

Overview of Academic Degree Programs

Department of Mathematical Sciences

○ Undergraduate Program

In the undergraduate program, students take various courses offered by the Department, according to their interests and career plan, to learn a broad foundation of mathematical knowledge. Every student has an academic advisor who helps in planning coursework, and one can do an individual study to build research experience under the direction of a professor specializing in the subject of one's choice.

The graduates of the Department of Mathematical Sciences find diverse career paths. Some go on to graduate schools to study and research more mathematics; some take the advantage of applicability of mathematics and enter graduate schools in other fields such as physics, biology, engineering, computer science, finance, business administration and economics; and others begin a career in industry related to communication, information security, computers, securities, insurance, finance and banking.

○ Master's Program

In the master's program, students go through advanced level mathematical training in preparation to use mathematics after graduation, or they concentrate on the fundamental mathematics required for more advanced study in the doctoral program. Currently about half of the students in the master's program continue to study mathematics in the doctoral program, while the rest play an active role in industry or government research institutes.

Students learn basics to be experts in mathematical sciences and make plan for coursework or research according to their own interests. They have opportunities to experience other areas through the various extracurricular activities such as colloquia and exchange programs with foreign universities.

○ Doctoral Program

In the doctoral program, students study more advanced mathematics and produce their own new research results. They are well-trained to be competent mathematicians or researchers in industry and government research institutes. Students can create a study plan based on their own interests and career goals and have opportunities to engage in various forms of academic activities such as seminars, research collaboration in other fields, and visiting foreign mathematics institutes and schools. Until now, about 70% of Ph.D. holders produced in the Department have become professors of mathematics, computer science, or related fields, while the rest have been employed in government research institutes or industry.

○ MS-Ph.D. Integrated Program

The Department encourages interdisciplinary research with other academic fields. In the master's program there are many students who have not majored in mathematical sciences for bachelor's degree. In fact, students with various backgrounds contribute to a creative and convergent research environment. At the master's stage, which is the first year of the program, students strengthen their mathematical background by focusing on basic course work. From the second year and onward during their doctoral period, students acquire a deep understanding of mathematics and work toward independent research with an aim of producing novel and innovative results. A large majority of MS-Ph.D. integrated program graduates successfully launch into academic and research positions at prestigious schools and institutes, as well as in industry.