PLANETARY SCIENCES HONOURS (B.SC.) (78 CREDITS)

Offered by: Earth & Planetary Sciences (Faculty of Science)
Degree: Bachelor of Science
Program credit weight: 78

Program Description

The program curriculum is designed to provide a rigorous foundation in physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching, and research. It is intended to provide an excellent preparation for graduate work in the earth and planetary sciences.

Note: Honours students must maintain a CGPA equal to or greater than 3.20.

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.

Required Courses (66 credits)

Expand allContract all

Course	Title	Credits
EPSC 210	Introductory Mineralogy.	3
EPSC 212	Introductory Petrology.	3
EPSC 220	Principles of Geochemistry.	3
EPSC 231	Field School 1.	3
EPSC 233	Earth and Life Through Time	3
EPSC 240	Geology in the Field.	3
EPSC 303	Structural Geology.	3
EPSC 320	Elementary Earth Physics.	3
EPSC 340	Earth and Planetary Inference.	3
EPSC 350	Tectonics.	3
EPSC 423	Igneous Petrology.	3
EPSC 480D1	Honours Research Thesis.	3
EPSC 480D2	Honours Research Thesis.	3
EPSC 510	Climate and Geodynamics	3
EPSC 570	Cosmochemistry.	3
MATH 222	Calculus 3.	3
MATH 223	Linear Algebra.	3
MATH 314	Advanced Calculus.	3
MATH 315	Ordinary Differential Equations.	3
MATH 317	Numerical Analysis.	3
MATH 319	Partial Differential Equations .	3
PHYS 340	Majors Electricity and Magnetism.	3

Complementary Courses (12 credits)

3 credits from:

Expand allContract all

Course	Title	Credits
PHYS 230	Dynamics of Simple Systems.	3
PHYS 251	Honours Classical Mechanics 1.	3

plus 9 credits (three courses) chosen from the following:

Note: Courses at the 300 level or higher in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of undergraduate studies.

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Course	Title	Credits
EPSC 334	Invertebrate Paleontology.	3
EPSC 425	Sediments to Sequences.	3
EPSC 445	Metamorphic Petrology.	3
EPSC 501	Crystal Chemistry.	3
EPSC 519	Isotopes in Earth and Environmental Science.	3
EPSC 520	Earthquake Physics and Geology.	3
EPSC 530	Volcanology.	3
EPSC 547	Modelling Geochemical Processes.	3
EPSC 548	Igneous Petrogenetic Mechanisms.	3
EPSC 549	Hydrogeology.	3
EPSC 550	Selected Topics 1.	3
EPSC 551	Selected Topics 2.	3
EPSC 552	Selected Topics 3.	3
EPSC 561	Ore-forming Processes.	3
EPSC 567	Advanced Volcanology.	3
EPSC 590	Applied Geochemistry Seminar.	3