School of Science, Faculty of Science, Kyoto University

# Earth & Planetary Sciences

## First-Year Students (Introductory Courses)

**Foreign Language**
(English, etc.)

**Basic Mathematics**
(Calculus with Exercises, Linear Algebra, Information Processing, etc.)

**Basic Physics**
(Mechanics, Thermodynamics, Electromagnetism, etc.)

**Introductory Courses in Earth & Planetary Sciences**

- Introduction to Earth Science A·B (Liberal Arts and Sciences courses)
- The State of the Art in Geophysics (Liberal Arts and Sciences courses)
- Birth and Evolution of the Earth (Liberal Arts and Sciences courses)
- Experimental Practice of Earth Science (Liberal Arts and Sciences courses)

**Basic Chemistry**

**Basic Biology**

## Second-Year Students (Fundamental Courses)

**Foreign Language** (English, etc.)

**Basic Mathematics**
(Probability Statistics, Numerical Analysis, Physics Mathematics, etc.)

**Basic Physics**
(Analytical Mechanics, Statistical Mechanics, Quantum Mechanics, etc.)

**Introduction to Geophysics**

- Introduction to Geophysics I·II

**Geophysics Basic Education I**

- Geophysical Continuum Mechanics, Advanced Geophysical Continuum Mechanics

**Geophysics Basic Education II**

- Computational Geophysics, Computational Geophysics - Exercise
- Observational Geophysics, Observational Geophysics Laboratory
- Data Analysis Method in Geophysical Problems*

*: 3rd year students First semester

**Interdisciplinary Geophysics Geology and Mineralogy**

- Global Tectonics (Geophysics·Geology and Mineralogy)
- Advanced Practice of Earth Science

**General Geology And Mineralogy**

- General Geological Sciences I·II

**Geology and Mineralogy Basic Education I**

- Chemistry for Earth and Solar System Evolution
- Field Earth Science

**Geology and Mineralogy Basic Education II**

- Materials of Earth and Solar System Evolution of Biosphere
- Basic Exercise in Geoscience

## Third-Year Students (Development Courses)

**Geophysics Basic Education III**

- Electrodynamics of Ionized Gases
- Geophysical Fluid Dynamics
- Mechanics of Elastic Solids
- Physics of the Earth Materials*

*: Second semester

**Laboratory Work in Earth & Planetary Sciences DA·DB**

**Geophysics Specialized Educaiton I**

- Geomagnetism & Aeronomy
- Climate Physics*
  Meteorology I
  Physical Oceanography I
- Solid Earth Geophysics A·B

*: First semester

**Laboratory Work in Earth & Planetary Sciences DC·DD**

**Laboratory Work in Earth & Planetary Sciences·Field work**

- Laboratory Work in Earth & Planetary Sciences E1
- Methods of Geological Mapping and Instrumental Analysis for Geology I
- Field Excursion for Geological Sciences IA
- Laboratory Work in Earth & Planetary Sciences E2
- Methods of Geological Mapping and Instrumental Analysis for Geology II
- Field Excursion for Geological Sciences IB
- Field Excursion for Geological Sciences II

**Geology and Mineralogy Basic Education III**

- Introduction to Earth and Planetary History
- Introduction to Science of Earth and Planetary Materials
- Introduction to Geological Processes of Earth and Planetary Surfaces
- Introduction to Geological Processes of Earth and Planetary Interiors

**Geology and Mineralogy Specialized Educaiton I**

- Geotectonics I
  Petrology
  Mineralogy
  Paleontology I
  Tectonics of East Asia and West Pacific
  Introduction to Geo-and Cosmo-chemistry
- Experiment on Geotectonics I
  Experiment on Petrology
  Experiment on Mineralogical Sciences
  Experiment on Sedimentology and Structural Geology
  Experiment on Historical Geology
  Exercise on Geo-and Cosmo-chemistry

## Fourth-Year Students (Applied Courses)

**Electromagnetism**

**Geophysics Specialized Educaiton II**

- Solar Terrestrial Physics

**Atmosphere and Oceanography**

- Meteorology II
  Physical Oceanography II
  Hydrology

**Solid Earth**

- Geodesy, Active Tectonics
  Seismology, Geothermal Study
  Volcanology

**Special Study Course II (Earth & Planetary Sciences) T01 - T03**

**Geology and Mineralogy Specialized Educaiton II**

- Geotectonics II
  Experiment on Geotectonics II
- Metamorphic Petrology
- Advanced Mineralogy, Practice of Mineralogy
- Sedimentology, Paleontology II, Experiment on Paleontology
- Theories of Tectonics

**Special Study Course II (Earth & Planetary Sciences) T11 - T16**