College of Science

Today's society is rapidly being transformed into a "knowledge-based society," where knowledge is the most valuable asset. This society requires us to constantly deal with new situations and create new values. The College of Science cultivates the ability to think logically and solve problems, to ensure that students develop solid basic skills applicable for use in this society. Science allows humankind to enjoy the wonder and beauty of mathematics and nature. Studying the fundamental concepts of mathematics, physics, chemistry, and life sciences enables students to develop the ability to think logically. As they conduct their senior-year research project, students concentrate on untangling a scientific question, trying to discover something previously unknown, and strengthening their independent problem-solving abilities.

From the Fundamentals to the Front Lines of Research, and on to Society

Instruction in the College of Science starts with the fundamentals and directs students to the front lines of research. Students start their research projects on an unknown challenge in their senior-year and proceed to full-scale research at graduate school. Thorough consideration is given to the connection between college education and graduate school education. Furthermore, we also provide career development support designed to help students plan their own future and prepare for their role in society.

Learning through Experiments, Recitations, and Seminars

The curriculum aims to deepen the students' understanding of lecture material through personal experience-style experiments, recitations, and seminars. Students can also receive one-on-one guidance from faculty during office hours. The College limits class sizes to allow students and faculty to develop cordial relations.

Advanced Learning in an At-home Atmosphere

Providing learning through small class sizes in an at-home atmosphere where cordial relations exist between both faculty and students and mutually among students is a tradition of the College of Science. Over their four years here, students learn together with fellow students in the liberal arts colleges on the Ikebukuro Campus, meet a diverse array of peers, and refine their communication skills.

CBLS (Community Based Learning in Science) Program

The College works together with Tokyo's Toshima Ward in a collaborative (CBLS) program to promote science and mathematics education. Here students from the College of Science cooperate with elementary and middle schools in the Ward to plan science and

mathematics education to emphasize the joys of science. Through this program the students refine their capacity to discover and resolve challenges while developing their presentation ability.

Department of Mathematics

Small Classes for Better Understanding

Students of the Department study mathematics at a deliberate pace in a supportive atmosphere and in classes with limited enrollment.

Cultivate Thinking Ability in Exercise-Based Classes and Seminars

Relentless conceptual persistence is critical for students of mathematics. The exercise-based classes and seminars offered in the Department push students to be relentless in their thinking.

Learn Pure Mathematics and Information Science

The Department offers a thorough education in both mathematics and information science. Students can also earn teaching credentials in either field.

Achieve Specialization by Building a Solid Foundation

Mathematics study must be both cumulative and concentrated. Students spend their first and second years in the Department building a solid foundation. From their third year, they study in-depth the fields that interest them.

An Overall Picture: Survey of Modern Mathematics One and Two

Mathematics is unimaginably broad and deep. The classes Survey of Modern Mathematics One and Two provides easy-to-understand explanations about the various fields of mathematics, leading students through a wide gateway into the field’s fascinating world.

Department of Physics

A Chance to Learn about the Universe

In the Department of Physics, study of the universe, starting with the earth and reaching to the galaxies, is carried out in a spirited way. This approach provides students with the foundation to move on to studying all aspects of the universe.

In Pursuit of Ultra-Small Worlds

A foundation formed from active research conducted on a daily basis in the fields of elemental particles, atomic nuclei, atoms, and molecules, enables students to study ultra-small worlds.

An Atmosphere Conducive to Asking Questions

The Department's research laboratories are designed for students to visit to consult with a faculty member or graduate student to receive attentive and thorough help on areas that they fail to comprehend.

From the Beginning to the Leading Edge

Introduction to Basic Physics is designed to help students make smooth transition from high school-level physics to university-level physics. Basic classes include exercise-based learning to ensure understanding. This course is designed to prepare students for their fourth-year graduation research projects, where they carry out cutting-edge research by their selves.

An Extensive Line-up of Laboratory Experiments and Seminars

Through experimental training, students develop a sense for physics, and acquire techniques for making measurements and processing information. As the seminars are held in small groups, students are able to engage in fruitful discussions and cultivate their abilities for logical thought.

Department of Chemistry

A High Regard for both Basic Research and Practical Application

There are many issues, such as environmental pollution, that can be partly resolved by chemistry. Understanding basic chemistry and the scientific methodology is critical to resolving these advanced problems.

Basic Education in Small-Sized Classes

The Department's tradition is based on study in small-sized classes, where students acquire a thorough knowledge in fundamental areas such as chemical bonds and chemical reactions.

Respecting the Individuality of Each Student

All first- and second-year students study the basics of organic chemistry, inorganic chemistry, and physical chemistry. In their third and fourth years, they are allowed to arrange their studies according to their interests, by choosing from a broad range of

elective subjects. Studies during these years emphasize the development of each student's individuality.

Exceptionally Broad Graduation Research

Students in their fourth year join a research laboratory, where they carry out research with faculty members, graduate students, and fellow undergraduate students. Many graduation research results are presented at academic conferences.

Department of Life Science

A Broad Range of Career Opportunities Will Unfold in the "Century of Life"

It is anticipated that the life sciences will be essential to many industries during the twenty-first century. In the Department, students develop skills that respond to the demands of the times.

Close Relationships between Students and Faculty Members

The same team of professors oversees students throughout their studies in the Department, from the time they enroll until they graduate. Students often receive one-on-one instruction in laboratory classes.

Approximately Half of the Department's Undergraduates go on to Graduate School

A graduate program is essential for students to find employment where a specialized education in the sciences can be put to use. Education at the graduate school level is supported by a full staff and advanced facilities.

Three Keys to Understanding Cells

Molecular biology explores life on the genetic level. Biochemistry explores life with respect to matter and chemical reactions, and biophysics explores life from the structural perspective. These three fields are the keys to understanding cells as living entities.

Mastering through Experiments what is Studied in Lectures

It is only through hands-on experimentation with living things such as cells or molecules, that students are able to fully understand what they have been studying. In the Department, students carry out a wide range of experiments, and work on their graduation research to find answers to unresolved questions.