College of Policy and Planning Sciences

■ Bachelor of Policy and Planning Sciences

Program Educational Objectives

We develop human resources with a thinking ability integrating arts and sciences and skills of analyzing and utilizing data, needed for engineering, practical, and strategic analyses of various social problems, where human behaviors are intricately intertwined, and the skills to design systems for comprehensive problem-solving.

Graduate Profile	In diverse fields such as finance and insurance, information and communications, trading and distribution, construction and real estate, manufacturing, energy, systems, and risk management, we cultivate professionals who can scientifically and objectively understand the mechanisms of social issues in an increasingly complex and diverse world. Guided by the concept "Social Issues × Mathematical Approach = Solution Capability," these individuals are capable of proposing new, better social systems.
Career Paths after Graduation / Completion	Approximately two-thirds of graduates advance to graduate school, with about 6% proceeding to doctoral programs. Including graduate school alumni, our graduates are highly active both domestically and internationally in companies, organizations, public service, and education. – University of Tsukuba Graduate School (Systems and Information Engineering Research Group) – Other university graduate schools – Finance & Insurance – Trading Companies & Distribution – Research & Consulting – Information & Communications – Construction & Real Estate – Services – Manufacturing – Chemicals – Energy – Government Agencies & Local Authorities

Diploma Policy

We confer a bachelor's degree (of policy and planning sciences) to students, who have acquired the knowledge and skills (Generic Competences) specified based on the goals of education in undergraduate courses at the University of Tsukuba, and have achieved the following goals, meeting the purposes of human resource development at the College of Policy and Planning Sciences, School of Science and Engineering.

Knowledge and Skills (Specialized Competences)	1. Basic understanding and insight into social systems	Having a basic understanding and insight into social systems, such as economy, enterprises, and cities, and being able to propose specific policies to reduce uncertainty in the social environment based on evidence.
	2. Mathematics, statistics, and information technology for solving complex social problems	Being able to use one's knowledge of mathematics (calculus/linear algebra), statistics (data analysis), and information technology (programming) as a tool to solve various problems facing complex societies.
	3. Ability to analyze global issues	Being able to identify the essences of global problems in modern society.
	4. Ability to fulfill social demands	Being able to flexibly fulfill social demands from multiple perspectives, such as economics, management science and engineering, and urban and regional planning. Being able to comply with professional ethics as an expert/ engineer in the field of economics, management science and engineering, or urban and regional planning.
	5. Communication skills	Having objective and persuasive communication skills. Having skills for basic communication using English. Being able to act cooperatively as a member whenever team collaboration is required.
	6. Problem-solving skills	Being able to explore issues autonomously, and learn independently and continuously.
Guidelines for Assessing Learning Outcomes	The syllabus for each course outlines the corresponding competences listed in the degree conferral policy, along with the evaluation criteria and grading methods. Based on the credits earned in these courses, the degree of competence achievement is measured. The degree conferral evaluation places significant emphasis on the graduation research as the culmination of learning outcomes. Through the graduation thesis and final presentation, multiple faculty members assess whether the knowledge and skills (competences) outlined in the degree conferral policy have been acquired.	

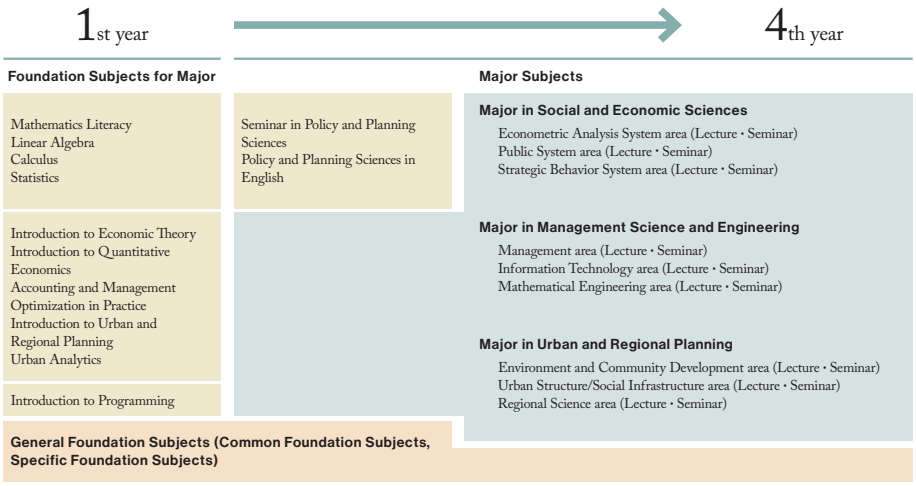
Curriculum Policy

As a program to cultivate learning outcomes related to the Master of Social Engineering degree, the curriculum is organized and implemented based on the following principles.

Curriculum Design Framework	**General policy** The complex and diverse problems confronting modern society have become increasingly difficult for traditional academic disciplines to solve individually. To address this situation, we have established three major fields of study: the Major in Social and Economic Sciences, the Major in Management Science and Engineering, and the Major in Urban and Regional Planning. We aim to cultivate students who possess both specialized expertise and interdisciplinary capabilities, emphasizing scientific rigor and empirical validity in the decision-making processes for policies and plans formulated by governments, local authorities, corporate organizations, and regional communities. Therefore, students do not select a major field upon admission. Instead, they choose their major field in the fall semester of their second year, based on their coursework in the spring semester of their second year, to enhance their specialization. In addition to the major field, students can also select a minor field. **Competences and Corresponding Course Categories, Course Groups, and Core Courses** For foundational understanding and insight into social systems, students acquire specialized foundational courses in mathematics, programming, and related fields, along with various specialized courses. They then apply this knowledge to develop a foundational understanding and insight into social systems. Regarding mathematics, statistics, and information technology for solving complex social problems, students acquire knowledge in these fields through specialized foundational courses in mathematics and programming, as well as various practical exercises within their major, enabling them to address complex societal challenges. Regarding the ability to analyze global issues, students take specialized courses in their major field dealing with current socioeconomic conditions, management problems, and environmental issues. By applying this knowledge, they develop the ability to discern the essence of global problems facing modern society. Regarding the ability to respond to societal demands, students take specialized courses in their major field dealing with practical issues, as well as various seminar courses. This equips them with the ability to respond flexibly to societal demands from multifaceted perspectives. Regarding communication skills, students acquire objective and persuasive communication abilities through courses like “Policy and Planning Sciences in English” and various seminars within their major fields. Regarding the ability to explore issues, students develop the capacity to proactively seek out challenges and engage in self-directed, continuous learning through “Seminar in Policy and Planning Sciences”, other problem-solving seminars, and graduation research. **Course sequence policy** – Until the Spring Semester of the second year, students primarily take foundational specialized courses necessary for learning the specialized subjects of this department. These include courses that serve as an introduction to the specialized subjects of the three major fields. – Starting in the fall semester of the second year, students join their major and begin taking specialized courses. To clearly illustrate the structure of the specialized field, courses within each major are grouped into subject areas. This encourages students to develop interdisciplinary expertise. Furthermore, for high-achieving students, the program allows for graduation in the third year. – After advancing to the fourth year, students conduct graduation research throughout the year. They select an advisor from a diverse range of researchers in fields such as engineering, economics, business administration, statistics, psychology, and sociology, and conduct theoretical and practical research. **Implementation Policy** – Seminars are offered across all areas within each major, designed to enable students to proactively engage in learning both theory and practice. Furthermore, through intensive training in presentation and discussion skills during these seminars, students develop the abilities necessary to solve real-world problems in an engineering, practical, and strategic manner.

Teaching and Learning Methods	We provide opportunities for real-world problem- solving activities in cooperation with national and local governments, private companies, and local communities. In addition, for each major, we have developed specialized exercises to help students develop their skills in analyzing and utilizing data.

Curriculum structure



Admission Policy

Desired Student Profile	Acquiring the interdisciplinary thinking needed to recognize and manage a wide variety of social problems that occur in society/economy, companies/management, and cities/regions; and desiring to contribute to the international society.

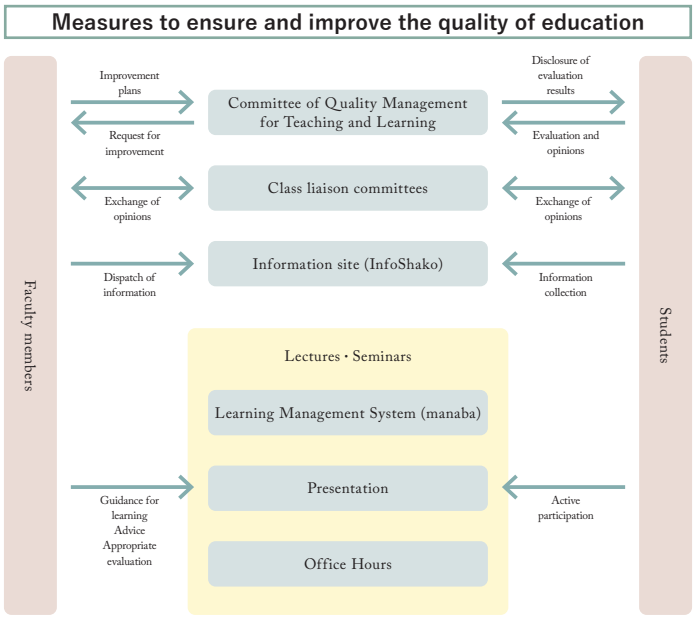
Student Evaluation and Selection	Individual Achievement Test, First-Term Schedule	Selection is based on evaluating foundational proficiency in mathematics and foreign languages, along with understanding of high school Japanese, social studies, and science subjects.
	Individual Achievement Test, Second-Term Schedule	Selection is based on evaluating understanding of high school subjects, along with interest in contemporary societal issues and trends, logical and mathematical analytical skills, and the ability to express oneself in one's own words.
	Entrance Examination by School Recommendation	We select candidates with strong problem-solving awareness from among applicants who demonstrate consistent high school study habits and possess the foundational academic skills necessary for post-admission studies. We evaluate their level of interest in contemporary societal issues and trends, logical and mathematical analytical skills, and ability to express themselves in their own words.
	Entrance Examination for IB Students	We select candidates who possess foundational mathematical skills, have a broad perspective gained through international experience, and demonstrate clear purpose and academic motivation to actively engage in a series of learning activities.
	Entrance Examination for Students from Foreign Educational Programs, Type 1	We select candidates with a broad perspective and the foundational academic skills and Japanese language ability necessary for post-admission studies, focusing on those with a strong sense of inquiry. We comprehensively evaluate candidates' level of interest in societal events and issues, logical and mathematical analytical skills, and ability to express themselves.
	Entrance Examination for Students from Foreign Educational Programs, Type 2	We select highly inquisitive individuals from among applicants who have established study habits in high school and possess the foundational academic skills necessary for post-admission studies. We evaluate candidates' level of interest in contemporary societal issues and trends, logical and mathematical analytical skills, and ability to express themselves in their own words.
	Transfer Examination	We comprehensively evaluate foundational academic skills enabling the acquisition of specialized knowledge in social engineering, academic motivation, strong interest in social engineering, logical and mathematical thinking skills, and communication abilities.

Learning Support Framework

Academic Support	Class advisors, class liaison committee members, and curriculum committee members for each major actively support students. For mathematics, remedial courses teaching foundational principles are offered to provide academic support. Competence assessments are conducted upon placement into majors and when beginning graduation research, with appropriate academic support provided based on the evaluation results. Through various lectures and seminars, students train presentation and discussion skills. This equips them with the abilities needed to solve real-world problems in an engineering, practical, and strategic manner.
Opportunities for Peer Interaction	During the first and second academic years, classes are organized across majors to deepen student interaction through group activities. In the third and fourth academic years, interaction is deepened within each major. Group work is also incorporated into many courses. In the Seminar in Policy and Planning Sciences, nine faculty members from different fields teach the foundational concepts of social engineering while group work strengthens bonds among students.
Opportunities for Student–Faculty Interaction	We regularly hold class liaison meetings to deepen interaction between students and faculty. We also provide opportunities for interaction with faculty members specific to each major. Interaction with alumni is also strong, and the annual Tsukuba Alumni Association event serves as a place for students, faculty, and alumni to connect.

Approaches to Assuring and Enhancing Educational Quality

- For each course, the syllabus explicitly specifies the course description, intended learning outcomes, relation to competences, and the class schedule, thereby enabling students to recognize the knowledge and skills to be acquired. The methods of grade evaluation are likewise published in the syllabus, and through objective assessment we ensure that, by the time of graduation, students have attained the prescribed standards of both specialization and interdisciplinarity.
- Course evaluation surveys, incorporating both university-wide standard items and original content, are administered for all subjects. By providing feedback on the survey results and student comments, we create opportunities to improve the quality of education.
- To enhance course content and improve teaching methods, in addition to participating in university-wide faculty development (FD) activities, we make efforts in FD by regularly holding opinion exchange meetings with students and by creating opportunities to receive feedback on graduation research from a professional perspective through events such as alumni gatherings.
- The curriculum committee analyze and review the assessment results of learning outcomes, striving for the continuous improvement of educational quality.
- The academic management committee continuously reviews and enhances educational activities, ensures the quality of education through initiatives such as workshops, and strengthens the system for achieving the objectives of the College of Policy and Planning Sciences.
- Class liaison meetings, where students and faculty can directly exchange opinions, are held, and policies for responding to students' requests and implementing improvements are discussed in faculty-wide meetings.


Measures to ensure and improve the quality of education
Faculty members
Students
Improvement plans
Request for improvement
Committee of Quality Management for Teaching and Learning
Disclosure of evaluation results
Evaluation and opinions
Exchange of opinions
Class liaison committees
Exchange of opinions
Dispatch of information
Information site (InfoShako)
Information collection
Lectures・Seminars
Learning Management System (manaba)
Guidance for learning
Advice
Appropriate evaluation
Presentation
Active participation
Office Hours