# Graduate School of Science and Technology
# Department of Electrical Engineering

## Diploma Policy

1. The master's program specializes in three fields of *electrical engineering* (energy and environmental problems, control systems), *electronics* (electronic devices, materials, electronic circuits) and *information and communications engineering* (communication systems, signal processing, and information security). In addition to systematically acquiring advanced technical knowledge and skills in at least one of the three fields, the aim is to train researchers or highly skilled professionals with an in-depth understanding of ethics, the ability to contribute to society and an international perspective. Successful candidates will have attended courses in the department of electrical engineering for a specified period and have acquired the necessary credits. Those who have passed a final examination on their master's degree thesis will receive a master's degree (Master of Engineering).

A graduating student will acquire the following abilities:

(1) Advanced expertise in at least one of the three fields of electrical engineering, electronics, or information and communication in the electrical engineering major.
(2) Research skills in at least one of the three fields of electrical engineering, electronic engineering, and information and communication engineering.
(3) The ability to think logically and critically based on the high level of expertise, research skills and insight acquired in the Department of Electrical Engineering; and to discover, analyze and solve problems.
(4) The ability to be active with an international perspective based on the high level of specialist knowledge, research skills and knowledge of liberal arts acquired in the Department of Electrical Engineering.

2. The doctoral program aims to train researchers with knowledge of ethics and the ability to contribute to society in their field of specialization; and play a central role in research and educational institutions. A doctoral degree (Doctor of Engineering) is accredited and awarded to those who have attended courses in the program for a specified period, who have acquired the necessary credits for the department of electrical engineering, had their doctoral dissertation recognized as having reached the standard required, passed a consequent examination, and an examination of general academic ability.

A graduating student will acquire the following abilities:

(1) A highly sophisticated expertise in at least one of the fields of electrical engineering, electronic engineering, and information and communication engineering specialties in the department of electrical engineering.
(2) The ability to conduct independent research activities as a researcher in at least one of the three fields of electrical engineering, electronic engineering, and information and communication engineering in the Department of Electrical Engineering.
(3) The ability to discover, analyze and solve issues based on flexible thinking, deep insight and the highly sophisticated level of expertise and ability to conduct research acquired in the Department of Electrical Engineering.
(4) The ability to be active with an international perspective in fields requiring specialization based on the highly sophisticated level of expertise and research skills acquired in the Department of Electrical Engineering.

## Curriculum Policy

1. In the master's program, the curriculum is based on courses in the liberal arts, basic academic ability and expertise in research gained in undergraduate study; and organized through specialized courses, courses in the liberal arts, and research guidance. The master's program specializes in three fields of *electrical engineering*, *electronics* and *information and communications engineering*. In addition, the curriculum aims

to systematically acquiring advanced technical knowledge and skills in at least one of the three fields, the aim is to train researchers or highly skilled professionals with an in-depth understanding of ethics and an international perspective.

(1) In the specialized courses, special lectures, experiments and seminars are taught in a focused and effective manner in order to acquire more advanced specialist knowledge.

(2) Courses in the liberal arts not only foster the attaining of a broad academic knowledge of the field of study, but also support, the attainment of better communication skills, a deeper understanding of ethics, and a greater sense of global literacies.

(3) Research Guidance helps the acquisition of the knowledge and experience necessary to conduct research through understanding of the literature and discussions with supervisors. Moreover, research guidance helps students to develop such skills as: the ability to communicate research; to problem-solve; and to foster researchers, or similar advanced professionals, with an international perspective both at home and abroad.

2. The doctoral program is based on the advanced ability to expand on the knowledge about research and development that was acquired up to master's program level in the department of electrical engineering not only through Research Guidance but also courses in the liberal arts.

(1) Research Guidance helps students acquire the knowledge and experience necessary to conduct research through understanding of the literature and discussions with supervisors. Moreover, it helps students to develop such skills as: the ability to communicate research; to problem-solve; and to foster the ability of researchers, or similar advanced professionals, to become independent and active in the field, with an international perspective, both at home and abroad.

(2) Courses in the liberal arts support the high degree of academic knowledge, ethics and practical ability necessary for students to carry out research and development as independent researchers, or highly skilled professionals.

## Admissions Policy

Under the educational research philosophy of the university, which is based on the meritocratic tradition; the university seeks, through a range of selection methods, those who match the following criteria:

1. The master's degree program is based on the basic academic ability and wide range of liberal arts acquired in the bachelor's degree program. The aim is to acquire the necessary skills for those with the intent to discover and solve problems through research in their specialist field. The master's degree program seeks those who are willing to work in collaboration with a diverse range of people.
2. The doctoral program is based on the expertise in research acquired up to master's program level. The doctoral program seeks those who are willing to independently conduct creative research.
3. The university seeks those who are motivated to work with an international perspective in society, based on professional knowledge and education.

Evaluation methods for the types of abilities required for the admissions policy in differing entrance examinations:

(General entrance examination)

The university seeks those who have the professional knowledge, English ability, thinking skills and communication skills commensurate with the characteristics of the major; and those who have the determination to conduct independent research. In the master's program, candidates will be selected through an examination of documents submitted, written examinations, qualifications / results of certified tests, and interview. In the doctoral program, candidates will be selected through an examination of documents submitted, written examinations, and qualifications / results of certified tests. Candidates are further chosen on the basis of an oral examination of their master's thesis.

(Special selection for working people, foreign student entrance examination)
The university seeks those who have acquired experience in research institutes or companies, have a positive attitude toward learning, and/or have skills acquired abroad. In the master's program, candidates will be selected through an examination of documents submitted, written examinations, qualifications / results of certified tests, and interview. In the doctoral program, candidates will be selected through an examination of documents submitted, written examinations, qualifications / results of certified tests, and an oral examination of their master's thesis.