College of Applied Science

Department of Astronomy and Space Science

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What is Astronomy and Space Science?

In the 21st century, our knowledge of the universe will be further expanded by space observations, and diverse space technologies will become an essential part of our daily life. Manufacture and operation of spacecrafts and payloads, analysis of data obtained by in situ measurements and remote observations, and developing theories with analytic and computational tools are tasks of space science and astronomy. Astronomy as an academic discipline of understanding the universe is no more a heavenly or speculative science. On one hand, it touches the most fundamental philosophical questions, such as how our world was created and how we have come to exist, and on the other hand, it provides the most practical information, such as the safety of astronauts and spacecrafts. Application of space science is not limited to satellite communication and astronomical observations as in the past. The GPS is already embedded in our daily life, and remote sensing can even provide information on the interior of the earth, as well as its atmosphere and surface. Our Department trains students to take part in all such endeavors into space and pioneer the final frontier of mankind: the universe.

Astronomy and Space Science at Kyung Hee University

The Department of Astronomy & Space Science was established in 1985. It is the only university department that provides a balanced education in both astronomy and space science in Korea. The department boasts the largest optical telescope operated by a university in the country. The research area of our Department already encompasses astrodynamics, stellar and galactic astronomy, extragalaxies and cosmology, radio astronomy, infrared astronomy, planetary astrophysics, solar physics, magnetopsheric physics and heliospheric physics. Now we are expanding into manufacture and operation of satellites and payloads, in situ space observations, and development of satellite watch systems. Although our history is not very long, our alumni are now playing key roles in space research in Korea. Owing to the ongoing expansion of our Department, our graduates are also expected to lead space industries in Korea in the near future.

Degree Requirements

To receive the Bachelor of Science degree in Astronomy and Space Science, a student must:

- acquire a minimum of 130 credit units
- satisfy the general requirements set by the University for academic degrees
- complete 15 units of compulsory courses in Astronomy and Space Science
- complete 39 units of electives in Astronomy and Space Science and related fields
- complete 35 units (maximum 56 units) among general culture courses and humanities/social science electives
- attain a designated minimum score in an English proficiency test equivalent to 650 points in TOEIC.

Courses

Year 1

Calculus 1 & 2, Physics 1 & 2, Linear Algebra, Physics Experiment 1 & 2, Basic Astronomy

Year 2

Introduction to Astronomy & Lab 1, Introduction to Astronomy & Lab 2, Scientific Programming with Fortran and IDL, Introduction to Space Electronics & Lab, Advanced Mathematics I, Advanced Mathematics II, Solar System Exploration, Numerical Computation for Space Sciences, Space Observation, Introductory Space Optics & Lab, Celestial Mechanics, Introduction to Space Electromagnetism

Year 3

Astrophysics I, Astrophysics II, Solar-Terrestrial Physics I, Solar-Terrestrial Physics II, Space Electronics Application and Experiment, Satellite & Propulsion Device, Design and Experiment of Space Opto-mechanics, Astronomical Image Processing, Modern Cosmology, Space Flight Dynamics, Stellar Astronomy & Lab

Year 4

Astronomical Instruments, Introduction to Physics of Fluids and Plasmas, Radio Astronomy and Astrochemisty, Astrophysical Thermodynamics, Rocket Systems, Space Payloads & Lab, Remote Sensing, Numerical Simulations, Internship in Astronomy & Space Science

Careers and Graduate Destinations

Graduates from our Department are working as professors at universities, as researchers at national research institutes (e.g. Korea Astronomy and Space Science Institute, Korea Aerospace Research Institute, etc.) and as research and administrative staff in diverse industries (e.g. Korea Aerospace Industries, Korea Telecom, Korean Air, Samsung Data Systems, GEO Tech., IST Korea, etc.).

Faculty

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