

Postgraduate programs (Master's Programs and Professional Degree Program)

Graduate School of Systems Engineering (Master's Program)

Mission Statement

The Graduate School of Systems Engineering program aims to equip students with in-depth knowledge of a traditional specialised field in engineering and the ability to respond to the demands of the times with a wide-ranging perspective and problem-solving skills. This knowledge and skill enable students to respond to society's demand for personnel who understand and can utilize multiple disciplines.

Diploma Policy

A master's degree in systems engineering is granted to those that are deemed to have achieved the following goals based on the objectives and mission of Wakayama University and the objectives of the Graduate School of Systems Engineering.

1. A high level of expertise and research skills
 - Th Wide-ranging and advanced specialized knowledge in their engineering field of study
 - The Ability to provide a logical explanation of research purposes, methods for solving problems, research outcomes, and applicability to diverse fields.
2. Cooperation and ethics
 - The Ability to cooperate with people in various fields to solve problems
 - The Ability to work on solving problems, taking an ethical approach
3. Regional interest and global perspective
 - The Ability to comprehensively analyse the complex problems facing contemporary society and regions in Japan and overseas, and propose solutions

Curriculum Policy

The curriculum is designed and implemented based on the following policy.

Perspective and Content of Curriculum

1. Regarding the specialized fields and combined fields of systems engineering, specialized subjects, systems engineering specialised theory, and systems engineering research shall be included to enable students to acquire advanced specialized knowledge and skills.
2. Systems engineering specialised theory shall include systems engineering advanced seminar as a compulsory subject, systems engineering specialised self-exercises, systems engineering specialised project exercises, and systems engineering specialised training as elective subjects.

3. Systems engineering workshop shall be included to enable students to acquire the ability to simply and logically explain and discuss the purpose of the research, the method of solving problems, the research outcomes, and their validity with others inside and outside their specialized field.
4. Systems engineering research shall be included to enable students to acquire the ability to cooperate with people in various fields to solve problems, the ability to develop the specialized knowledge and skills to comprehensively analyse the regional problems, the times, and the society in Japan and overseas, and also the ability to independently solve problems with a high level of ethics.
5. When it is deemed to be particularly effective for education, students shall be allowed to take systems engineering basic specialised theory subjects offered as part of systems engineering special theory to acquire fundamental knowledge.

Teaching Mode and Methodologies

1. Regarding the specialized fields and combined fields of systems engineering, lectures and exercises that teach students advanced specialized knowledge and skills, and classes that combine these shall be offered.
2. Class formats such as workshops, seminars, and reading circles shall be included to cultivate the ability to simply and logically explain and discuss the ideas based on specialized knowledge, research methods, outcomes, and the validity of those outcomes with others inside and outside their specialized field
3. Classes in the seminar format shall be delivered to cultivate the ability to comprehensively analyse society in Japan and overseas, the times and overarching issues in the local community, and the ability to independently and ethically solve problems with the acquired specialized knowledge and skills.

Assessment Methods

1. Specialized subjects shall be assessed via examinations, reports, technical works, and presentations depending on the goals to be attained and according to the status of each subject.
2. Systems engineering specialised theory shall be assessed via reports, technical examinations, presentations, and debates according to the requirements of each subject. In particular, systems engineering workshop shall be assessed via a master's thesis research plan, presentation of research progress, and debate.
3. Systems engineering research shall be assessed via research initiatives and achievements.
4. Systems engineering basic specialised theory shall be assessed by supervisors according to individual program requirements.

Admissions Policy

The graduate school of systems engineering seeks students who have acquired the following knowledge and abilities:

1. The fundamental capability, skills, and ability to conduct research activities
2. The willingness to contribute to society in the field of engineering by independently trying new experiences
3. A clear purpose and the willingness to cooperate with others to solve problems in various fields of engineering in society in Japan and overseas
4. Commitment to advanced studies and research

Expectations after Admissions

After admissions, students are required to learn and think proactively. Students are also required to become independent and self-motivated engineers/researchers who can play an active role in a wide range of engineering fields including academia and industrial research from the following perspectives.

1. Advanced specialized knowledge regarding combined fields of engineering.
2. The ability to explain their ideas, research methods, outcomes and validity in a simple and logical manner.
3. The ability to independently and ethically approach issues in the field of engineering in Japan and overseas.

Basic Policy for admissions

1. General admissions
Written examinations, TOEIC/TOEFL scores, application documents, and interviews are used to assess applicants' specialized engineering knowledge regarding their preferred field of research, willingness to study, research plan, and purpose for continuing study including their preferred career path after graduation.
2. Special admissions for third-year undergraduate students
Application documents and interviews are used to comprehensively assess applicants' specialized engineering knowledge regarding their preferred field of research, willingness to study, research plan, and purpose for continuing study including their preferred career path after graduation.
3. Special admissions for mature students
Application documents and interviews are used to comprehensively assess applicants' work experiences, specialized engineering knowledge regarding their

preferred field of research, willingness to study, research plan, and purpose for continuing study including their preferred career path after graduation.

4. Special admissions for international students

Application documents and interviews are used to comprehensively assess applicants' communication skills in Japanese, specialized engineering knowledge regarding their preferred field of research, willingness to study, research plan, and purpose for continuing study including their preferred career path after graduation.