

## **Introduction**

Geophysics, a major branch of Earth sciences, is a subject of applied physics. It focuses on the Earth and solar-terrestrial space systems. Its core research areas include solid geophysics, space science and technology, and planetary science. Through aerial, ground, and underground observations, physical experiments, data analysis, as well as numerical simulation, calculation, and inversion, Geophysics research improves our understanding of the Earth and space environment. Based on the principles and methods of physics, it investigates various natural phenomena and their variations in the Earth, planets, and solar-terrestrial space, and is one of the most dynamic subjects in Earth sciences and technology. It is of great significance to the sustainable development of human society and the utilization of the earth and space environment. It has broad applications in the prediction, prevention, and mitigation of natural disasters, the optimization and improvement of our living environment, and the detection and exploitation of energy and resources urgently needed by our society.

## **Undergraduate Program**

### Objectives

Upon completion of the program, students will have had solid foundational training in mathematics and physics; have obtained systematic theoretical knowledge and experimental skills of basic geophysics; and have been familiar with at least one foreign language and modern computer technologies. Students are also expected to have good general scientific literacy, innovative spirit, and adequate knowledge of humanities and social sciences. They will be capable of engaging in scientific research, teaching, and technical development and management in universities, research institutions, and other related technical and administrative agencies.

Major Foundational Courses: Introduction to Earth and Space Sciences, Engineering Mechanics I – Statics and Dynamics, Probability and Statistics, Mathematical Methods in Physics, Computational Methods.

Major Core Courses: Scientific Computing and Programming, Fundamentals of Signal Processing and Data Analysis, Principles of Geology, Principles of Geophysics, Fundamentals of Space Science and Technology.

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