Geometry.	3
MATH 140	Calculus 1.	3
MATH 141	Calculus 2.	4
MATH 150	Calculus A.	4
MATH 151	Calculus B.	4

Required Courses (57 Credits)

Expand allContract all

Course	Title	Credits
EPSC 231	Field School 1.	3
EPSC 240	Geology in the Field.	3
EPSC 303	Structural Geology.	3
EPSC 320	Elementary Earth Physics.	3
MATH 222	Calculus 3.	3
MATH 223	Linear Algebra.	3
MATH 314	Advanced Calculus.	3
MATH 315	Ordinary Differential Equations.	3
PHYS 230	Dynamics of Simple Systems.	3
PHYS 232	Heat and Waves.	3
PHYS 241	Signal Processing.	3
PHYS 257	Experimental Methods 1.	3
PHYS 258	Experimental Methods 2.	3
PHYS 331	Topics in Classical Mechanics.	3
PHYS 333	Thermal and Statistical Physics.	3
PHYS 340	Majors Electricity and Magnetism.	3
PHYS 342	Majors Electromagnetic Waves.	3
PHYS 346	Majors Quantum Physics.	3
PHYS 432	Physics of Fluids.	3

Complementary Courses (12 Credits)

6-12 credits from the following:

Expand allContract all

Course	Title	Credits
EPSC 350	Tectonics.	3
EPSC 425	Sediments to Sequences.	3
EPSC 482	Research in Earth and Planetary Sciences.	3
EPSC 503	Advanced Structural Geology.	3
EPSC 510	Climate and Geodynamics	3
EPSC 520	Earthquake Physics and Geology.	3
EPSC 549	Hydrogeology.	3
MATH 319	Partial Differential Equations .	3

PHYS 320	Introductory Astrophysics.	3
PHYS 321	Data Science and Observational Astrophysics.	3
PHYS 339	Measurements Laboratory in General Physics.	3
PHYS 404	Climate Physics.	3

0-6 credits from the following:

Expand allContract all

Course	Title	Credits
EPSC 482	Research in Earth and Planetary Sciences.	3
PHYS 449	Majors Research Project.	3
PHYS 459D1	Research Thesis.	3
PHYS 459D2	Research Thesis.	3
PHYS 512	Computational Physics with Applications.	3
PHYS 521	Astrophysics.	3

Note: If chosen, PHYS 459D1 Research Thesis. and PHYS 459D2 Research Thesis. must be taken together.