STUDENT HANDBOOK

FY2021

Educational Policy of Graduate School of Engineering and Science

1. Purposes of Education and Research

【Master's Program】

The aim of the Master's Program is to foster engineers and researchers, who have the knowledge and awareness of experts in their field of specialization, be able to respond immediately to new aspects of society and further contribute to the construction of a sustainable society and community. Such human resources are required to have the ability to identify problems and solve them quantitatively, backed by a high level of specialized knowledge, as well as the ability to cope with a global society. In order to cultivate these abilities, the Master's Program provides education and research that combines a wide range of internationally accepted insights with flexible thinking.

＜Electrical Engineering and Computer Science Course＞

Today, it is impossible to build a sustainable, advanced, and prosperous social system without electrical technologies for energy, environment, space, nano-properties, devices, information, and communication. In order to meet the demands of society for these electrical, electronic, information, and communication technologies, which are also the foundations of industrial technology, the major's main educational objectives are to (1) acquire advanced specialized knowledge and cultivate the ability to apply it, (2) develop and cultivate the ability to find and solve problems, (3) cultivate presentation and communication skills, and (4) cultivate a sense of cooperation and ethics.

In order to achieve the above goals, the Electrical Engineering and Computer Science Course covers a wide range of academic and technical fields in the electrical and information sciences and is equipped to deal with most of the issues and problems in these fields. The course is also ready to respond immediately to novel and original research themes that are expected to develop in the future. Specifically, the course is united to form majors, realizing graduate education that transcends faculties and departments. Furthermore, education and research guidance are divided into eight specialized fields: (1) Materials and Devices, (2) Circuits and Control, (3) Power and Energy, (4) Communication, (5) Information, (6) Informational Science, (7) Robotics and Mechatronics, and (8) Biotechnology and Biological Systems.

＜Materials Science and Engineering Course＞

The objective of the Materials Science and Engineering Course is to train engineers and researchers who can contribute to the realization of a sustainable society with advanced knowledge of materials and substances, the ability to find and solve problems in order to play an active role in materials manufacturing and development, and a wide range of internationally accepted insights.

＜Applied Chemistry Course＞

Development of science and technology has been brought about not only prosperity of material civilization but also serious environmental problems such as global warming, environmental pollutions. In

chemical industry, materials of high function and environment-friendly in the processes of production, usage, disposal, technology enabling the removal of contaminants and the recovery of rare resource have been required to be developed. In addition, the development of technology for the production and usage of renewable energy alternative to fossil fuel has become significant. The Applied Chemistry Course aims to foster researchers and engineers having not only extensive chemistry knowledge and skills, but also a broad culture and flexible and appropriate problem-solving skill, and to provide them to the international society as deserving human resources.

＜Mechanical Engineering Course＞

Mechanical Engineering is a field of engineering, which is the foundation for building a society that can maintain human life and the global environment surrounding it forever, through “manufacturing.” The Mechanical Engineering Course has set a goal, which is to develop the ability to make a judgment in relation to the social needs regarding the environment, safety, security, and convenience to realize such a society, by flexibly applying a variety of specialized knowledge as well as based on complex examinations drawn by seeing things from a global perspective and considering various effects. Furthermore, the Course also aims that its students will acquire the determination to open up new fields and develop practical abilities.

The Mechanical Engineering Course offers a research guidance course divided into nine sections. In each section, a wide range of research education is practiced, ranging from research concerning micro technology in fundamental field to the field of macro technology regarding complex applied technology and system technology. In addition, research and education in the department covers a wide range of fields, from basic mechanical engineering, such as materials and structural mechanics, fluids, heat and energy to robotics, automobiles, new energy systems, and welfare engineering, as well as system technologies related to complex manufacturing, such as biotechnology, medical engineering, and design engineering. Through this research, the major goal is to nurture engineers who can not only learn specialized knowledge but also contribute to society from a global perspective, who are aware of engineering ethics, can set their own problems, and can practice engineering to solve them. The course also have an educational program that allows students to constantly challenge new things through the problem-solving process of specific themes.

＜Systems Engineering and Science Course＞

Problems in modern society do not fall only into a single specialized field. Under the prospects for the future, methods to solve these problems are formed comprehensively by linking them with various technologies and scientific elements, whilst placing harmony to limit the environmental problems and resource problems, and with traditional culture and values at its base.

The System Engineering and Science Course aims to train researchers and engineers with the ability to identify problems across multiple disciplines and to solve them in a comprehensive manner, based on their background knowledge and systems thinking, which they have acquired through (1) compulsory courses, (2) research guidance courses, (3) elective courses, and (4) common courses.

＜Global Course of Engineering and Science＞

With the globalization of society and the national economy, there is a need to train engineers who can use their knowledge to contribute to local and global society as a whole. The Global Course of Engineering and Science is a Master's Program in Engineering and Science with English as the medium of instruction and learning. It provides a cross-disciplinary education in a multinational environment.

The Global Course of Engineering and Science embodies the university's human resource development goal of "fostering science and engineering human resources who learn from and contribute to the world" through graduate education. The mission of this course is to foster engineers and scientists who can learn from the world and contribute to global sustainability.

The educational goal is to nurture the next generation of engineers and scientists who can solve engineering and socio-economic problems by communicating in English with specialists from around the world and possessing specialized knowledge and practical skills.

In order to achieve the above goals, the course offers specialized courses and research guidance courses in major engineering fields such as electrical engineering, electronic and information engineering, materials engineering and applied chemistry, as well as common courses including specialized business development.

＜Civil Engineering Course＞

The Civil Engineering Course aims to develop human resources who can contribute to the construction of a sustainable society by equipping them with knowledge and problem-solving skills related to technologies and systems for the construction and management of social infrastructures essential to community's lives, as well as technologies and systems for disaster prevention and environmental issues.

＜Architecture and Architectural Engineering Course＞

The Architecture and Architectural Engineering Course aims to contribute to the development of human culture and the realization of a sustainable society through the creation of rich architectural and urban spaces, and to nurture human resources who are capable of working in a modern international society where major changes in the environment and diverse values coexist, with interdisciplinary perspectives ranging from natural sciences to humanities and social sciences, and with solutions based on architectural science. The purpose of this course is to nurture human resources who can play an active role in modern international society with solutions based on architectural science, while maintaining an interdisciplinary perspective that spans natural science, humanities and social science.

【Doctor’s Program】

The Doctor’s Program aims to increase researcher’s potential and targets Master’s Program graduates and engineers actively battling current issues. The purpose of the Doctor’s Program is to foster engineers and researchers who hold abundant academic knowledge. The field of one’s expertise is deepened from an interdisciplinary point of view, and a comprehensive outlook that covers both soft and hard engineering aims to the acquisition of skills that make it possible to create harmony in a system as a whole. Furthermore, in order to foster PhD holders able to act in the manufacturing industry the Doctor’s Program

cultivates sigma type experts, who possess and are able to combine versatile engineering skills, technology management skills and metanational abilities.

The education and research of the Doctor's Program, whose essence lies in the training of experts as mentioned above, also holds the essential role of research promotion, which is the mission of the university.

＜Regional Environment Systems Course＞

In limited areas such as urban cities, the social and cultural activities of human beings are likely to negatively affect the living environment in the area. For sustainable community development, harmony between the activation of community activities and conservation of the living environment is inevitable.

In addition, to realize this, there is a necessity to work on the issues spreading across a range of fields including electrical engineering and computer science, materials science, chemistry, mechanical engineering, architecture and civil engineering.

Doctoral candidates in the Regional Environment System Course will deepen research in their own specialized field. At the same time, it is also aimed that they will contribute to forming the foundation of a better society, culture and life in the regional environment by having an insight into the influence and effect of technology on society and nature, and through exchanging information among researchers from different specialized fields. The educational goal of this course is to nurture talents who have a broad view regarding the regional environment and can achieve this aim, by making use of their highly specialized knowledge.

＜Functional Control Systems Course＞

Japan in the 20th century placed an emphasis on efficiency and convenience, and strived towards manufacturing things, seeking to increase profitability. As a result, this approach put Japan in a situation where it faced contradictions such as the destruction of environment. Currently, Japan possesses technologies, which lead the world in such fields as automobiles, robotics, electronics and telecommunications, whilst resolving such contradictions. These technologies are becoming increasingly more complex. In order to contribute to the world as a leader of science and technology in the global society going forward, Japan will be required to exercise high-level design capabilities and technology management skills, which will enable Japan to grasp the overall picture of increasingly complex technologies and promote harmony within the overall system, in addition to the ability to deeply analyze and comprehend objects.

For example, the nuclear power plant accident that occurred immediately after the Great East Japan Earthquake reaffirmed the importance of systematization technology regarding the management of technology in society and the use of technology in society, including implementation and operation, and the time has come to reconsider practical education again. In addition, in 2015, the achievement of 17 goals for sustainable development (SDGs) was adopted by all UN member states. This also means that there is a need to nurture researchers and engineers who have global values and can be active internationally.

Based on such a background, the Functional Control Systems Course aims to provide education and to conduct research to nurture outstanding researchers and engineers who have global values and the

ability to fully grasp the truth of science and make use of it in practical education. This course consists of a number of different education and research fields, such as communication function control, functional device control, system control, and biosystems and biomolecule control, and operates interdisciplinary education and research. Taking this approach ensures that the course is not specialized in education and research being exclusively relevant to the areas of its academic staff's expertise. The course also aims to nurture researchers and engineers with basic skills for technology management and proficiency in English for engineers as well as shared values and ethics, while the course as a whole is aware of the relevance based on the diversity in the course and actively promotes collaboration with each other.

2. Curriculum Policy

【Master's Program】

In the Master's Program of the Graduate School of Engineering and Science, the curriculum is organized based on the following policies in order to train engineers as stated in the Diploma Policy.

In order to foster engineers, the curriculum is organized based on the following policies.

- Specialized courses are offered in English to develop basic communication skills in specialized fields that can be applied in a global society. In addition, it is possible to obtain the credits for the specialized subjects required for a degree only in English.
- Students are required to take the "Research Guidance" course by engaging in specialized research under the research guidance of a faculty supervisor. In the "Research Guidance" course, students formulate a research plan, research related papers, discuss with their supervisors, give presentations at domestic and international conferences, and publish academic papers to develop engineers and researchers who can play an active role in global society.
- In order to develop an awareness of the diversity of the world and society, as well as a sense of ethics and basic communication skills, common subjects across majors will be established.
- The Graduate School of Engineering and Science has established the Technology Management Sub-Major Program, which consists of a portion of the Common Courses, with the aim of fostering human resources with sigma-type integrated capabilities that combine multifaceted engineering, technology management, and metanational capabilities. The Graduate School of Engineering and Science encourages students to take this program.

＜Electrical Engineering and Computer Science Course＞

Based on the educational goal of this university (philosophy for the foundation of the school), “Nurturing engineers who learn from society and contribute to society,” this course has set its educational goal as “Nurturing engineers who have comprehensive problem-solving skills and contribute to the world.” For the systematic curriculum and the PDCA in the organization to achieve this educational goal, this course implements a systematic and organizational active learning reform for the duration of two years, visualization of learning outcomes and a guarantee of study hours by the PDCA cycle, strengthening of the promotion system for educational reform, and guaranteed learning through collaboration between teaching staff, administrative staff and students. The talents the Electrical Engineering and Computer Science Course seeks are engineers who will be involved in electrical-, electronic-, information- and communications-related research and development as well as production. The ideal candidates to be trained are engineers who will engage in the construction of sophisticated electrical-, electronic-, information- and communications-systems. In order to achieve the goal, the course is divided into eight main areas - namely, (1) Materials and Devices, (2) Circuit and Control, (3) Power and Energy, (4) Communication, (5) Information, (6) Informational Science, (7) Robotics and Mechatronics, and (8) Bioengineering - and course models for each area are provided. The course models will enable students to prepare and conduct their research by obtaining 30 units required for the

completion of the course by taking subjects and research guidance (exercises and experiments).

The academic achievements of the students aiming at the educational goal are evaluated as follows; Achievements in 1) advanced specialized knowledge and application skills are evaluated based on the reports and tests. 2) development of skills to find and solve problems, 3)skills for presentation and communication, and 4)development of cooperative personality and sense of ethics are evaluated mainly based on the results due to the research guidance(exercises and experiments). In addition, in order to evaluate total ability, candidates of the master's degree are required that they have presented more than one paper at an academic conference.

＜Materials Science and Engineering Course＞

The curriculum in the Materials Science and Engineering Course is positioned as an extension of the curriculum in the undergraduate education and has been specifically created to enable students on this course to acquire knowledge and experiences regarding more advanced materials science and engineering. Students in the Materials Science and Engineering Course will be able to deepen the knowledge relevant to their own research area by selecting and taking lectures, which explain basic perspectives regarding the physics and chemistry of materials, and theories etc., related to the application of materials science and engineering, as well as the ones based mainly on seminars and presentations. For the research for a Master's or Doctoral thesis, the students will be able to acquire experiences and obtain a wide view as engineers and researchers in engineering by inventing and implementing their research as well as by presenting research results.

＜Applied Chemistry Course＞

In order to deepen students' understanding of the chemical field in which they specialize, and to cultivate their ability to understand the fundamentals and advanced technologies in a wide range of related chemical fields, we offer lecture courses (including lectures in English) based on the following policies.

(1) Lecture courses are offered in a wide range of fields, and the curriculum is designed to enable students to acquire knowledge in interdisciplinary fields such as life science and chemical engineering, in addition to core expertise in organic chemistry, inorganic chemistry, physical chemistry, and analytical chemistry, by acquiring 18 credits or more from these lecture courses.

(2) Research guidance courses such as special exercises and special experiments are provided to cultivate practical problem finding and solving skills. In the second half of the program, after earning credits, students can concentrate on developing their specialized skills and complete their master's thesis.

(3) Students are instructed to actively disseminate the results of their research (conference presentations and paper presentations).

＜Mechanical Engineering Course＞

The Mechanical Engineering Course provides education in line with the following policy:

Students will acquire:

(1) Skills to accurately grasp social needs and to identify and establish problems.

(2) Skills, which enable them to precisely use specialized knowledge in solving problems.
(3) An attitude towards considering things from a variety of angles and to examine them in a multifaceted way.
(4) An attitude and communication skills to solve problems from a global perspective
(5) A willingness to take on challenges in new fields, a rich culture, and a high sense of ethics.
(6) An attitude of problem solving with an awareness of a sustainable society.
(7) Will continue to review and improve so that all students in the course can receive high-quality education based on the above.

＜Systems Engineering and Science Course＞

For the purpose of achieving its educational and research objectives, this course will implement the following synthesis (synthesis thought) led education and research:

(1) By completing the compulsory subjects, students will acquire the following knowledge and skills through cross-disciplinary education and research: “System thought” for comprehensive problem-solving; “System method” for designing functions to achieve objectives; and “System management,” which integrates human and knowledge with the technology required for solving problems. Furthermore, this subject involves special exercises by a hybrid project involving different academic fields through which students will gain communication and leadership skills.
(2) Students will determine research guidance, which will be the core of their specialized knowledge, from the five areas of machinery and control, electronics and information, society and the environment, life science, and mathematical science, and will acquire the skills to solve specialized problems in the area that they have selected.
(3) Students will acquire the skills to clarify the theme set by themselves and to draw comprehensive solutions using the works for research guidance subjects, while they will also acquire skills to systematize the knowledge gained through writing their Master’s thesis.
(4) Students will be allowed to take and complete any subjects from all of available fields to gain the knowledge they require, as an elective.
(5) Students will acquire communication skills through taking common subjects, and at the same time, they will also acquire human competence, which is necessary to solve problems by bringing individual science and technologies together as well as acquiring ethics in engineering practice as engineers who will contribute to society.

＜Global Course of Engineering and Science＞

The Global Course of Engineering and Science provides the following to help students acquire the knowledge, skills, and attitudes specified in the degree awarding policy.

1. Courses in English, common subjects, research subjects of supervisors, and sub-major subjects
2 Research guidance, including exercises and experiments, to acquire specialized knowledge and skills
3 Overseas project research or internship in Japan
4 Classes to improve communication skills in English or Japanese
5 Seminars in a multinational, cross-major environment

In the Global Course of Engineering and Science, in principle, all specialized lectures and advanced courses are conducted in English in order to develop global science and engineering human resources who can play an active role internationally. In addition, all master's thesis and other papers are written and presented in English.

＜Civil Engineering Course＞

In the Civil Engineering Course, the curriculum is structured with the goal of enabling students to acquire the following abilities in accordance with the Diploma Policy and the objectives of education and research.

(1) Be able to deal with integrated systems consisting of structures, nature, and society, which are the subject of social infrastructure studies, based on natural and social sciences.

(2) Based on a correct understanding of the relationship between people and the environment, students will be able to accurately analyze various environmental factors surrounding society and contribute to the creation of a sustainable society and the realization of new environmental systems.

(3) Systematically acquire specialized knowledge in the field of social infrastructure and apply it to problem solving.

(4) Identify, organize, and analyze issues in the field of social infrastructure, and present rational solutions.

(5) Communicate their own opinions logically to others and engage in advanced discussions on matters related to social infrastructure.

(6) Be able to communicate in a basic manner in the field of social infrastructure in a global society.

(7) Be able to consider the impact of social infrastructure on society and the environment, understand the responsibilities and roles of engineers, and comply with engineering ethics.

＜Architecture and Architectural Engineering Course＞

In line with the diploma policy and educational and research objectives, the curriculum of the Architecture and Architectural Engineering Course has been designed with the aim of enabling students to acquire the following abilities

A) To be able to deal with the integrated system of architecture, city, nature, and society, which is the subject of architectural studies, based on natural and social sciences.

B) Acquire knowledge of the history, climate, customs, art, and international affairs that form the background of cities, towns, and architecture, and use this knowledge to create a rich human culture that will last into the future.

C) Based on a correct understanding of the relationship between people and the environment, accurately analyze the various environmental factors surrounding cities and architecture, and contribute to the creation of a sustainable society and the realization of new cities and architecture.

D) Systematically acquire specialized knowledge in their field and apply it to problem solving.

E) Discover, organize, and analyze conditions and issues, and present rational solutions in order to realize cities, towns, and architecture that satisfy people and society.

F)To be able to apply basic mathematical knowledge of building technology and to grasp it from a scientific aspect at a high level.

G) Communicate their own opinions logically to others through descriptions, discussions, and presentations, and also be able to engage in advanced discussions.

H) Through the practice of PBL, learn how to understand others, how to tackle issues in collaboration with others, and how to work with people from different cultures and fields of expertise, so that they can contribute to society in response to globalization.

I) To be able to consider the impact of architecture on people, society, and the environment, to understand the responsibilities and roles involved in architecture, and to comply with engineering ethics.

Furthermore, in each class subject, rather than one-way transmission of knowledge, students are encouraged to deepen their professional knowledge and skills through intensive discussions among themselves and with faculty members. In addition, in each class subject, evaluation methods and standards are strictly set, and academic achievements appropriate to a master's degree are evaluated from multiple perspectives to achieve the prescribed academic and educational achievement goals.

【Doctor's Program】

In the Doctoral Program of the Graduate School of Engineering and Science, the curriculum is organized based on the following policies to cultivate researchers and engineers as stated in the Diploma Policy, so that students can study their expertise from a comprehensive perspective in terms of both software and hardware.

- The curriculum is organized based on the following policies in order to cultivate expertise from a comprehensive perspective in terms of both software and hardware: 1) Specialized subjects are arranged in order to cultivate the advanced knowledge and experimental skills necessary for the preparation of doctoral dissertations.
- In "Research Guidance," under the research guidance of a faculty advisor, students formulate a research plan, research related papers, engage in discussions with the faculty advisor, make presentations at domestic and international conferences, and publish academic papers, thereby developing researchers and engineers who can play an active role in global society.
- In order to develop future autonomous researchers and educators, "Pre-FD subjects" are arranged.
- In addition, we encourage students to take the "Technology Management Sub-Major Program" as a part of the common subjects in the Master's Course in order to develop human resources with sigma-type integrated capabilities that combine multifaceted engineering capabilities, technology management capabilities, and metanational capabilities.

＜Regional Environment Systems Course＞

The curriculum offered in the Regional Environment Systems Course (this course) is composed with the aim of nurturing talents who will realize harmony between the activation of community activities and conservation of the living environment through a range of fields including electrical engineering and computer science, materials science, chemistry, mechanical engineering, architecture and civil engineering. Therefore, research guidance and subjects covering many different fields have been

prepared. In this way, the foundation of the course is based on the idea that curriculums in each area within the wide range of coverage will work to deepen the research in specialized fields. However, the course also encourages and leads doctoral candidates towards being involved in exchanges between different fields and the fusion boundary region, including the relationship between technology and society, nature and the environment, and provide opportunities to acquire the knowledge, which will enable them to contribute to society, culture, sophistication of life, purification, normalization, as well as the improvement of reliability and safety.

Furthermore, the basic policy of the curriculum of this course is: to enable the doctoral candidates to not only accumulate specialized knowledge but also to enhance the skills to utilize such knowledge; to enable the candidates to acquire a high degree of specialized knowledge and skills as well as a wide range of knowledge and insights, taking into account the fact that this course is for the doctoral candidates in the Graduate School of Engineering and Science and that its purpose is for them to gain the doctoral degree; to become a place for learning in which the candidates will enhance their communication skills and acquire skills to appropriately present their research outcomes.

＜Functional Control Systems Course＞

The Functional Control Systems Course aims to nurture researchers and professionals with advanced expertise who have excellent research promotion and research and development skills with rich creativity in the fields of communication function control, functional device control, system control, and life function control, and who can solve various global problems for the realization of a sustainable society in cooperation with researchers and engineers around the world. The purpose of the program is to train researchers and professionals with advanced expertise who can solve global problems for the realization of a sustainable society by collaborating with researchers and engineers around the world.

The curriculum is organized based on the following policies so that students can develop their expertise from a comprehensive perspective in both software and hardware.

- In order to develop the advanced knowledge and experimental skills necessary to write a doctoral dissertation in the field of functional control systems, "specialized subjects" are arranged.
- In the "Research Guidance" of the Functional Control Systems field, under the research guidance of a faculty advisor, students will develop researchers and engineers who can play an active role in global society through the formulation of a research plan, research on research-related papers, discussions with the faculty advisor, presentations at domestic and international conferences, and publication of academic papers.
- In order to develop future autonomous researchers and educators, "Pre-FD subjects" are arranged.
- In addition, we encourage students to take the "Technology Management Sub-Major Program" as a part of the common subjects in the Master's Course in order to develop human resources with sigma-type integrated capabilities that combine multifaceted engineering capabilities, technology management capabilities, and metanational capabilities.

3. Diploma Policy

【Master's Program】

The purpose of the Master's Program of the Graduate School of Engineering and Science is to train engineers and researchers who can solve various global problems for the realization of a sustainable society in collaboration with engineers and researchers around the world.

Based on the above objectives, the Graduate School awards the degree of Master of Engineering (Engineering, Systems Science and Engineering, Science and Engineering, or Architecture) to those who have satisfied the requirements for completion set forth by the Graduate School and have been recognized as having the knowledge, abilities, and qualities described below based on their academic performance and the results of the thesis examination.

- Advanced and broad expertise in science and engineering.
- Flexible thinking and the ability to solve quantitative problems.
- Communication skills to cope with global society.
- Awareness of the diversity of the world and society, and high ethical standards.

In addition, students who have completed the lecture courses of the Technology Management Sub-Major Program and obtained the required credits will be awarded the Technology Management Sub-Major Program Certificate.

＜Electrical Engineering and Computer Science Course＞

This course aims to nurture talents who possess a series of sophisticated skills including utilizing specialized knowledge and the skills they have acquired, identifying the root of problems facing them, finding precise solutions, and an ability to achieve concrete realizations. Thus, the course can respond to the needs from an increasingly ICT-influenced society and to the requirements of engineers and researchers who stand on a global perspective to consider the global environment, which is symbolized in the Green IT. In light of these aims, this course will require students to acquire the following skills:

- Advanced knowledge in their specialized field regarding electrical-, electronic-, information- and communications-engineering extensively, and more in-depth specialized skills taking into account practical applications.
- Problem-finding and development skills to accurately draw out problems and issues, and problem-solving skills to find a specific method for solving problems and to evaluate its optimality as they conduct their research.
- Ability to face up to specific issues and problems in a real society, using the above mentioned knowledge, technology and the problem-finding and problem-solving skills.
- Skills to summarize research results in a comprehensive way based on flexible ideas and thinking, whilst possessing high ethical standards, actively working on issues with a high degree of difficulty.

Degree Assessment Criteria

The degree of Masters of Engineering will be conferred by fulfilling the following criteria.

- Candidates will have received research guidance, and will then write and submit their Master's thesis

in order to pass the assessment.

Criteria for the judgement of Master's thesis are as follows:

"The submitted Master's thesis includes information confirming that the candidate has presented more than one paper at an academic conference*, or the thesis should include an equivalent result.**"

* This includes a presentation at an annual meeting or a seminar of an academic association, presentation at an international conference, publication of an article or a letter in an academic journal, etc.

** Results other than a presentation at an academic conference such as applying for and obtaining a patent, or a result equivalent to a presentation or publication at an academic association or in an academic journal as described above.

＜Materials Science and Engineering Course＞

Materials have always been playing an important role in human society. Going forward, the importance of materials in the social infrastructure technology continues to increase. In addition, along with the recent development of the advanced science field, the field of materials science and engineering is also becoming diversified and how we further enhance the high functionality of materials without creating any environmental load is considered a major issue. Materials Science and Engineering Course aims to nurture engineers and researchers who have the abilities and skills to grasp the essence of problems by responding to the needs of society and social backgrounds, to invent in research methods for problem-solving, and to utilize specialized knowledge for practical development. Setting up these educational and human resourced development goals, this course will require students to acquire the following knowledge and skills.

Students will:

- Learn the advanced knowledge and skills of materials science and engineering, and acquire skills to appropriately select and identify problems based on an attitude to explore issues within a wide area.
- Systematically understand the advanced level of materials science and engineering, and enhance their experiment skills regarding the research methods for measuring and processing as an ability to solve problems and issues.
- Acquire the skills to find methods of solving social problems based on the advanced views of materials science and engineering as well as utilizing a range of insights and specialized knowledge in the actual society.
- Understand the relationship between advanced technologies, society and the environment, and also to acquire ethical ideas including the overall contribution of materials science and engineering and flexible thinking.

Degree Assessment Criteria

In light of the educational philosophy of the Materials Science and Engineering Course and the human resources development goals, the degree of Master in Engineering will be conferred on candidates who have fulfilled the following criteria.

Criteria for the judgement of Master's thesis are as follows:

(1) Candidates have put all of their outcomes gained through the research guidance together to write a Master's thesis, which sufficiently meets the standard of the Master's degree in Engineering.

(2) Candidates have disseminated the contents and achievement of their Master's thesis to society by presenting it more than once through academic activities societies such as at academic societies and associations.

＜**Applied Chemistry Course**＞

The Applied Chemistry Course's research activity covers the core discipline of analytical, organic, inorganic, and physical chemistry, as well as the interdisciplinary of biological science and chemical engineering. Through classes, seminar and laboratory work, the course fosters students to acquire a deep understanding of knowledge and skills in the major chemistry field and a broad understanding of basic knowledge and advanced technology in the relevant chemistry field as well. A candidate of master degree as chemistry major is required to acquire the following abilities.

1. A planning skill to accomplish a given project based on the precise understanding of the project and collected necessary information.
2. Skills to conduct experiments along with a research plan and to interprete obtained results properly.
3. Skills to present and discuss his or her research results in chemistry conferences and as technical papers, and to complete his or her master thesis.
4. A Japanese skill to explain the significance of his or her project to other people appropriately, and a basic English skill to send and receive information precisely.

Degree Assessment Criteria

1. Accomplish the laboratory project under the supervision of specific professor and submit master thesis by the deadline.

Pass the assessments of master thesis and oral defense, which will be examined by not only supervisor but also two more professors. In both assessments, approval requires over 60% of score.

＜**Mechanical Engineering Course**＞

In the Mechanical Engineering Course, our major goal is to nurture engineers who can learn not only the specialized knowledge through education in specialized subjects and research guidance, but also engineers who can set their own problems with an awareness of engineering ethics and practice engineering to solve them, and engineers who can contribute to society from a global perspective. In addition, we have an educational program that allows students to constantly challenge new things through the process of solving problems on specific themes.

In order to achieve the goal, the requirements of completion are determined specifically as follows:

・ Specialized knowledge and understanding

Students must have advanced and wide-ranging specialized knowledge in engineering and science, and must have earned the credits specified in the study guide.

・ Problem solver and problem-solving skills

The student must have the insight and flexible thinking ability to set up problems accurately when conducting research, and be recognized as having the quantitative and logical thinking ability to solve problems. In addition, the student must be able to quantitatively evaluate the degree of achievement in problem solving.

・ Motivation and practical ability

It is recognized that the applicant has a spirit of challenge to actively seek solutions to difficult problems in the course of his/her research, and has the ability to put such challenges into practice appropriately.

・ Communication skills

The student must have the communication skills to cope with the global society.

・ Sense of ethics

Recognized as having a high sense of ethics, recognizing the diversity of the world and society.

・ Comprehensive ability

The student should be able to accurately summarize highly original academic findings as research results.

Dissemination of research content, results, and works to society through presentations at academic conferences, associations, and other academic activities.

＜Systems Engineering and Science Course＞

This course has set the goal that students will be able to establish the issues in modern society in a flexible manner based on science and technology, culture and values, society and the environment, and the ethics for engineering practice. As their basis, they will use the specialized knowledge, which will become their core knowledge, as well as the background knowledge beyond the disciplinary framework and system thinking. They will also acquire the skills to identify cross-disciplinary problems and comprehensive problem-solving skills. Shibaura Institute of Technology will confer the Master's degree in System Engineering to those who have registered with the Master's Program for the prescribed period, when the above-described objectives are judged to have been achieved through completing the compulsory subjects, research guidance, elective subjects and common subjects in the program as well as completing a Master's thesis.

The requirements for completion to achieve the goals above are specifically determined as follows.

Students will acquire:

(1) System thought, theories and methods of system engineering, design theory, and system management skills required for resolving social problems by studying the compulsory subjects of this course.

(2) Communication and leadership skills through "special exercises," which is one of the compulsory subjects of this course necessary to realize a successful hybrid project involving different academic fields.

(3) The skills to solve specialized problems by deepening their specialized knowledge and experiences through studying the compulsory and elective subjects.

(4) Background knowledge beyond the disciplinary frameworks through studying technologies from other

fields, and will have an ability to accurately utilize such background knowledge in society by combining it with the specialized knowledge, which forms the core of their research.

(5) Skills to clarify their research theme, which is set by themselves and to draw comprehensive solutions through the works for research guidance subjects, while also acquiring skills to systematize the knowledge gained through writing their Master's thesis.

(6) Communication skills through studying common subjects, and at the same time, will also acquire the human competence, which is necessary to solve problems by bringing individual sciences and technologies together. Ethics in engineering practice as engineers who will contribute to society.

Degree Assessment Criteria

In relation to these requirements for completion, the assessment criteria for a Master's degree are defined as follows.

- Candidates will have received research guidance, and will then write and submit their Master's thesis in order to pass the assessment.

Criteria for the judgement of the Master's thesis are as follows:

"The submitted Master's thesis includes information confirming that the candidate has presented more than one paper at an academic conference*, or the thesis should include an equivalent result.**"

* This includes a presentation at a lecture, an annual meeting, and a seminar or a symposium of an academic association, a presentation at an international conference, publication of an article or a letter in an academic journal, or equivalent publication.

** Results equivalent to a presentation at an academic conference refers to results produced other than at an academic conference such as obtaining a patent, or a result equivalent to a presentation or publication at an academic association or in an academic journal.

＜Global Course of Engineering and Science＞

The Global Course of Engineering and Science provides specialized education and research in major engineering fields.

The Master of Science (Engineering and Science) degree is awarded to students who have acquired knowledge and practical skills in their supervisor's field of expertise, and who have participated in an overseas dispatch project or domestic internship.

In order to be awarded the degree, students must fulfill the following requirements.

1. Students must be enrolled in the master's program for the prescribed period of time and earn at least 30 credits, including research guidance.
2. Complete the required courses and at least one common graduate course or sub-major.
3. Design and complete a research project. Submit and present a master's thesis in English, and pass the examination.
4. Complete an overseas project research for Japanese students, or an internship in Japan for international students.

Graduates of this course are expected to become innovative practitioners with the following abilities :

1.Apply advanced knowledge and skills to solve problems in their own field and other fields.

2.Communicate at a professional level in English, both orally and in writing.
3.Provide technical solutions based on high ethical standards.
4.Understand the importance of diversity and adaptability in global trends.
5.Understand different cultures and work with professionals from different backgrounds and nationalities.

＜Civil Engineering Course＞

The Civil Engineering Course aims to train engineers and researchers with advanced and broad knowledge in the field of infrastructural engineering and the ability to think flexibly, and who can solve various problems related to infrastructural engineering and the environment in order to realize a sustainable society on a global scale.
(1) Advanced specialized knowledge, research and development skills, the ability to identify problems, and the ability to solve problems quantitatively
(2) The ability to think flexibly and to have a broad perspective on the relationship between technology and the environment, economy, and culture
(3) Communication skills and a sense of ethics in response to global society

＜Architecture and Architectural Engineering Course＞

In the Architecture and Architectural Engineering Course, requires students to acquire the following skills by the time they complete the Master's program: students are required ①to have an interdisciplinary perspective that includes the natural sciences, humanities and social sciences, ②to contribute to the realization of a sustainable society by creating rich architectural and urban spaces, and ③ to be able to play an active role in a modern international society where diverse values coexist, by the time they complete the Master's program and students are also required to acquire the following items :
1. The ability to discover technical and social issues surrounding contemporary architecture and cities, and to proactively work to resolve them, by integrating and making full use of a wealth of education and a broad range of knowledge, while taking into account historical developments to-date.
2. Taking the initiative in exploring a wide range of knowledge and technologies related to architecture, and to present new ways of architecture and cities to others.
3. a high sense of ethics to engage in architecture as a specialist, which is deeply related to nature, society, and human beings
4. the ability to combine knowledge of the natural sciences, humanities, and social sciences with a broad range of expertise in architectural design and construction technology to practice high-level architectural work
5. the ability to recognize the diversity of society and culture, and to collaborate with others while maintaining a high level of communication skills and an international perspective appropriate for a global society.

【Doctor's Program】

The Doctoral Program of the Graduate School of Engineering and Science aims to nurture researchers and engineers who can work together with researchers and engineers from around the world to solve various global problems for the realization of a sustainable society and who can

independently conduct creative research.

Based on the above objectives, the Doctor of Engineering degree will be conferred on those who satisfy the requirements for completion set forth by the Graduate School and who, based on their academic performance and the results of the dissertation examination, are deemed to possess the knowledge, abilities, and qualities described below. If the main content of the dissertation includes elements other than engineering, a doctoral degree (academic) will be awarded.

- Ability to harmonize the entire system from a comprehensive standpoint.
- Ability to promote and develop excellent, creative research.
- Ability to become a highly specialized researcher
- Advanced communication skills to cope with global society.
- Awareness of the diversity of the world and society, and high ethical standards.

In addition, students who complete the lecture courses of the Technology Management Sub-major Program and obtain the required credits will be awarded the Technology Management Sub-major Program Certificate.

＜Regional Environment Systems Course＞

The educational goal of the Regional Environmental Systems Department is to develop and nurture human talents and resources who have a broad perspective on the local regional environment and capable to utilize their expertise to realize their own ideas. In order to obtain a degree in this major, in addition to the submission of a dissertation, it is necessary to satisfy the degree examination standards set by this major. The degree examination standards are scored on the examination sheet in the degree examination.

Degree Assessment Criteria

The degree of Doctor of Philosophy (Engineering or Science) will be awarded to those who meet the following criteria. In addition to the submission of a dissertation, the following criteria must be met in order to receive a degree in this course.

(1) Degree Assessment Criteria for Candidates in the Doctoral Program

① Period of enrollment

Students must have been enrolled in the doctoral program of the Graduate School for at least three years and have received the prescribed research guidance. However, those who have achieved outstanding research results need only be enrolled for at least one year.

② Research achievements

(i) At least two papers submitted as the first author to academic journals reviewed by academic societies and published during the period of enrollment, in principle. However, one of the two papers may be replaced by two proceedings of international conferences (first author) that have been reviewed. If the student is not the first author but is the first contributor, the primary supervisor may substitute this by attaching a document showing the student's contribution as the first contributor.

(ii) If the paper has been accepted for publication in a journal or for presentation at an international conference, please attach documentation to prove this.

(2) Degree Assessment Criteria for Doctoral Program by Completion of Coursework (Early Completion Course for Working Adults)

① Period of enrollment

The period of study shall be one year. However, if the student is unable to complete the course in one year, the student must continue in the program and complete it in three years.

② Research achievements

(i) At least three peer-reviewed papers (including permission for publication) by the first or second author(s) related to the content of the dissertation. However, at least one of the papers must be by the first author. If the student is not the first author but is the first contributor, the primary supervisor can substitute this by attaching a document showing the student's contribution as the first contributor.

(ii) The student must have at least one international conference proceedings as a presenter (first author) during his/her studies. However, the presentation must be made before the final examination or be accompanied by a document certifying that it has been made. Note that the presentation in question may have been submitted prior to enrollment.

(iii) If the presentation has been accepted for publication in a journal or for presentation at an international conference, a document proving the acceptance must be attached.

※Those who are eligible to apply for the Early Completion Course for Working Adults must be working adults who have a certain level of research achievement in the following categories.

① Those who have completed a master's course and have at least three years of work experience.

② Applicants must have at least two refereed papers.

(3). Criteria for Assessment of doctoral degree by Thesis

① The applicant must have graduated from a university and have at least five years of experience in research and development work, and must have submitted at least five papers as the first author to academic journals reviewed by academic societies and published in them. However, when a student who has withdrawn at maturity applies for the award of a doctoral degree without being re-enrolled, the examination criteria for a course doctorate will be applied with regard to research achievements only if the examination is completed within two years of the student's withdrawal at maturity.

However, for exchange students based on a double degree agreement, the regulations for research achievements in the doctoral program will be applied as the degree examination standards criteria.

② Those whose research results have been accepted for publication in academic journals must attach a document certifying the acceptance.

＜Functional Control Systems Course＞

The Department of Functional Control Systems aims to nurture highly specialized researchers and professionals who have excellent research promotion and research and development abilities with creativity in the fields of communication function control, functional device control, system control, and life function control, and who can solve various global problems for the realization of a sustainable society in cooperation with researchers and engineers around the world.

Based on the above educational objectives, the doctoral degree (engineering or academic) will be conferred on those who satisfy the requirements for requesting the doctoral degree set forth by the Graduate School and who, based on the results of the dissertation examination, are recognized as having the qualities and abilities listed below.

- Excellent research promotion and R & D ability with abundant creativity.
- Ability to become a highly specialized engineer and researcher.
- Advanced communication skills that can respond to the global society.
- Awareness of diversity in the world and society and high ethical standards.

Degree Assessment Criteria

1. Degree Assessment Criteria for Candidates in the Doctoral Program

(1) Registered period

Candidates must have been registered with the Doctor's Program at this Graduate School and have received prescribed research guidance. However, for the candidates whose research achievement is exceptionally good, the period registered with the program can be reduced to just over one year.

(2) Research Achievement

(i) In principle, Candidates must have submitted and published two articles as the first author in academic journals involving an assessment by the Academic Society Home Village during the period in which they are registered with the program. However, one of these two journal articles can be replaced with two proceedings (as a first author) for an international conference involving an assessment.

(ii) Candidates whose article has been accepted by an academic journal to be published or at an international conference to be presented must attach documents to prove these acceptances.

2. Degree Assessment Criteria for the Candidate of Doctoral Degree by Completion of Coursework

(1) Enrollment period

The enrollment period is one year. However, if you cannot complete the course in one year, you will continue to be enrolled in the school, and your study term will be three years. Completion in less than three years is also possible.

(2) Research achievements

(i) Have at least three peer-reviewed papers (including permission to publish) by the first or second author related to the contents of the dissertation. However, it is necessary to include at least one publication as first author's dissertation. If you are not the first author but a lead contributor, the supervisor in charge will replace this by attaching a document indicating the degree of contribution of the student as the lead contributor.

(ii) Have at least one international conference paper (no peer review is possible) as a presenter during enrollment. However, it is necessary that the presentation is to be conducted by the final examination or that an attached document proving that the presentation was conducted. The paper presentation (international conference) which is applied before program enrollment is also possible.

(iii) If you decide to publish a journal or make a presentation at an international conference, it is necessary to attach documents proving it.

※Applicants who can apply for the working adult Doctoral course program are those who have the following research achievements :

(1) Those who have completed a master's course and have at least three years of work experience.

(2) Those who have two or more papers (with peer review).

3. Degree Assessment Criteria for the Candidate of Doctoral Degree by Thesis

(1) A person who has been in research and development for more than 5 years after graduating from university, submitted as a first author to an academic journal reviewed by an academic association, and has published at least 5 published papers. However, if a student who has withdrawn and left university upon completion of the program period applies for the conferment of the doctoral degree without re-entering the program, the assessment criteria for candidates in the Doctor's Program will be applied to assess their research achievement only if the assessment is completed within two years following the date, the research criteria of the doctoral student will be applied for research achievements.

However, for exchange students based on the Double Degree Agreement, the rules regarding research achievements at the Doctoral program will be applied as the degree examination criteria.

(2) Candidates whose article has been accepted by an academic journal to be published must attach documents to prove the acceptance.

Student Registration

(1) Student Registration Definitions

Only those who passed the entrance examination and completed all the enrollment procedures, have been issued a student ID card, are students who are eligible to study and do research activities at Shibaura Institute of Technology (SIT).

Registration means your record is filed as a student at SIT. Students are those who have completed their registration and are studying and doing research activities at SIT.

Please be responsible to be a student of SIT.

CATEGORIES	CONTENTS
Program Duration	It takes 2 years to complete the Master's Program. It takes 3 years to complete the Doctor's Program. However, absence and suspension period will not be included to those years.
Period as a Student	You could be a student for maximum 4 years in the Master's Program, 6 years in the Doctor's Program.
How to Complete	To be awarded a graduate degree, all the required credits must be satisfied and a student must pass the final examination (thesis assessment). For those who have completed the Master's Program, SIT is going to confer a Degree of Master of Engineering or a Degree of Master of System Engineering. The Doctor's Program students will be awarded a Doctor of Philosophy Degree by SIT.

(2) Change your status

Please check the table below to see which status you are going to apply for. You will be asked to submit the related forms by the designated due after consulting with your supervisor.

CATEGORIES		CONTENTS
Repeat for Another Year	What does "Repeat for another year" mean?	Failure to meet the assessment criteria on the second year of the Master's Program or the third year of the Doctor's Program will result in repeat for another year to complete the program.
Temporary Leave	What does "Temporary leave" mean?	A student may wish to take a leave（more than 2 months）if you become serious ill or have any other reasons that you cannot come to university. Please complete an application form to take a leave. ① Discuss a leave of absence with your supervisor. ②Submit a doctor's evaluation to support your claim along with the application form in case of leaves due to a medical or psychological condition.

CATEGORIES		CONTENTS
		※If you receive a scholarship, additional steps are also required to take.
	Duration of leave	In general, the duration of the leave will be a minimum of 2 months to a maximum of 1 year. The leave period should be taken during the following academic terms; 1 year leave: April 1st ~ March 31st (following year) Leave in Spring semester: April 1st ~ September 30th Leave in Fall semester: October 1st ~ March 31st (following year)
	Application due	Deadline to take leave in Spring semester: Early March Deadline to take leave in Fall semester : Early September
	Course terms	The period of leave will be included to the total length of period as a student at SIT, but not as the time of your study.
	Credits	You cannot earn any credits during the leave even after you have submitted the course registration.
	Tuition	If you submit your application form and it is approved before the beginning date of each semester, you may be eligible for exemption from the payment of tuition during the period of leave. (Only the administration fee needs to be charged)
Reinstatement	What does “reinstatement” mean	The approved temp leave period is over, so your status will be back to “student”
	Application due	Application form will be sent to you. The submission deadline is : Returning in Spring semester: Early March Returning in Fall semester: Early September
	Tuition	You should pay both tuition and administration fee for your returning semester.

CATEGORIES		CONTENTS
Withdrawal	What does “withdrawal” mean	Students who leave SIT for their personal reasons: ① Consult with your supervisor. ② Submit the application form with your student ID card. Those who are expelled from school include the one who: ① Breaks the pledge you signed on the enrollment ② Disturbs other students by showing inappropriate behaviors and has no sign of improvement. ③ Has poor academic record and least chance to complete the program. ④ Does not attend classes regularly without any reasons. ⑤ Breaks the rules and behaves inappropriate ways as our student.
	Application due	Please submit the form by the following deadlines: Spring semester: Early March Fall semester: Early September
	Tuition	Students must pay all the tuitions and fees owing up to the semester studying at SIT.
Removal from the Registration	What does “removal from the registration” mean	Student registration will be cancelled for those who: ① Have been reported as a missing person. ② Have (an) overdue tuition payment(s) and are not still going to make a payment after receiving the notice from SIT ③ Stay over the period as a student. ④ Have not submitted the form after temporary leave is over.
Suspension	What does “suspension” mean	Suspension will be applied to those who: ① Do not follow the SIT’s Regulations. ② Take any dishonest behaviors during the examination. ③ Take any inappropriate actions as a student. Your graduation will be postponed depending on the period of disciplinary action.
Readmission	What does “readmission” mean	Student who was withdrawn or removed due to the absence of payment by SIT may be able to get admission again.
	Application due	Spring semester: by the mid of December

CATEGORIES		CONTENTS
		Fall semester: by the mid of June
	Tuition	Students are asked to pay the tuition from the semester that they are back.

Credits and Courses

(1) Types of Credits

① Research guidance: This includes credits you have to earn through exercises and experiments that the laboratory you belong to offers. Those credits should be earned before completing your study at SIT.

② Elective subjects: Those are the credits you can choose to earn based on your own need or interest.

(2) Timetable

1st period	2nd period	3rd period	4th period	5th period	6th period
9:00-10:40	10:50-12:30	13:20-15:00	15:10-16:50	17:00-18:40	18:50-20:30

(100 minutes per period)

(3) Lecture Cancellation/ Makeup Class

Professors will call for a lecture cancellation when they are not able to give a lecture/class for some special reasons such as going to a business trip and being ill. Professors may not be able to finish all the contents on syllabus during the semester for above reasons. In that case, they may have (a) makeup class(es) if necessary.

The lecture cancellation/ makeup class information will be posted on the bulletin board. The information is available on the SIT website with your mobile phone or the Scomb.

(4) Class Registration

In principle, you can register classes up to “20 credits” per year excluding special exercises and experiments and class registration needs to be done by each semester.

(5) Limit of Other Course Registration

You can earn up to 10 credits if you wish to take the following classes. However, you have to get a permission from Graduate School of Engineering and Science Committee that you will take those classes.

① The classes of other courses

② The classes offered by Tokyo University of Marine Science of Technology or Ochanomizu University in the credit transfer system.

Final Grades

Final grades will be determined by the following grading system and be notified to students.
Final grades and the credits will be included on the “Notice of the Grades” which is posted from S*gsot.

(1) Grading System

① PASS

A･･･100-80(points)　B･･･79-70(points)　C･･･69-60(points)

N･･･Transfer credit (subjects that students took in other educational institute and approved at SIT.)

② UNSATISFACTORY (You should take the same course again or choose to take other alternative course)

D･･･59-50(points)　F･･･49-0(points)

③ Others

G･･･In progress

#･･･Unreported Result (Please ask your supervisor and the staff at Graduate School Section)

(2) Grade Confirmation

If you have any questions about your final grades, please come to Graduate School Section. You can access S*gsot to check your grades. If you are not satisfied with your grades, you can talk to the professors directly. Please bring your “Notice of the Grades” with you when you see the professors.

(3) Unsatisfactory

Final grades will be printed on School Register and be kept at SIT permanently.
That means unless you retake the unsatisfactory class and pass it, your grade of the class will be printed on the “School Register” and “Notice of the Grades” as “D” or ”F”.
※An academic transcript may be required for your job search and application for graduate school. Only passing grades (A, B, C, N) will be printed on your academic transcript. The grade of unsatisfactory would not be printed on it. A=Excellent, B=Good, C=Satisfactory, N= Transfer credit.

Information

(1) Announcements

All the important information from SIT would be provided by the following methods. Check the information with all the methods regularly.

① Any change on course list and classroom and intensive lecture schedule ・・・ bulletin board
② Class registration, grades, etc. ・・・ bulletin board, S*gsot.
③ Lecture cancellation/ Makeup class ・・・ bulletin board, Scomb, SIT website
④ In case of fire or earthquake or other emergency ・・・ broadcasting inside SIT.
⑤ Other important information ・・・ bulletin board, SIT website, Scomb

Completion Requirements

Master's Program

(1) Each course requires more than 30 credits to be completed.
12 credits from research guidance, and 18 or more credits from elective subjects.

(2) Master's thesis is written and submitted upon receiving research guidance and should be passed the assessment and final examination.

【Notice】You need to talk to your supervisor before the class registration. If you fail to get credits from the research guidance on the first year, the certificate of expected completion cannot be issued on the second year.
As for Degree Conferment Examination Criteria, check the Diploma Policy.

≪Research Guidance≫

●Course: Electrical Engineering and Computer Science, Materials Science and Engineering, Applied Chemistry, Mechanical Engineering, Systems Engineering and Science, Civil Engineering.

Research Guidance	Credits	1st year		2nd year		Professor
		Spring semester	Fall semester	Spring semester	Fall semester	
Special Exercise1	1	○				Each Supervisor
Exercise2	1		○			
Exercise3	2			○		
Exercise4	2				○	
Special Experiment1	1	○				Each Supervisor
Experiment2	1		○			
Experiment3	2			○		
Experiment4	2				○	

(The table above is a reference for those who enroll in Spring semester)

●Course: Architecture and Architectural Engineering (Research guidance with ※mark (design) in the subject assignment list has only special exercises that 12 credits should be earned)

Research Guidance	Credits	1st year		2nd year		Professor
		Spring semester	Fall semester	Spring semester	Fall semester	
Special Exercise1	1	○				Each Supervisor
Exercise2	1		○			
Exercise3	2			○		
Exercise4	2				○	
Special Experiment1	1	○				
Experiment2	1		○			
Experiment3	2			○		
Experiment4	2				○	
※Special Exercise1	2	○				Each Supervisor
※Exercise2	2		○			
※Exercise3	4			○		
※Exercise4	4				○	

(The table above is a reference for those who enroll in Spring semester)

●Course: Global Course of Engineering and Science

Research Guidance	Credits	1st year				2nd year				Professor
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Special Exercise1	1	○								Each Supervisor
Exercise2	1		○							
Exercise3	1			○						
Exercise4	1				○					
Exercise5	1					○				
Exercise6	1						○			
Exercise7	1							○		
Exercise8	1								○	
Special Exercise1	1	○								Each Supervisor
Exercise2	1			○						
Exercise3	1					○				
Exercise4	1							○		

(The table above is a reference for those who enroll in Spring semester)

The number of research guidance classes per week

The number of research guidance classes per week is as below.
Confirm the schedule (the days of the week / class period) with your supervisor.

【Electrical Engineering and Computer Science, Materials Science and Engineering, Mechanical Engineering, Systems Engineering and Science, Global Course of Engineering and Science, Civil Engineering】

	1st year Spring semester	1st year Fall semester	2nd year Spring semester	2nd year Fall semester
Exercise	1 class	1 class	2 classes	2 classes
Experiment	2 classes	2 classes	3 classes	3 classes
Total	3 classes	3 classes	5 classes	5 classes

※Global Course of Engineering and Science：Exercises are conducted in quarters.

【Applied Chemistry】

	1st year Spring semester	1st year Fall semester	2nd year Spring semester	2nd year Fall semester
Exercise	1 class	1 class	2 classes	2 classes
Experiment	3 classes	3 classes	3 classes	3 classes
Total	4 classes	4 classes	5 classes	5 classes

【Architecture and Architectural Engineering (design) 】

	1st year Spring semester	1st year Fall semester	2nd year Spring semester	2nd year Fall semester
Exercise	2 classes	2 classes	4 classes	4 classes
Experiment				
Total	2 classes	2 classes	4 classes	4 classes

＊There is no experiment for Architecture and Architectural Engineering (design) course. There are only exercise classes for this course.

【Architecture and Architectural Engineering (engineer) 】

	1st year Spring semester	1st year Fall semester	2nd year Spring semester	2nd year Fall semester
Exercise	1 class	1 class	2 classes	2 classes
Experiment	2 classes	2 classes	3 classes	3 classes
Total	3 classes	3 classes	5 classes	5 classes

Doctor’s Program

(1)Each course needs to take at least 2 credits to complete.
(2)Upon receiving research guidance, you need to pass the Doctoral thesis assessment and the final examination.
[Note] As for Degree Conferment Examination Criteria, check the Diploma Policy.

＜Electrical Engineering and Computer Science＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Materials and Devices	Nanoelectronics Research	Supervisor	Ueno Kazuyoshi	
	Functional Material Engineering	Supervisor	Yamaguchi Masaki	
	Opto-Electronics Engineering	Supervisor	Homma Tetsuya	
	Photonic Devices Engineering	Supervisor	Yokoi Hideki	
	Seminar in semiconductor physics and devices	Supervisor	Ishikawa Hiroyasu	
Circuits and Control	Electronic Circuit Engineering	Supervisor Supervisor Supervisor Supervisor	Koike Yoshikazu Maeda Tadashi Sasaki Masahiro Premachandra Chinthaka Sugiyama Katsumi	
	Electromagnetic Wave Circuit Technology	Supervisor	Tanaka Shinichi Lee Heeyoung	
Power and Energy	Visual Environment	Supervisor	Irikura Takashi	
	Electric Machinery and Applications	Supervisor	Takami Hiroshi Shimomura Shoji Saitou Makoto	
	Electric Power System Engineering	Supervisor	Fujita Goro	
	Advanced Materials for Energy and Related Areas	Supervisor	Nishikawa Hiroyuki	
	Active Functional Devices Research	Supervisor	Shigemune Hiroki	
Communication	Clustering and Classification in Infocommunications Technology	Supervisor	Kanzawa Yuuchi	
	Information and Communication Systems	Supervisor	Kamioka Eiji	
	Research in Acoustic Communication and Information Systems	Supervisor	Muto Kenji	
	Telecommunication Networks	Supervisor Supervisor	Morino Hiroaki Miyata Sumiko	
	Wireless Communication Systems Engineering	Supervisor Supervisor Supervisor	Gyoda Koichi Kubota Shuji Hirose Kazuhide	
Information	Computer Architecture and LSI Design	Supervisor	Usami Kimiyoshi	
	Data Engineering	Supervisor	Kimura Masaomi	
	Interactive Graphics	Supervisor	Ijiri Takashi Sripian Peeraya	
	Study of Distributed System Research	Supervisor	Fukuda Hiroaki	
	Computer Mediated Communication Engineering	Supervisor	Yonemura Shunichi	
	Operating Systems and Middleware	Supervisor	Sugaya Midori	
	Empirical Software Engineering	Supervisor	Nakajima Tsuyoshi	
	Intelligent Information Systems	Supervisor Supervisor	Igarashi Harukazu Sugimoto Tooru	
	Programming languages Research	Supervisor	Sasano Isao	
	Human Factor	Supervisor	Kasuga Nobuyo	
	Socio-Information Systems	Supervisor	Nakamura Hiroyuki	
	Physically Augmented Interaction	Supervisor	Manabe Hiroyuki	
	Sports Informatics	Supervisor	Ishizaki Satoshi	

＜Electrical Engineering and Computer Science＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Computer Science	Software Engineering and Knowledge Engineering	Supervisor	Noda Natsuko	
	Intelligent Knowledge System	Supervisor	Yasumura Yoshiaki	
			Kawaguchi Keiko	
	Knowledge Information Processing System	Supervisor	Aiba Akira	
	Mathematical Engineering	Supervisor	Matsuda Haruhide	
		Supervisor	Matsubara Ryota	
	Large-Scale Distributed Systems Research	Supervisor	Yamazaki Kenichi	
	Language Information System Research	Supervisor	Murakami Kayoko	
	Information Design	Supervisor	Yoshitake Ryoji	
		Supervisor	Yang Wonseok	
			Hidaka Kyoko	
			Ashizawa Yusuke	
Robotics and Mechatronics	Robotics and Mechatronics	Supervisor	Shimada Akira	
		Supervisor	Andou Yoshinobu	
		Supervisor	Hasegawa Tadahiro	
		Supervisor	Yoshimi Takashi	
		Supervisor	Abiko Satoko	
		Supervisor	Shimizu Sota	
			Sasaki Takeshi	
Bionics	Bioelectronics	Supervisor	Muguruma Hitoshi	
		Supervisor	Saitoh Atsushi	
	Biomedical Engineering Measurement	Supervisor	Kanoh Shinichiro	
	Bionic Communication Engineering	Supervisor	Horie Ryota	

＜Electrical Engineering and Computer Science＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Nano Devices and Materials	2	◎				Ueno Kazuyoshi	○	
Optical Fiber Engineering	2			◎		Yokoi Hideki	○	
Epitaxial Semiconductor Materials	2	○				Ishikawa Hiroyasu	○	
Advanced Electronic Circuit	2			○		Koike Yoshikazu	○	
Electric Power Control	2	○				Takami Hiroshi	○	
Advanced Power System	2	○				Fujita Goro	○	
Advanced Quantum－Beam Applications	2			○		Nishikawa Hiroyuki	○	
Ubiquitous Computing System	2			◎		Kamioka Eiji	○	
Mobile Communication Networks	2	○				Morino Hiroaki	○	
Wireless Communications Network	2	○				Gyoda Koichi	○	
Mobile Communication System	2	○				Kubota Shuji	○	
Advanced Antenna Engineering	2	○				Hirose Kazuhide	○	
Advanced Computer Architecture	2			○		Usami Kimiyoshi	○	
Advanced Information System Engineering	2			○		Sripian Peeraya	○	
Advanced OS and Virtualization	2	○				Fukuda Hiroaki	○	
Topics in Data Engineering	2			○		Kimura Masaomi	○	
Advanced Robotic Manipulation	2			○		Shimada Akira	○	
Autonomous Mobile Robot System	2	○				Andou Yoshinobu	○	
Micro Mechatronics	1				◎	Hasegawa Tadahiro	○	
Robot Task ＆ System	2			○		Yoshimi Takashi	○	
Space Robotics	2	○				Abiko Satoko	○	
Advanced Bioelectronics	2			○		Muguruma Hitoshi	○	
Sensor Engineering	2			○		Saitoh Atsushi	○	
Advanced Neural Engineering	2			○		Kanoh Shinichiro	○	
Bionic and biomimetic system engineering	2			○		Horie Ryota	○	
Urban and Regional Development in Information Age	2			○		Nakamura Hiroyuki	○	
Language Information Management	2	○				Murakami Kayoko	○	
Advanced Seminar in Advertising Design	2			○		Sugaya Kyoko	○	
Seminar in Cognitive Science	2	○				Yatabe Kiyomi	○	

＜Materials Science and Engineering＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Basic Materials	Materials Chemistry	Supervisor	Noda Kazuhiko	
	Physical Metallurgy	Supervisor	Kariya Yoshiharu	
	Extreme Materials Science	Supervisor	Nagayama Katsuhisa	
	Advanced Research Program on Thin Film Materials and Its Application	Supervisor	Yumoto Atsushi	
	Semiconductor Materials	Supervisor	Kyuno Kentaro	
	Materials Science of Random System	Supervisor	Masaki Tadahiko	
	Resources and Energy Materials Science	Supervisor	Arai Tsuyoshi	
	Materials Science	Supervisor	Shimojo Masayuki Xiaobin Zhang	
	Advanced Materials	Supervisor	Ishizaki Takahiro Miao Lei	
	Materials Design Research	Supervisor	Serizawa Ai Lee So Yoon	
	Observational Astrophysics	Supervisor	Watanabe Yoshimasa	
Material Property	Biomaterials Science and Engineering	Supervisor	Matsumura Kazunari	
	Study of High Functional Materials	Supervisor	Sakai Naomichi	
	Research of Bioorganic Material Chemistry	Supervisor	Hatano Akihiko	
	Applied Photochemistry	Supervisor	Konishi Toshifumi	

＜Materials Science and Engineering＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Materials Chemistry	2				◎	Noda Kazuhiko	○	
Thin Film Physics	2	◎				Kyuno Kentaro	○	
Methods in Bio－inspired Nanomaterial Science	2	○				Matsumura Kazunari	○	
Basic Physics in Electron Microscopy	2	◎				Shimojo Masayuki	○	
Enzyme Engineering	2			○		Hatano Akihiko	○	
New energy materials and devices	2				◎	Miao Lei	○	
High-pressure science	2	◎				Yamamoto Ayako	○	

＜Applied Chemistry＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Physical Chemistry	Applied Photochemistry	Supervisor	Konishi Toshifumi	
	Applied Electrochemistry	Supervisor	Imabayashi Shinichiro	
	Organic Electron Transfer Chemistry Exercise	Supervisor	Tajima Toshiki	
	Chemical Engineering	Supervisor	Yoshimi Yasuo	
	Research of Energy Engineering	Supervisor	Nomura Mikihiro	
Organic Chemistry	Synthetic Organic Reaction	Supervisor	Kitagawa Osamu	
	Organic Materials Chemistry	Supervisor	Kidowaki Masatoshi	
	Polymer Materials Chemistry	Supervisor	Naga Naofumi	
	Supramolecular Chemistry	Supervisor	Nakamura Asao	
	Research of Biomolecular Chemistry	Supervisor	Hatano Akihiko	
Analytical Chemistry	Environmental Analytical Chemistry	Supervisor	Masadome Takashi	
Biological Science	Life Science	Supervisor	Yamashita Mitsuo	
	Study on Chemical Biology	Supervisor	Hamasaki Keita	
Inorganic Chemistry	Inorganic Materials Chemistry	Supervisor	Kiyono Hajime	
	Molecular Assemblies for Crystal Engineering	Supervisor	Hori Akiko	
	Energy materials creation chemistry laboratory	Supervisor	Ooguchi Hiroyuki	

＜Applied Chemistry＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Biomedical Technology Based on Chemical Engineering	2			○		Yoshimi Yasuo	○	
Environmental Analytical Chemistry	2	○				Masadome Takashi	○	
Bioorganic Photochemistry	2			○		Nakamura Asao	○	
Chemical Biology	2	○				Hamasaki Keita	○	
Life Science	2			○		Yamashita Mitsuo	○	
Energy and Water Treatment Based on Chemical Engineering	2			○		Nomura Mikihiro	○	
Basic Electrochemistry	2	○				Imabayashi Shinichiro	○	
Organic Stereochemistry	2			○		Kitagawa Osamu	○	
Chemistry of Solid State Materials	2	○				Kiyono Hajime	○	
Polymer Chemistry	2	○				Naga Naofumi	○	
Enzyme Engineering	2			○		Hatano Akihiko	○	
Self-Assembles for Crystal Engineering	2			○		Takeyama Akiko	○	

＜Mechanical Engineering＞

Department・Research Guidance・Supervisor

Department	Research Guidance	Supervisor		Remarks
Mechanics /Materials / Process	Structure and Properties of Materials for Mechanical Engineering	Supervisor	Takasaki Akito	
	Machinery Dynamics	Supervisor	Hosoya Naoki	
	Optimal System Design	Supervisor	Hasegawa Hiroshi	
	Granular Dynamics	Supervisor	Saeki Masato	
	Solid Mechanics	Supervisor	Sakaue Kenichi	
	Research of Advanced Design based on Material Strength	Supervisor	Hashimura Shinji	
	Materials Reliability Engineering	Supervisor	Utsunomiya Takao	
	Study for Processing on Structual Materials	Supervisor	Aoki Koushirou	
Fluids /Heat /Energy	Thermal Fluid Engineering	Supervisor	Tsunoda Kazumi	
	Micro Heat Fluid Engineering	Supervisor	Tange Manabu	
	Advanced Fluid Technology and Applications	Supervisor	Suwa Yoshihide	
	Study on Thermal Process Engineering	Supervisor	Kimijima Shinji	
	Studies on Energy and Environmental Engineering	Supervisor	Yahagi Yuji	
	Studies on Radiation Transfer	Supervisor	Yamada Jun	
		Supervisor	Rajagopalan umamaheswari	
	Studies on Energy Transport Engineering	Supervisor	Tanaka Kotaro	
	Combustion Engineering	Supervisor	Saito Hiroyasu	
	Study on Thermal Fluid Science and Engineering	Supervisor	Shirai Katsuaki	
Control /Information /Intelligence	Fluid Power Control	Supervisor	Kawakami Yukio	
	Dynamic System Control Theory Research	Supervisor	Ito Kazuhisa	
	Robot Control Engineering	Supervisor	Uchimura Yutaka	
	Intelligent Mechanical Systems	Supervisor	Matsuhira Nobuto	
	Advanced Motion Control	Supervisor	Shimada Akira	
	Study on Space Exploration Robots	Supervisor	Iizuka Kojiro	
Humans-Mechanical System /Life Support	Human-machine Interface	Supervisor	Hirose Toshiya	
	Biomechanics and Injury Prevention	Supervisor	Yamamoto Sota	
	Biomicrofluidics Research Project	Supervisor	Futai Nobuyuki	
Design	Study for Product Design	Supervisor	Masunari Kazutoshi	
		Supervisor	Yoshitake Ryoji	
		Supervisor	Hashida Noriko	
		Supervisor	Yang Wonseok	
			Sakuragi Shin	
			Hidaka Kyoko	
			Ashizawa Yusuke	
	Net Shape Manufacturing	Supervisor	Anzai Masahiro	
	Functional Material Engineering	Supervisor	Yoshihara Shouichirou	
	Die & Mold Engineering	Supervisor	Sawa Takekazu	
	Research on Laser and Laser Applications	Supervisor	Matsuo Shigeki	
Nano /Micro	Heat and Mass Transfer	Supervisor	Ono Naoki	
	Micro Robotics	Supervisor	Nagasawa Sumito	
	Smart Material	Supervisor	Maeda Shingo	
			Nakamura Shingo	
	Studies on Electronic Properties Under Multiple Extreme Conditions	Supervisor	Ishii Yasuyuki	
	Study of computational Statistical Physics	Supervisor	Tomita Yusuke	

＜Mechanical Engineering＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Advanced Materials Science	2			◎		Takasaki Akito	○	
Human－Machine System	2			○		Hirose Toshiya	○	
Biomechanics ＆ Injury Prevention	2	○				Yamamoto Sota	○	
Experimental Thermo－fluid Engineering	2	○				Tange Manabu	○	
Transport Phenomena	1			◎		Tanaka Kotaro	○	
Advanced Applications of Fluid Engineering	2			○		Suwa Yoshihide	○	
Adaptive and Optimal Control	2	○				Ito Kazuhisa	○	
Microscale Machines and Mechanics	2	○				Ono Naoki Nagasawa Sumito Maeda Shingo	○	
Human－Centric Robotics	2	○				Matsuhira Nobuto	○	
Microscale Fluid Mechanics	2			○		Ono Naoki	○	
Advanced Structural Dynamics	1	◎				Hosoya Naoki	○	
Advanced Thermal Fluid Measurement Science and Engineering	2			○		Shirai Katsuaki	○	
Advanced Seminar in Advertising Design	2			○		Sugaya Kyoko	○	
Materials and Their Interaction with Electromagnetic Waves －Theory and	2	○				Yamada Jun Rajagopalan umamaheswari	○	
Optical Engineering	2			○		Yamada Jun Rajagopalan umamaheswari	○	

＜Civil Engineering＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Social Infrastructure Facilities	Structural Engineering	Supervisor	Konno Katsuaki	
		Supervisor	Anami Kengo	
	Composite Materials	Supervisor	Iyoda Takeshi	
	Concrete Structure	Supervisor	Katsuki Futoshi	
	Geotechnical Engineering	Supervisor	Namikawa Tsutomu	
		Supervisor	Inazumi Shinya	
	Social Infrastructure Management	Supervisor	Michael Henry	
Regional and Environmental Planning	Hydro-Engineering	Supervisor	Miyamoto Hitoshi	
		Supervisor	Hirabayashi Yukiko	
	Spatial Information Engineering	Supervisor	Nakagawa Masafumi	
	※Planning of Ecoinfrastructure Systems	Supervisor	Kurishima Hideaki	
		Supervisor	Yatagawa Rumi	
	Infrastructure Planning	Supervisor	Iwakura Seiji	
			Le Yiping	
	Urban Science and Design	Supervisor	Oyama Yuki	
	Research on mathematical programming	Supervisor	Makishita Hideyo	
	Information and Regional Development	Supervisor	Nakamura Hiroyuki	

*Research Guidance marked※ includes only Special Exercises (12 credits)

＜Civil Engineering＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Global PBL for Infrastructures	2	集			中	Inazumi Shinya	○	
Urban and Regional Development in Information Age	2			○		Nakamura Hiroyuki	○	
Geotechnical Engineering	2			○		Namikawa Tsutomu	○	
Environmental Geotechnics	2	○				Inazumi Shinya	○	
Durability Design for Steel Structures	2	○				Anami Kengo	○	
Science of Concrete Material	2			○		Iyoda Takeshi	○	
Environmental Hydraulics	2				◎	Miyamoto Hitoshi	○	
Hydrology and Water Resources	2			○		Kanae Yukiko	○	
Lectures on Civil Engineering	2			○		Anami Kengo Iyoda Takeshi Konno Katsuaki Namikawa Tsutomu Miyamoto Hitoshi Iwakura Seiji Nakagawa Masafumi Inazumi Shinya Hirabayashi Yukiko	○	
Principles of Sustainable Development for Engineers	2			○		Michael Henry	○	

＜Architecture and Architectural Engineering＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Architectural Plannning	※ Architectural Planning	Supervisor	Minami Kazunobu	
	※ Advanced Study of Housing and Environmental Design	Supervisor	Shimizu Ikuro	
Architectural Design	※ Architectural Design	Supervisor	Nishizawa Taira	
		Supervisor	Gota Osami	
		Supervisor	Harada Masahiro	
		Supervisor	Inokuma Jun	
		Supervisor	Kobanawa Yoshihide	
			Tom Heneghan	
	※ Architectural Design Information	Supervisor	Sawada Hideyuki	
	※ Spatial Planning and Design	Supervisor	Taniguchi Taizo	
		Supervisor	Matsushita Kiwa	
	※ Project Design	Supervisor	Yamashiro Satoru	
			Okano Michiko	
Architectural History	※ History of Architecture	Supervisor	Okazaki Rumi	
		Supervisor	Ogashiwa Norika	
Environmental Engineering	Building Environmental Engineering	Supervisor	Nishimura Naoya	
		Supervisor	Akimoto Takashi	
			Tsushima Sayana	
	Urban Environmental Engineering Exercise	Supervisor	Murakami Kimiya	
		Supervisor	Kurishima Hideaki	
		Supervisor	Masuda Yukihiro	
		Supervisor	Nakaguchi Takahiro	
Building Structure	Building Structure	Supervisor	Kumazawa Fumitoshi	
		Supervisor	Kabayama Kenji	
	Earthquake Disaster Mitigation of Buildings	Supervisor	Kishida Shinji	
	Structural Planning of Buildings	Supervisor	Ozawa Yuki	
	Architectural and Structural Systems	Supervisor	Ishikawa Yuji	
	Steel building structure	Supervisor	Asada Hayato	
Industrial Engineering	Building Materials and Operations	Supervisor	Hamasaki Hitoshi	
		Supervisor	Koga Jyunko	
	※ Construction Management	Supervisor	Kanisawa Hirotake	
		Supervisor	Shide Kazuya	
City Planning	※ City Planning	Supervisor	Shimura Hideaki	
		Supervisor	Sato Hirosuke	
		Supervisor	Kuwata Hitoshi	
		Supervisor	Sakuyama Yasushi	
	※ Environmental Design	Supervisor	Shinozaki Michihiko	
		Supervisor	Suzuki Shunji	
		Supervisor	Maeda Hidetoshi	

*Research Guidance marked※ includes only Special Exercises (12 credits)

＜Architecture and Architectural Engineering＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Housing and Environmental Design	2			○		Shimizu Ikuro	○	
History of architecture and urban design	2	◎				Okazaki Rumi Ogashiwa Norika	○	
gPBL in Europe	2	Time, registeration etc.for the course will be announced on the message board after the course content has been fixed.				Suzuki Shunji	○	
Architectural Environment Planning	2			○		Nishizawa Taira Kobanawa Yoshihide	○	
Architectural Planning and Project Design	2			○		Yamashiro Satoru Matsushita Kiwa	○	
Exchange program with ENSAPB （a）	2	Time, registeration etc.for the course will be announced on the message board after the course content has been fixed.				Okazaki Rumi	○	
Exchange program with ENSAPB （b）	2					Okazaki Rumi	○	
Exchange program with Hanyang University （a）	2					Kuwata Hitoshi	○	
Exchange program with Hanyang University （b）	2					Kuwata Hitoshi	○	
Exchange program with MARHI （a）	2					Nishizawa Taira Kaihou Kei	○	
Exchange program with MARHI （b）	2					Nishizawa Taira	○	
Heating Ventilation and Air Conditioning	2			○		Murakami Kimiya Akimoto Takashi Tsushima Sayana	○	
Urban and Community Design	2			◎		Shinozaki Michihiko Shimura Hideaki Maeda Hidetoshi	○	
Placemaking Studies	2	○				Suzuki Shunji	○	
Advanced　Structural Systems	2			○		Ishikawa Yuji	○	
Urban Environmental System Planning	2			○		Masuda Yukihiro	○	
Engineering for building construction and structures	2	○				Ozawa Yuki Kishida Shinji Asada Hayato Kumazawa Fumitoshi Kabayama Kenji Ishikawa Yuji Hamasaki Hitoshi Koga Junko Kanisawa Hirotake Shide Kazuya	○	

＜Systems Engineering and Science＞

Department･Research Guidance ･Supervisor

Department	Research Guidance	Supervisor		Remarks
Machine Control	System Design Research	Supervisor	Hasegawa Hiroshi Watanabe Dai Tanaka Minami Bui Ngoc Tam Sakai Yasunori	
	Research in Advanced Mechatronics	Supervisor	Adachi Yoshitaka	
	Research on Fluid Control System	Supervisor	Kawakami Yukio	
	Research on Control System	Supervisor	Chen Xinkai	
	Advanced Driver Assistance Systems Research	Supervisor	Ito Toshio	
	Study on the Control Systems of Cell Physiology	Supervisor	Yoshimura Kenjiro	
	Study on Robotics System	Supervisor	Iizuka Kojiro	
Electronic Information	Signal Processing System	Supervisor	Watanabe Eiji	
	Research in Medical Ultrasonic Engineering	Supervisor	Tanaka Naohiko	
	Advanced Communication Design	Supervisor	Mano Kazunori	
	Information Network Systems	Supervisor	Miyoshi Takumi Yamazaki Taku	
	Studies on Problem-solving System	Supervisor	Aiba Akira Suzuki Tetsuya	
	Visual Information Processing System	Supervisor	Takahashi Masanobu	
	Observation System for Space and Astrophysical Science	Supervisor Supervisor	Yoshida Kenji Kubota Aya	
	Systems Quantum Information	Supervisor	Kimura Gen	
	Community Information System Research	Supervisor	Murakami Kayoko	
	Materials for Energy and Environment	Supervisor	Miryala Muralidhar	
	Electronic Circuits and Systems Design	Supervisor	Nicodimus Retdian	
	Research in Data Science and Simulation	Supervisor	Ichikawa Manabu	
	Analysis and Applications of Nonliner System / Exercise	Supervisor	Ioka Eri	
	Cognitive Systems Research	Supervisor	Yatabe Kiyomi	
Social and Environmental	Social Design	Supervisor	Nakai Yutaka Honda Mari	
	Special Lectures on Social Mathematical Systems	Supervisor	Muto Masayoshi	
	Special Lectures on Economic System	Supervisor	Koyama Yusuke Yatagawa Rumi	
	Environmental System Studies	Supervisor Supervisor	Iwata Tomoko Nakaguchi Takahiro	
	Topics on Management System Research	Supervisor	Tanaka Hideho	
	Planning for Urban and Regional Resilience	Supervisor	Nakamura Hitoshi Yasmin Bhattacharya	
	Information Design	Supervisor	Masuda Yukihiro	
	Environmental Policy Studies	Supervisor	Sodeno Reiko	

＜Systems Engineering and Science＞

Department･Research Guidance ･Supervisor

Department	Research Guidance	Supervisor		Remarks
Life Sciences	System Research in Biomedical Control	Supervisor	Watanabe Nobuo	
		Supervisor	Nakamura Naoko	
	Medicinal Chemistry and Organic Synthesis	Supervisor	Suhara Yoshitomo	
		Supervisor	Hirota Yoshihisa	
	Molecular Cell Biology	Supervisor	Fukui Koji	
	Research on Welfare and Rehabilitation Support System	Supervisor	Hanafusa Akihiko	
		Supervisor	Yamamoto Shinichirou	
		Supervisor	Akagi Ryota	
			Takagi Motoki	
	Research in Food Chemistry	Supervisor	Osakabe Naomi	
	Advanced Environmental Life Sciences	Supervisor	Fuse Hiroyuki	
			Okuda Hiroshi	
			Azham Zulkarnain	
	Research on Brain Imaging System	Supervisor	Satou Hiroki	
	Biomedical Polymer Chemistry	Supervisor	Nakamura Asao	
	Health Effects Science Research	Supervisor	Yajima Ichiro	
Mathematical Science	Applied Mathematics Science	Supervisor	Kameko Masaki	
		Supervisor	Ozaki Katsuhisa	
		Supervisor	Matsuda Haruhide	
		Supervisor	Fukuda Akiko	
		Supervisor	Shimizu Kenichi	
			Idogawa Tomoyuki	
			Oya Hironori	
			Sakurai Migiwa	
	Research on Mathematical Control	Supervisor	Zhai Guisheng	
	Research in Mathematical Physics	Supervisor	Suzuki Tatsuo	
			Nakatsu Tomonori	
	Nonlinear Analysis	Supervisor	Takeuchi Shingo	
			Enomoto Yuko	
	Advanced Mathematical Analysis	Supervisor	Ishiwata Tetsuya	
	Research on Partial Differential Equation on Complex Domain	Supervisor	Yamazawa Hiroshi	
	Mathematical Analysis	Supervisor	Hirose Sanpei	
	Research on Mathematics Education	Supervisor	Makishita Hideyo	
	Educational Development of Higher Education	Supervisor	Sakakibara Nobuhisa	
	Research in Mathematical Logic	Supervisor	Ikegami Daisuke	

＜Systems Engineering and Science＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Seminar in Cognitive Science	2	○				Yatabe Kiyomi	○	
Cross-cultural Engineering Project	2			○		Hasegawa Hiroshi Mano Kazunori Ichikawa Manabu Murakami Kayoko Watanabe Dai	○	
Control Systems Engineering	2	◎				Chen Xinkai	○	
Computational Models	2			○		Aiba Akira	○	
Statistical Signal Processing	2	◎				Mano Kazunori	○	
Data Communication Network	2			◎		Miyoshi Takumi	○	
Engineering Optimization	2			○		Hasegawa Hiroshi	○	
Neurophysiology and Rehabilitation Engineering	2	○				Yamamoto Shinichirou	○	
Welfare Engineering	2			○		Hanafusa Akihiko	○	
Advanced Biofluid Engineering	2		◎			Watanabe Nobuo	○	
Cohomology of Classifying Spaces	1	◎				Kameko Masaki	○	
Advanced Robust Control	1	◎				Zhai Guisheng	○	
Advanced Research Paper Practice	2			○		Yamazaki Atsuko Murakami Kayoko	○	
Advanced Driver Assistance System	2			◎		Ito Toshio	○	
Language Information Management	2	○				Murakami Kayoko	○	
Advanced Course on Materials for Energy and Environment	2			◎		Miryala Muralidhar	○	
Electronic Circuits and Systems	2	◎				Nicodimus Retdian	○	
Spatial Planning for Disaster Risk Reduction	2	◎				Nakamura Hitoshi Yasmin Bhattacharya	○	
Urban Environmental System Planning	2			○		Masuda Yukihiro	○	
Introduction to Mathematical Logic	2			○		Ikegami Daisuke	○	

＜Global Course of Engineering and Science＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Advanced Science and Innovative Engineering	Advanced Science and Innovative Engineering	Supervisor	Takasaki Akito	
		Supervisor	Hasegawa Tadahiro	
		Supervisor	Mano Kazunori	
		Supervisor	Kamioka Eiji	
		Supervisor	Miyoshi Takumi	
		Supervisor	Miryala Muralidhar	
		Supervisor	Yamamoto Ayako	
		Supervisor	Rzeznicka Izabela Irena	
		Supervisor	Nicodimus Retdian	
		Supervisor	Ueno Kazuyoshi	
		Supervisor	Yokoi Hideki	
		Supervisor	Ishikawa Hiroyasu	
		Supervisor	Koike Yoshikazu	
		Supervisor	Takami Hiroshi	
		Supervisor	Fujita Goro	
		Supervisor	Matsumoto Satoshi	
		Supervisor	Nishikawa Hiroyuki	
		Supervisor	Morino Hiroaki	
		Supervisor	Gyoda Koichi	
		Supervisor	Hirose Kazuhide	
		Supervisor	Usami Kimiyoshi	
		Supervisor	Kimura Masaomi	
		Supervisor	Andou Yoshinobu	
		Supervisor	Yoshimi Takashi	
		Supervisor	Muguruma Hitoshi	
		Supervisor	Kanoh Shinichiro	
		Supervisor	Noda Kazuhiko	
		Supervisor	Kyuno Kentaro	
		Supervisor	Shimojo Masayuki	
		Supervisor	Matsumura Kazunari	
		Supervisor	Murakami Masato	
		Supervisor	Imabayashi Shinichiro	
		Supervisor	Yoshimi Yasuo	
		Supervisor	Nomura Mikihiro	
		Supervisor	Kitagawa Osamu	
		Supervisor	Nakamura Asao	
		Supervisor	Masadome Takashi	
		Supervisor	Yamashita Mitsuo	
		Supervisor	Hamasaki Keita	
		Supervisor	Tange Manabu	
		Supervisor	Matsuhira Nobuto	
		Supervisor	Yamamoto Sota	
		Supervisor	Ono Naoki	
		Supervisor	Minami Kazunobu	
		Supervisor	Maeda Hidetoshi	
		Supervisor	Itou Youko	
		Supervisor	Shinozaki Michihiko	
		Supervisor	Nakamura Hitoshi	
		Supervisor	Hasegawa Hiroshi	
		Supervisor	Ito Kazuhisa	
		Supervisor	Chen Xinkai	
		Supervisor	Ito Toshio	
		Supervisor	Inoue Masahiro	
		Supervisor	Aiba Akira	
		Supervisor	Yamazaki Atsuko	
		Supervisor	Watanabe Nobuo	

＜Global Course of Engineering and Science＞

Department･Research Guidance･Supervisor

Department	Research Guidance	Supervisor		Remarks
Advanced Science and Innovative Engineering	Advanced Science and Innovative Engineering	Supervisor	Hanafusa Akihiko	
		Supervisor	Yamamoto Shinichirou	
		Supervisor	Kameko Masaki	
		Supervisor	Zhai Guisheng	
		Supervisor	Nakamura Hiroyuki	
		Supervisor	Maeda Shingo	
		Supervisor	Hosoya Naoki	
		Supervisor	Murakami Kayoko	
		Supervisor	Michael Rudolf Koblischka	
		Supervisor	Anjela Dimitrova Koblischka-Veneva	
		Supervisor	Paolo Mele	
			Thomas Silverston	
			Francesca Borzumati	
			Alicja Klimkowicz	
			Phan Xuan Tan	
			Yasmin Bhattacharya	

＜Global Course of Engineering and Science＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Advanced Science and Innovative Engineering	2	◎				Yamamoto Ayako Miryala Muralidhar Rzeznicka Izabela Irena Nicodimus Retdian	○	Compulsory
Overseas Project Research	2	○				Rzeznicka Izabela Irena	○	
Advanced Materials Science	2			◎		Takasaki Akito	○	
Statistical Signal Processing	2	◎				Mano Kazunori	○	
Micro Mechatronics	1				◎	Hasegawa Tadahiro	○	
Ubiquitous Computing System	2			◎		Kamioka Eiji Phan Xuan Tan	○	
Data Communication Network	2			◎		Miyoshi Takumi	○	
High－Pressure Science	2	◎				Yamamoto Ayako	○	
Material Science for Engineering	2		◎			Yamamoto Ayako	○	
Structural Chemistry	2			◎		Yamamoto Ayako	○	
Materials for Energy and Environment	2			◎		Miryala Muralidhar	○	
How to Write and Publish a Scientific Paper at International Journals	2	◎				Miryala Muralidhar	○	
Advances in Superconducting Cable Technology and its Applications	2			◎		Miryala Muralidhar Paolo Mele	○	
Superconducting materials： Synthesis and Characterization	2	◎				Miryala Muralidhar	○	
General and Sustainable Chemistry	2		◎			Rzeznicka Izabela Irena	○	
Basic Molecular Spectroscopy	2			◎		Rzeznicka Izabela Irena	○	
Advanced Spectroscopy	2				◎	Rzeznicka Izabela Irena	○	
Vacuum Technology and Surface Analysis	2				◎	Rzeznicka Izabela Irena	○	
Electronic Circuits and Systems	2	◎				Nicodimus Retdian	○	
Mathematics for Electrical and Electronics Engineering	2	◎				Nicodimus Retdian	○	
Intensive course on Integrated Circuits Analysis and Design 1	2		◎			Nicodimus Retdian	○	
Intensive course on Integrated Circuits Analysis and Design 2	2				◎	Nicodimus Retdian	○	
Future Internet	2				◎	Thomas Silverston	○	
Physics of Nanostructures： 0D－， 1D－， 2D－Materials	2	◎				Michael Rudolf Koblischka	○	
2D Superconductors	2				◎	Michael Rudolf Koblischka	○	
Advanced Characterization of Materials	2			◎		Anjela Dimitrova Koblischka-Veneva	○	
Fundamentals of Magnetism and Advanced Magnetic Materials	2				◎	Anjela Dimitrova Koblischka-Veneva	○	
Multimedia Technology	2				◎	Phan Xuan Tan	○	
Materials Characterization Methods	2		◎			Alicja Klimkowicz	○	
Microscale Fluid Mechanics	2			○		Ono Naoki	○	
Human－Centric Robotics	2	○				Matsuhira Nobuto	○	
Biomechanics ＆ Injury Prevention	2	○				Yamamoto Sota	○	
Chemical Biology	2			○		Hamasaki Keita	○	
Environmental Analytical Chemistry	2	○				Masadome Takashi	○	
Biomedical Technology Based on Chemical Engineering	2			○		Yoshimi Yasuo	○	
Energy and Water Treatment Based on Chemical Engineering	2			○		Nomura Mikihiro	○	
Basic Electrochemistry	2			○		Imabayashi Shinichiro	○	
Organic Stereochemistry	2			○		Kitagawa Osamu	○	
Life Science	2			○		Yamashita Mitsuo	○	
Bioorganic Photochemistry	2			○		Nakamura Asao	○	
Advanced Power System	2	○				Fujita Goro	○	
Autonomous Mobile Robot System	2	○				Andou Yoshinobu	○	
Advanced Quantum－Beam Applications	2			○		Nishikawa Hiroyuki	○	
Electric Power Control	2	○				Takami Hiroshi	○	
Advanced Information System Engineering	2			○		Sripian Peeraya	○	
Wireless Communications Network	2	○				Gyoda Koichi	○	
Advanced Electronic Circuit	2			○		Koike Yoshikazu	○	
Nano Devices and Materials	2	◎				Ueno Kazuyoshi	○	
Epitaxial Semiconductor Materials	2	○				Ishikawa Hiroyasu	○	

＜Global Course of Engineering and Science＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Advanced Bioelectronics	2			○		Muguruma Hitoshi	○	
Optical Fiber Engineering	2			◎		Yokoi Hideki	○	
Robot Task ＆ System	2			○		Yoshimi Takashi	○	
Topics in Data Engineering	2			○		Kimura Masaomi	○	
Advanced Computer Architecture	2			○		Usami Kimiyoshi	○	
Advanced Antenna Engineering	2	○				Hirose Kazuhide	○	
Advanced Neural Engineering	2	○				Kanoh Shinichiro	○	
gPBL in Europe	2	※				Suzuki Shunji	○	
Urban and Community Design	2			◎		Shinozaki Michihiko Shimura Hideaki Maeda Hidetoshi	○	
Spatial Planning for Disaster Risk Reduction	2	◎				Nakamura Hitoshi Yasmin Bhattacharya	○	
Neurophysiology and Rehabilitation Engineering	2	○				Yamamoto Shinichirou	○	
Welfare Engineering	2			○		Hanafusa Akihiko	○	
Control Systems Engineering	2	◎				Chen Xinkai	○	
Computational Models	2			○		Aiba Akira	○	
Advanced Robust Control	1	◎				Zhai Guisheng	○	
Engineering Optimization	2			○		Hasegawa Hiroshi	○	
Adaptive and Optimal Control	2	○				Ito Kazuhisa	○	
Methods in Bio－inspired Nanomaterial Science	2	○				Matsumura Kazunari	○	
Materials Chemistry	2				◎	Noda Kazuhiko	○	
Thin Film Physics	2	◎				Kyuno Kentaro	○	
Basic Physics in Electron Microscopy	2	◎				Shimojo Masayuki	○	
Advanced Driver Assistance System	2			◎		Ito Toshio	○	
Experimental Thermo－fluid Engineering	2	○				Tange Manabu	○	
Mobile Communication Networks	2	○				Morino Hiroaki	○	
Advanced Biofluid Engineering	2		◎			Watanabe Nobuo	○	
Urban and Regional Development in Information Age	2			○		Nakamura Hiroyuki	○	
Advanced Structural Dynamics	1	○				Hosoya Naoki	○	
Language Information Management	2	○				Murakami Kayoko	○	
Space Robotics	2	○				Maruki Satoko	○	
Advanced Seminar in Advertising Design	2			○		Sugaya Kyoko	○	
Self-Assembles for Crystal Engineering	2			○		Takeyama Akiko	○	

＜Sub-Major Program Subjects＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Introduction to Management for Engineers	2			◎		Kato Kyoko	○	
International Marketing	2				◎	Hasegawa Yutaka	○	
Management of Innovation	2			◎		Hasegawa Yutaka	○	
Management of Intellectual Property	2			◎		Tanaka Hideho	○	
International Production Management	2			◎	◎	Hirata Sadayo	○	
Global Engineering Management	2			○		Sakai Naomichi	○	
Global Internship	2	○				Rzeznicka Izabela	○	
Intensive Workshop	2			○		Sakai Naomichi Oka tetsuo	○	

* From any of the above subjects, only up to 4 credits for 2 subjects could be included in the Requirement of Completion.

* For students of Global Course of Engineering and Science, no limitation on number of credits for the Requirement of Completion.

＜Common Subjects＞

Subject･Lecturer Professor･Number of Credits･Semester

Subject	Credits	Semester				Lecturer Professor	Course in English	Note
		Spring		Fall				
		1Q	2Q	3Q	4Q			
Social Volunteer Work	1	○				Takasaki Akito		
Advanced Global PBL	2	○				Takasaki Akito	○	
Advanced Global PBL Ⅱ	2	○				Takasaki Akito	○	
Advanced Internship	2	○				Takasaki Akito	○	
Advanced Internship Ⅱ	2	○				Takasaki Akito	○	
Japanese Language Ⅰ	2	○		○		Hannya Yoko	Only for International students	Cannot be included in Completion Requirement
Japanese Language Ⅱ	2	○		○		Inoue Shoko Jeong Mijeong		
Japanese Language Ⅲ	2	○		○		Inoue Shoko Jeong Mijeong		

＜Regional Environment Systems＞

Research Guidance Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Regional Environment Planning	Advanced Research Program on Regional Environmental Design (Research Guidance)	Nakamura Hitoshi Inazumi Shinya Shinozaki Michihiko Murakami Kimiya Iwakura Seiji Nishimura Naoya Shimura Hideaki Minami Kazunobu Kanisawa Hirotake Akimoto Takashi Nakaguchi Takahiro Kuwata Hitoshi Kabayama Kenji Matsushita Kiwa Taniguchi Taizo Maeda Hidetoshi Namikawa Tsutomu Gota Osami Shimizu Ikuro Sawada Hideyuki Yamashiro Satoru Harada Masahiro Nishizawa Taira Kurishima Hideaki Miyamoto Hitoshi Nakagawa Masafumi Sato Hirosuke Sakuyama Yasushi Shide Kazuya Masuda Yukihiro Suzuki Shunji Iwata Tomoko Hirabayashi Yukiko Sodeno Reiko Inokuma Jun Kobanawa Yoshihide Okazaki Rumi Le Yiping Oyama Yuki	

＜Regional Environment Systems＞

Research Guidance Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Environmental Materials Engineering	Advanced Research Program on Eco-materials Engineering (Research Guidance)	Takasaki Akito Masadome Takashi Nakamura Asao Imabayashi Shinichiro Noda Kazuhiko Naga Naofumi Yamashita Mitsuo Kitagawa Osamu Matsumura Kazunari Kariya Yoshiharu Nomura Mikihiro Koga Jyunko Arai Tsuyoshi Kidowaki Masatoshi Kiyono Hajime Tajima Toshiki Hatano Akihiko Konishi Toshifumi Sakaue Kenichi Hashimura Shinji Utsunomiya Takao Miryala Muralidhar Yamamoto Ayako Hori Akiko Hamasaki Hitoshi Sakai Naomichi Ikegami Daisuke Michael Rudolf Koblischka Anjela Dimitrova Koblischka-Veneva Rzeznicka Izabela Irena Paolo Mele Rzeznicka Izabela Irena Watanabe Yoshimasa Fronzi Marco Asada Hayato	
Energy and Environmental Engineering	Advanced Research Program on Environmental Energy Engineering (Research Guidance)	Irikura Takashi Nishikawa Hiroyuki Yahagi Yuji Yamada Jun Tsunoda Kazumi Tanaka Kotaro Fujita Goro Ono Naoki Kimijima Shinji Saito Hiroyasu Tange Manabu Suwa Yoshihide Ishii Yasuyuki Rajagopalan Umamaheswari Shirai Katsuaki	

＜Regional Environment Systems＞

Research Guidance Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Environmental Disaster Prevention Research	Advanced Research Program on Urban Engineering for Disaster Mitigation (Research Guidance)	Katsuki Futoshi Kumazawa Fumitoshi Konno Katsuaki Anami Kengo Kishida Shinji Iyoda Takeshi Ishikawa Yuji Ozawa Yuki Michael Henry	
Tip Management Engineering	Advanced Research Program on Management of Technology (Research Guidance)	Tanaka Hideho Hirata Sadayo	

＜Functional Control Systems＞

Research Guidance, Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Communication Function Control Engineering	Advanced Research on Telecommunication Function Control (Research Guidance)	Watanabe Eiji Miyata Sumiko Aiba Akira Takahashi Masanobu Saitoh Atsushi Miyoshi Takumi Yoshida Kenji Nakai Yutaka Kamioka Eiji Hirose Kazuhide Kanzawa Yuuchi Tanaka Naohiko Kubota Shuji Tanaka Shinichi Muto Kenji Kubota Aya Morino Hiroaki Gyoda Koichi Yasumura Yoshiaki Yamazaki Kenichi Matsuda Haruhide Mano Kazunori Horie Ryota Kimura Gen Nicodimus Retdian Eri Ioka Thomas Silverston	

＜Functional Control Systems＞

Research Guidance, Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Function Device Engineering	Function Device Engineering	Nagayama Katsuhisa Homma Tetsuya Muguruma Hitoshi Koike Yoshikazu Yokoi Hideki Yamaguchi Masaki Kyono Kentaro Masaki Tadahiko Ueno Kazuyoshi Aoki Koushirou Ishikawa Hiroyasu Masunari Kazutoshi Sasaki Masahiro Shimojo Masayuki Yumoto Atsushi Ishizaki Takahiro Maeda Shingo Hashida Noriko Yoshitake Ryoji Yang Wonseok Serizawa Ai Matsuo Shigeki Maeda Tadashi Tomita Yusuke Premachandra Chinthaka Miao Lei Shigemune Hiroki Ashizawa Yusuke	

＜Functional Control Systems＞

Research Guidance, Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
System Control Engineering	Advanced Research Program on Systems Control Engineering （Research Guidance ）	Murakami Kayoko Yoshihara Shouichirou Kawakami Yukio Usami Kimiyoshi Igarashi Harukazu Chen Xinkai Yamamoto Shinichirou Sugimoto Tooru Adachi Yoshitaka Takami Hiroshi Hasegawa Hiroshi Hasegawa Tadahiro Shimada Akira Kasuga Nobuyo Anzai Masahiro Saeki Masato Ichikawa Manabu Ito Kazuhisa Uchimura Yutaka Kimura Masaomi Yoshimi Takashi Fukuda Hiroaki Andou Yoshinobu Hosoya Naoki Matsuhira Nobuto Muto Masayoshi Koyama Yusuke Fukuda Akiko Kameko Masaki Zhai Guisheng Suzuki Tatsuo Takeuchi Shingo Ishiwata Tetsuya Yonemura Shunichi Sugaya Midori Ito Toshio Ozaki Katsuhisa Ijiri Takashi Shimizu Sota Nagasawa Sumito Sawa Takekazu Yamazawa Hiroshi Abiko Satoko Nakajima Tsuyoshi Noda Natsuko Hirose Toshiya Iizuka Kojiro Makishita Hideyo Shimizu Kenichi Sakakibara Nobuhisa Matsubara Ryota Ishizaki Satoshi Manabe Hiroyuki Fujita Goro Sasano Isao Tanabe Tadao Hirose Sanpei	

＜Functional Control Systems＞

Research Guidance, Field ･Research Guidance Subject and Supervisor

Field	Research Guidance Subject	Supervisor	Remarks
Life Function Control Engineering	Advanced Research Program on Bio-function Control (Research Guidance)	Yoshimi Yasuo Hamasaki Keita Hanafusa Akihiko Yamamoto Sota Osakabe Naomi Fukui Koji Fuse Hiroyuki Suhara Yoshitomo Satou Hiroki Watanabe Nobuo Kanoh Shinichiro Yoshimura Kenjiro Futai Nobuyuki Akagi Ryota Hirota Yoshihisa Shimizu Kenichi Yajima Ichiro Nakamura Naoko	