STUDENT HANDBOOK

FY2018

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 train engineers and researchers, who not only have the wisdom and knowledge in their field of specialization, but who are also able to react to the changes in society and use this proactivity as an asset to contribute to the community. Demanded from these professionals is the ability to recognize and solve multiple problems, a skill backed up by a high level of expertise. To foster these skills the Master's Program develops education and research to which an international and broad mindset as well as flexible thinking are essential.

＜Electrical Engineering and Computer Science Course＞

Today, it is impossible to construct advanced and rich social systems without using the technologies in electrical, electronic, and communications engineering, and computer science. In order to respond to the social demand for such technologies as an industrial foundation, the Electrical Engineering and Computer Science Course aims to nurture outstanding engineers and researchers with the following points set as its main educational goals: 1. Acquisition of a high level of specialized knowledge and the development of applied skills; 2. Discovery of problems and the development as well as training of problem-solving skills; 3. Development of presentation and communication skills; 4. Development of cooperativeness and nurturing a sense of ethics.

In order to accomplish the goals described above, the areas taught in this course extensively cover subjects in electrical engineering and computer science, enabling the course structure to deal with most of the issues and problems in that area. In addition, the course has been developed to be responsive to innovative and original themes, future development of which is expected.

Actually, this course has been formed by uniting different electronic-related departments and faculties to realize the graduate level education, which goes far beyond the basic framework of faculties and departments. Furthermore, this course is divided into eight specialized fields - 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 has an extensive number, over 50, of teaching staff who form the education and research system to accommodate students requests.

＜Materials Science and Engineering Course＞

Materials have always played an important role in human society. In order to respond to social needs, the Materials Science and Engineering Course aims to nurture technological engineers and researchers who have the capabilities to: grasp the essence of problems; invent research methods to solve problems; and make use of specialized knowledge for actual development. The main research themes in this course are to build academic knowledge based on new scientific perspective on all the material creations, which is beyond the conventional material classification by scientifically understanding

materials as well as actively using quantum mechanics and electronic theory, namely the creation of new materials and the investigation of new physical properties. In addition, to achieve this objective, this course will provide education and conduct research through the three-course system, which links the undergraduate school with the graduate school - that is, advanced materials science represented by superconducting material, material creation study using the ultimate environment representing the space environment, and nanotechnology/materials and molecular devices materials science, which will be one of the four top-priority fields within the 21st century Japan.

＜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, the fields covered in this course include those based on mechanical engineering in which the earth itself is the subject of research (such as material and structural mechanics, fluid, heat and energy), the human- and earth-friendly engineering field (such as robotics, automotive engineering, new energy systems, and welfare engineering), and system technology regarding complex manufacturing (such as bio-related engineering, medical engineering, design engineering). Allowing students to study these research areas, this course has set a major goal that it will nurture global and competent engineers who can contribute to the society, who have not only specialized knowledge but also an ability to identify problems by themselves based on engineering ethics, and who have an ability to practice engineering towards solving the problems. Through the

problem-solving process of concrete themes, the course offers an educational program in which students can acquire foundation skills, which will enable them to always challenge new issues.

＜Architecture and Civil Engineering Course＞

On the Architecture and Civil Engineering Course, education is provided and research is conducted with the aim that students on this course will learn about the technologies and systems for maintaining a good quality environment by building and managing living spaces and social infrastructure on the national land as well as in cities and towns. This course is structured based on the total of five departments, which are the Department of Civil Engineering, the Department of Architecture, the Department of Architecture and Building Engineering from the College of Engineering, the Department of Architecture and Environment System from the College of Systems Engineering and Science, and the Architecture and Urban Design Course in the Department of Engineering and Design from the College of Engineering and Design. The educational goal of the course is to nurture graduate students who will make use of their creativity and who are strongly conscious about the relationship between technology and society amid the on-going significant changes in the environment required by society.

Education and research division in this course is comprised of two groups – One is the “Design and planning group,” which consists of architectural planning, architectural design, architectural history, and city planning, and the other is the “Engineering group,” which consists of architectural environment and equipment, architectural structure, production engineering, social infrastructure facilities, and regional and environmental planning. Every year, this course actively conducts the expansion of lectures, responding to the advancement of specialized fields and conducts exercises beyond the framework of each laboratory in which graduate students and teaching staff engage in collaborative tasks (e.g. design workshops and planning workshops) as well as exchange projects with other universities including partner schools overseas, including France, Russia, Italy, and Korea). The career path for the students who have completed this course has gradually been expanding in recent years to new fields such as the environment-based think tank, NPO, which operates as a civic activity, and the establishment of community businesses, in addition to the field, which center around construction including architectural design offices, construction business, research institutes of technology, consultants, developers, and civil servants.

＜System 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 nurture researchers and engineers who have an ability to identify cross-disciplinary problems involving multiple disciplines and who have comprehensive problem-solving skills. In order to achieve this goal, students will establish the issues facing modern society in a flexible manner based on science and technology, culture and values, society and the environment, and the ethics for engineers as their basis, they will use specialized knowledge, which will become the core of their own research, as well as the background knowledge beyond disciplinary frameworks and system thinking acquired through completing, 1. Compulsory subjects; 2.

Research guidance and specialized subjects; 3. Elective subjects; 4. Common subjects.

＜Global Course of Engineering and Science＞

The aim of Global Course of Engineering and Science is to foster engineers and researches, who have the knowledge and education in the field of specialization and also ability to recognize and solve multiple problems. To be more specific, the Global Course of Engineering and Science aims with the following 4 points set as its main educational goals, and to nurture global engineers and researchers who have the capabilities to solve the global-level problems in cooperation with foreign engineers and researchers. Therefore, the career path for the students who will have completed this course will be expected to work at the global section in Japanese affiliated companies or foreign affiliated companies, work as the local technical engineers overseas, or as the researchers who be able to work with foreign researchers.

1. Development of communication skills to be able to understand different cultures in the international situation.
2. Acquisition of discovery problems and skills of solving them.
3. Well-understanding the advantage of one's own country and the development to have action with global perspective.
4. Acquisition of understanding the social and economic worth of developing technologies and ability to create.

【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 a 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, at the nuclear accident, which occurred immediately after the Great East Japan Earthquake, the importance of systemized technology regarding the use of technology in a society including its implementation and operation was reaffirmed. This suggests that it is time for us to reconsider practical education. At the same time, this also means that nurturing researchers and engineers who will acquire the global values and capabilities required to work 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】

The Master's Program offered by the SIT Graduate School of Engineering and Science fosters a professional approach to specialized fields, skills in addressing emerging challenges facing society, and the capability to immediately apply such skills and make a contribution to society. To cultivate development engineers in specialized fields, the program aims to provide students with opportunities to acquire high levels of specialized knowledge and advanced research and development capabilities as well as skills in identifying issues, quantifiably solving problems, experimenting with measurement, processing, etc., and integrating engineering systems. At the same time, it aims to develop flexible thinkers with wide-ranging international insights who are capable of considering relationships between engineering and the environment, the economy, and culture.

＜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 as well as taking subjects (specialized subjects) taught by one's supervisor 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＞

To acquire a deep understanding of knowledge and skills in the major chemistry field as well as a broad understanding of basic knowledge and advanced technology in the relevant chemistry fields, the Applied Chemistry Course provides 44 subjects as lectures (12 subjects provided in English). Master candidates must earn 18 and over credits including the subjects offered by a supervisor, which leads to acquire knowledge and skills related to the core topics in analytical, organic, inorganic and physical chemistry and the applied topics in biological science, chemical engineering. The laboratory project is offered to foster problem-discovering and -solving skills practically. In the latter half of the course after earning the credits, students may concentrate on the laboratory project to complete their master's thesis.

＜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 towards working on solving problems based on global perspectives.
(5) An ambitious attitude to challenging new fields, rich culture, and high ethical standards.

＜Architecture and Civil Engineering Course＞

Following the lines of the admission policy, diploma policy and the educational/research policy, this course has designed its curriculum aiming to enable students to acquire the skills and abilities as follows.
Students on this course will be able:

A) To handle the integrated system, which consists of buildings and civil engineering structures studied in architecture and civil engineering, based on natural and social sciences.
B) To acquire a wide variety of knowledge such as on history, culture, customs, art, and international

situations, which will be the landscape of national land, cities and towns, and buildings, in order to make use of them in creating rich human cultures to progress into to the future.

C) To accurately analyze various environmental factors surrounding cities, buildings and civil engineering based on the correct understanding of the relationships between human beings and the environment, and to contribute to the building of a sustainable society and the realization of city, architecture and the civil engineering environmental system.

D) To systematically acquire specialized knowledge in the field of their expertise and to be able to apply it to solve problems.

E) To find, organize and analyze conditions and issues, as well as to demonstrate reasonable solutions, in order to realize land, cities and towns that can satisfy humans and society.

F) To grasp the scientific aspect of architecture and civil engineering at a high level, applying the basic mathematical knowledge of construction technology.

G) To logically convey their own opinions to others through descriptions, discussions, and presentations and to have sophisticated discussions.

H) To understand others and to acquire ways to work on issues in collaboration with others through the actual practice of PBL, and to contribute to society in response to globalization.

I) To understand their roles and responsibilities when engaged in construction and civil engineering and to comply with the ethics for engineers, considering the influence of buildings and civil engineering structures on humans, society, and environment.

＜System 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 and specialization subjects, 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＞

For the purpose of nurturing engineers and researchers as mentioned in the diploma policy, this course provides most of the subjects related to high level technology planned with experiments, exercises and seminars. In addition, to cultivate development engineers who are independent and have skills to work with global viewing and critical thinking, variety of the high level common subjects in the field of liberal arts is also provided. All of information about subjects, projects and thesis are provided in English.

【Doctor's Program】

To fulfill SIT's mission of promoting research and enhancing the potential of researchers, the Doctoral Program offered by the SIT Graduate School of Engineering and Science aims to cultivate specialist engineers and researchers who have a wealth of scholarly knowledge from among persons who have completed a Master's Program or gained equivalent practical research experience. By enabling students to explore their own specialist fields from an interdisciplinary perspective, the program seeks to develop their capabilities in coordinating entire systems from an integrated standpoint encompassing both tangible and intangible aspects.

Moreover, by also enabling students to undertake a minor, the program fosters human resources with sigma-type integrative ability teaming multifaceted engineering skills with technology management capabilities and metanational ability.

＜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**＞

Functional Control Systems Course aims to provide education and to conduct research to nurture outstanding researchers and engineers who have global values as well as the ability to fully grasp the truth of science and make use of it in practical education. In particular, taking advantage of the characteristics of this course, which covers a number of different research fields, such as communication function control, functional device control, system control, and biosystems and biomolecule control, the entire course offers a curriculum with relevance between different fields in mind based on the diversity within the course, without its education and research being limited to the areas of the expertise of its academic staff. In light of the recent globalization of education and research, the course also aims to nurture researchers and engineers who are capable of working actively in the international stages by promoting the enhancement of their proficiency in English for engineers and presentation skills in English for their educational and research outcomes.

3. Diploma Policy

【Master's Program】

The educational aim of the Master's Program offered by the SIT Graduate School of Engineering and Science is to produce graduates with a high level of professionalism as specialists in their fields, skills in addressing emerging challenges facing society, and the capability to immediately apply such skills and make a contribution to society. The Master's Program seeks to foster development engineers in specialized fields, provide students with opportunities to acquire high levels of specialized knowledge and advanced research and development capabilities, and foster skills in identifying issues, quantifiably solving problems, experimenting with measurement, processing, etc., and integrating engineering systems. At the same time, it aims to develop flexible thinkers with wide-ranging insights who are capable of considering relationships between engineering and the environment, the economy, and culture.

When students enrolled in the Master's Program for the prescribed period are deemed to have fulfilled the aims described above through completion of courses and the preparation of a Master's thesis, they shall be granted an SIT Master's Degree.

＜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＞

The Mechanical Engineering Course has set a major goal that, through providing education in specialized subjects and research guidance, it will nurture global and competent engineers who can contribute to the society, who have not only specialized knowledge but also have an ability to see problems by themselves based on engineering ethics, and who have an ability to practice engineering towards solving the problems. Through the problem-solving process of concrete themes, the course offers an educational program in which students can acquire foundation skills, which will enable them to always challenge new issues.

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

(1) Specialized knowledge and understanding

- Obtainment of units defined in the study guide.

(2) Acquisition of problem-identifying and problem-solving skills

- Possession of insights for accurately setting problems in proceeding research and logical thinking required for problem-solving.

(3) Motivation and ability to practice

- Possession of abilities to demonstrate human competency in actively challenging difficult issues and resolving them, as well as accurately practicing their own research in advancing it.

(4) Comprehensive strength

- Accurately written research results based on highly original academic knowledge.
- Spreading research achievements throughout the society by giving the presentation in the society of the academic activities such as academic conferences and academic associations.

Degree Assessment Criteria

Candidates will be conferred the degree of Master's in Engineering by fulfilling the following criteria:
Candidates will have:

- Completed 2 units for the subjects taught by their supervisor and more than 16 units for other subjects, as well as having received research guidance (12 units for Special exercises and Special experiments) from their supervisor.
- Submitted their Master's thesis and passed its assessment. The judgment of passing the assessment is based on the evaluation in terms of novelty, usefulness, universality, engineering point of argument, and the overall standard of quality, and 60 out of 100 points must be awarded.

＜Architecture and Civil Engineering Course＞

In the Architecture and Civil Engineering Course, students learn how to develop and manage living space and infrastructure in land and cities with gaining skills and knowledge for environmental sustainability. By the end of the course, students enable to gain:

1. Advanced knowledge about architecture and civil engineering, skills for research and development, and problem-finding/solving skills quantitatively
2. Skills to carry out experiments including measurement and processing and to be integrated with technological system
3. Flexible and wide range of point of views with considering technological, environmental, economic and cultural concerns

Degree Assessment Criteria

The degree of Master of Engineering will be conferred on students who meet all of the following criteria:

1. The mid-assessment is carried out by the date indicated
2. On both of your Master's thesis and presentation, at least one chief examiner and one assistant examiner give the passing grade (more than 60%)

＜System 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 and specialized subjects, 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 specialized subjects 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＞

This course aims to nurture engineers and researchers who have the abilities to communicate positively with people who have different cultures all over the world, have skill of advanced technology and are independent. This course will require student to acquire the following knowledge and skills for graduation.

1. Complete the programs during the prescribed period and complete more than 30 credits including Special Subject and Research Guidance.
2. Complete core subjects, the subjects taught by their supervisor and at least one common subject provided at the graduate school.
3. For Japanese students, candidates must accomplish Overseas Project Research. For the international students, candidates must accomplish the internship in Japan.
4. Submit master's thesis and presentation then pass the assessment. (Presentation and preparation are in English.)

Degree Assessment Criteria

Candidates will be conferred the degree of Master of Science in Engineering by fulfilling the following criteria:

- Have received Research Guidance and submitted their Master's thesis and passed its assessment.
- On both of Master's thesis and presentation, one supervisor and one assistant examiner give the passing grade (more than 60%).

【Doctor's Program】

To fulfill SIT's mission of promoting research and enhancing the potential of researchers, the Doctoral Program offered by the SIT Graduate School of Engineering and Science aims to cultivate specialist engineers and researchers who have a wealth of scholarly knowledge from among persons who have completed a Master's Program or gained equivalent practical research experience. By enabling students to explore their own specialist fields from an interdisciplinary perspective, the Doctoral Program seeks to develop their capabilities in coordinating entire systems from an integrated standpoint encompassing both tangible and intangible aspects. Moreover, by enabling students to complete a minor, the program fosters human resources with sigma-type integrative ability teaming multifaceted engineering skills with technology management capabilities and metanational ability.

■Doctoral Degree through Completion of Coursework (Coursework Doctorate)

When students who have been enrolled in the Doctoral Program for the prescribed period and fulfilled completion requirements set out in university regulations are deemed to demonstrate the qualities required to work independently as specialist engineers or researchers with a wealth of scholarly knowledge through completion of Doctoral Program coursework and preparation of a thesis, they shall be granted an SIT degree of Doctor of Philosophy.

■Doctoral Degree through Submission of a Thesis (Thesis Doctorate)

Persons who have not attended the Doctoral Program but who have engaged in research and development work for five years or more following graduation from university (including time spent in a

Master's Program for persons who have completed such a program), or are deemed by the SIT Graduate School of Engineering and Science Committee to have equivalent experience, may apply to be granted a Doctoral Degree through submission of a thesis. Once such an application has been received, the SIT Graduate School of Engineering and Science shall examine the applicant's academic achievements and the content of the thesis submitted. If, as a result of this examination, the applicant is deemed to possess academic and research capabilities that are equivalent to or higher than a person who has completed the Doctoral Program, and is already working independently as a specialist engineer or researcher with a wealth of scholarly knowledge, he or she shall be granted an SIT degree of Doctor of Philosophy.

＜Regional Environment Systems Course＞

The educational goal of the Regional Environment Systems Course is to nurture talents who have a broad viewpoint regarding the regional environment and who are capable of realizing their own ideas utilizing a high degree of expertise. Obtaining a degree in this course will require the candidates to fulfil the following requirements, in addition to submitting a doctoral thesis. Candidates will:

- Complete all of the prescribed units and possess an in-depth as well as an extensive knowledge.
- Possess an extensive knowledge in addition to the knowledge of their specialized area, and have the capability of conducting evaluations and judgments on things from a broad perspective.
- Have the capability of utilizing their own knowledge to work on actual issues.
- Have the communication skills to be able to work cooperatively with engineers and scientists from other fields in dealing with complex issues such as environmental issues.
- Have communication skills.

Assessment Procedures

An assessment Committee will be formed, which will consists of at least five members including at least one external examiner specialized in the same research area as that of the doctoral candidate and one examiner whose specialized field is different to that of the candidate*, and the Committee will conduct a preliminary assessment as well as the final assessment (open to public).

Degree Assessment Criteria

The degree assessment criteria for a doctoral candidate through a doctoral program and a doctoral thesis are as follows:

Candidates will:

- Have a high degree of expertise in their respective research field.
- Have an extensive knowledge and a high level of insight in areas other than own research field.
- Have published work relevant to their research for the doctoral degree.

The preliminary assessment will assess the possibility of the candidate being able to pass the final assessment.

Following the end of the preliminary assessment, those who have passed will be recommended to the Graduate School Committee with a "Preliminary assessment report." Only after an approval is granted from the Graduate School Committee can the candidate go forward to the final assessment.

In the final assessment, members of the Assessment Committee will make a decision of pass or fail after consulting together as to whether the candidate satisfies the above-described criteria referring to the “Assessment evaluation sheet,” which is completed by all of the examiners.

Those who pass will be recommended to the Graduate School Committee with an “Assessment report,” “Assessment evaluation sheets,” and “A list of published work by the candidate” to gain approval for degree conferment.

*The examiner can be from the same course as long as the research area is different to the candidate’s.

＜Functional Control Systems Course＞

The degree of Doctor of Engineering or Doctor of Philosophy will be conferred by fulfilling the following criteria.

Standard period of completing the Doctor’s Program is set to be three years. However, in the case where the candidates’ research achievement is exceptionally good, they will be allowed to complete the program on condition that they have been registered with the program for over one year.

Candidates will complete the program by completing at least one subject from within the area of advanced subjects, receiving guidance in a special study, publishing academic papers and presenting a paper at an academic conference, and passing the assessment of a doctoral thesis, and they will then be conferred the degree. However, candidates who work as well as study may be exempt from taking the advanced subjects upon their main supervisor’s approval.

Candidates will be allowed to register themselves beyond the standard period of completion in cases of temporary absence from the university, returning to the university, dropping out, and re-admission. This will increase the possibility of their conferment.

Degree Assessment Criteria

1. Degree Assessment Criteria for Candidates in the Doctor’s 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 Thesis Only

(i) Candidates must have more than five years of research and development experience following their graduation from university, and must have submitted and published at least five articles as the first author in academic journals involving an assessment by the Academic Society Home Village. However, when those who left the 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, which they left the university.

(ii) 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 Required subjects: You are required to earn credits from your course, otherwise you cannot graduate.

③ 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	13:10-14:50	15:00-16:40	16:50-18:30	18:40-20:20

(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 S*gsot.

(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 of MOT
③ The classes offered by Tokyo University of Marin 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, S*gsot, SIT website
④ In case of fire or earthquake or other emergency ・・・ broadcasting inside SIT.
⑤ Other important information ・・・ bulletin board, SIT website

Completion Requirements

Master's Program

(1) Each course requires more than 30 credits to be completed.
12 credits from research guidance, 2 credits from required subjects, and 16 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 required subjects and 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.

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				○	

Research Guidance	Credits	1st year		2nd year		Professor
		Spring semester	Fall semester	Spring semester	Fall semester	
Special Experiment1	1	○				Each Supervisor
Experiment2	1		○			
Experiment3	2			○		
Experiment4	2				○	
Total	12	2	2	4	4	

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

●Course: Architecture and Civil 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										Each
Exercise1	1	○								Supervisor
Exercise2	1		○							
Exercise3	1			○						
Exercise4	1				○					
Special										
Exercise5	1	○				○				
Exercise6	1		○				○			
Exercise7	1			○				○		
Exercise8	1				○				○	
Special										Each
Experiment1	1		○							Supervisor
Experiment2	1				○					
Experiment3	1						○			
Experiment4	1							○		

≪Required Subjects≫ [Compulsory]

The classes with ☆mark will be taught by supervisors who are in charge of research guidance. Please note that Systems Engineering and Science students and Global Course of Engineering and Science have to take “Compulsory subjects” (refer to School Regulations) besides required subjects.

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】

	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 Civil 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 Civil Engineering (design) course. There are only exercise classes for this course.

【Architecture and Civil 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.

【Notice】As for Degree Conferment Examination Criteria, check the Diploma Policy.

Subject Assignment List
-Master’ s Course-

☆・・・Required Subjects(Compulsory):

The classes taught by supervisors

◎・・・The classes conducted in a quarter.

＜Electrical Engineering and Computer Science＞

-Department･Research Guidance･Supervisor–

Department	Research Guidance	Supervisor		Remarks
Materials and Devices	Nanoelectronics Research	Supervisor	Ueno Kazuyoshi	
	Functional Materials Engineering Research	Supervisor	Yamaguchi Masaki	
	Electronic Device Materials Research	Supervisor	Horio Kazushige	
	Opto-Electronics Engineering Research	Supervisor	Homma Tetsuya	
	Photonic Devices Engineering	Supervisor	Yokoi Hideki	
	Semiconductor Physics and Devices Research	Supervisor	Ishikawa Hiroyasu	
Circuits and Control	Circuits and Ultrasonic Research	Supervisor Supervisor Supervisor	Koike Yoshikazu Maeda Tadashi Sasaki Masahiro Sugiyama Katsumi Premachandra Chinthaka	
	Electromagnetic Wave Circuit Technology Research	Supervisor	Tanaka Shinichi	
Power and Energy	Visual Environment Research	Supervisor	Irikura Takashi	
	Electric Machinery and Applications Research	Supervisor Supervisor	Takami Hiroshi Akatsu Kan Shimomura Shoji Saitou Makoto	
	Electric Power System Engineering Research	Supervisor	Fujita Goro	
	Power Apparatus Technology Research	Supervisor	Matsumoto Satoshi	
	Advanced Materials for Energy and Related Areas Research	Supervisor	Nishikawa Hiroyuki	
Communication	Clustering and Classification in Infocommunications Technology Research	Supervisor	Kanzawa Yuuchi	
	Information and Communication Systems Research	Supervisor	Kamioka Eiji	concurrent post
	Acoustic Communication and Information Systems Research	Supervisor	Muto Kenji	
	Optical Transmission Systems Research	Supervisor	Horiguchi Tsuneo	
	Telecommunication Networks Research	Supervisor	Morino Hiroaki Miyata Sumiko	
	Wireless Communication Systems Engineering Research	Supervisor Supervisor Supervisor	Gyoda Koichi Kubota Shuji Hirose Kazuhide	
Information	Computer Architecture and LSI Design Research	Supervisor	Usami Kimiyoshi	
	Information System Engineering Research	Supervisor	Ohkura Michiko Sripian Peeraya	
	Data Engineering Research	Supervisor	Kimura Masaomi	
	Interractive Graphics	Supervisor	Ijiri Takashi	
	Information Network Research	Supervisor	Hirakawa Yutaka	
	Large-Scale Distributed Systems Research	Supervisor	Fukuda Hiroaki	

Department	Research Guidance	Supervisor		Remarks
Information	Computer Mediated Communication Engineering Research	Supervisor	Yonemura Shunichi	
	Operating Systesms and Middleware Research	Supervisor	Sugaya Midori	
	Empirical Software Engineering Research	Supervisor	Nakajima Tsuyoshi	
	Intelligent Information Systems Research	Supervisor Supervisor	Igarashi Harukazu Sugimoto Tooru Sasano Isao	
Computer Science	Software Engineering and Knowledge Engineering Research	Supervisor	Noda Natsuko	
	Intelligent Knowledge System Research	Supervisor	Yasumura Yoshiaki Kawaguchi Keiko	
	Knowledge Information Processing System Research	Supervisor	Aiba Akira	concurrent post
	Mathematical Engineering Research	Supervisor Supervisor	Nishimura Tsuyoshi Matsuda Haruhide	
			Idogawa Tomoyuki	concurrent post
	Large-Scale Distributed Systems Research	Supervisor	Yamazaki Kenichi	
Robotics and Mechatronics	Robotics and Mechatronics Research	Supervisor Supervisor	Shimada Akira Andou Yoshinobu	
		Supervisor	Hasegawa Tadahiro	concurrent post
		Supervisor Supervisor	Yoshimi Takashi Abiko Satoko Sasaki Takeshi	
Bionics	Bioelectronics Research	Supervisor Supervisor	Muguruma Hitoshi Saitoh Atsushi	
	Biomedical Engineering Measurement Research	Supervisor	Kanoh Shinichiro	
	Bionic Communication Engineering Research	Supervisor	Horie Ryota	

-Subject・Lecturer Professor・Number of Credits・Semester-

	Subject	Credits	Semester		Lecturer Professor	教職	Course in English
			Spring	Fall			
☆	Nano Devices an Materials	2	◎		Ueno Kazuyoshi		○
☆	Optical Fiber Manufacturing	2		○	Yokoi Hideki		○
	Epitaxial Semiconductor Materials	2	○		Ishikawa Hiroyasu		○
☆	Advanced Electronic Circuit	2		○	Koike Yoshikazu		○
☆	Electric Power Control	2	○		Takami Hiroshi		○
☆	Advanced PM Machine, Structure and Control	2		◎	Akatsu Kan		○
☆	Advanced Power System	2	○		Fujita Goro		○
	Smart Grid Technology	2		○	Fujita Goro		○
☆	Advances in High Voltage and Power Apparatus Manufacturing	2	○		Matsumoto Satoshi		○
	Advanced Quantum-Beam Applications	2		○	Nishikawa Hiroyuki		○
☆	Advanced Vision	2	○		Irikura Takashi		○
☆	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 Manufacturing	2	○		Hirose Kazuhide		○
☆	Advanced Computer Architecture	2		○	Usami Kimiyoshi		○
☆	Advanced Information System Manufacturing	2	○		Ohkura Michiko		○
☆	Advanced OS and Virtualization	2	○		Fukuda Hiroaki		○
☆	Topics in Data Manufacturing	2		○	Kimura Masaomi		○
	Advanced Robotic Manipulation	2		○	Shimada Akira		○
	Autonomous Mobile Robot System	2	○		Andou Yoshinobu		○
☆	Micro Mechatronics	2		◎	Hasegawa Tadahiro		○
☆	Robot Task & System	2		○	Yoshimi Takashi		○
☆	Space Robotics	2	○		Abiko Satoko		○
☆	Advanced Bioelectronics	2		○	Muguruma Hitoshi		○
☆	Sensor Manufacturing	2		○	Saitoh Atsushi		○
☆	Advanced Neural Manufacturing	2	○		Kanoh Shinichiro		○
☆	Bionic and Biomimetic System Engineering	2		○	Horie Ryota		○

＜Materials Science and Engineering＞

-Department･Research Guidance･Supervisor-

Department	Research Guidance	Supervisor	Remarks
Basic Materials	Materials Chemistry Research	Supervisor Noda Kazuhiko Nakamura Tota	
	Material Physics Research	Supervisor Kariya Yoshiharu	
	Extreme Materials Science Research	Supervisor Nagayama Katsuhisa	
	Thin Film Materials Research	Supervisor Yumoto Atsushi	
	Semiconductor Materials Research	Supervisor Kyono Kentaro	
	Random-based Materials Research	Supervisor Masaki Tadahiko	
	Resources and Energy Materials Science Research	Supervisor Arai Tsuyoshi	
	Materials Science Research	Supervisor Shimojo Masayuki	
	Advanced Materials Research	Supervisor Ishizaki Takahiro Supervisor Camelia Miron	
	Materials design research	Supervisor Serizawa Ai	
Material Property	Biomaterial Research	Supervisor Matsumura Kazunari	
	High-performance Materials Research	Supervisor Murakami Masato Supervisor Sakai Naomichi Supervisor Ikegami Daisuke	

-Subject・Lecturer Professor・Number of Credits・Semester-

Subject	Credits	Semester				Lecturer Professor	教職	Course in English
		Spring		Fall				
		1Q	2Q	3Q	4Q			
High Functional Materials	2	Not held in the AY2018				Murakami Masato		○
Materials Chemistry	2				◎	Noda Kazuhiko		○
☆ Thin Film Physics	2	◎				Kyono Kentaro		○
Methods in Bio-inspired Nanomaterial Science	2	○				Matsumura Kazunari		○
Basic Physics in Electron Microscopy	2	◎				Shimojo Masayuki		○

＜Applied Chemistry＞

-Department･Research Guidance･Supervisor-

Department	Research Guidance	Supervisor		Remarks
Physical Chemistry	Applied Photochemical Research	Supervisor	Konishi Toshifumi	
	Applied Electrochemical Research	Supervisor	Imabayashi Shinichiro	
	Organic Electron Transfer Chemistry Research	Supervisor	Tajima Toshiki	
	Chemical Engineering Research	Supervisor	Yoshimi Yasuo	
	Separation System Engineering Research	Supervisor	Nomura Mikihiro	
Organic Chemistry	Reaction Organic Chemistry Research	Supervisor	Kitagawa Osamu	
	Organic Materials Chemistry Research	Supervisor	Kidowaki Masatoshi	
	Polymer Materials Chemistry Research	Supervisor	Naga Naofumi	
	Supramolecular Chemistry Research	Supervisor	Nakamura Asao	
	Biomolecular Chemistry Research	Supervisor	Hatano Akihiko	
Analytical Chemistry	Environmental Analytical Chemistry Research	Supervisor	Masadome Takashi	
Biological Science	Life Chemistry Research	Supervisor	Yamashita Mitsuo	
	Chemical Biology Department	Supervisor	Hamasaki Keita	
Inorganic Chemistry	Inorganic Materials Chemistry Research	Supervisor	Oishi Tomoji	
	Inorganic Materials Chemistry research	Supervisor	Kiyono Hajime	
	Molecular Assemblies for Crystal Engineering Research	Supervisor	Hori Akiko	

-Subject・Lecturer Professor・Number of Credits・Semester-

Subject	Credits	Semester				Lecturer Professor	教職	Course in English
		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		○
Inorganic Materials Chemistry	2			○		Oishi Tomoji		○
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		○

＜Mechanical Engineering＞

-Department ・Research Guidance ・Supervisor-

Department	Research Guidance	Supervisor		Remarks
Mechanics /Materials	Mechanical Material Properties Engineering Research	Supervisor	Takasaki Akito	
	Machine Dynamics Research	Supervisor	Hosoya Naoki	
	Optimum System Design Study	Supervisor	Hasegawa Hiroshi	
	Granular Mechanics Research	Supervisor	Saeki Masato	
	Environmental Materials Engineering Research	Supervisor	Fujiki Akira	
	Individual Dynamics Research	Supervisor	Sakaue Kenichi	
	Strength Design Studies	Supervisor	Hashimura Shinji	
	Materials Reliability Engineering Research	Supervisor	Utsunomiya Takao	
	Material Processing Research	Supervisor	Aoki Koushirou	
Fluids /Heat /Energy	Thermal Fluid Engineering Research	Supervisor	Tsunoda Kazumi	
	Micro Heat Fluid Engineering Research	Supervisor	Tange Manabu	
	Fluid Applied Engineering Research	Supervisor	Suwa Yoshihide	
	Thermal Process Engineering Research	Supervisor	Kimijima Shinji	
	Energy and Environment Engineering Research	Supervisor	Yahagi Yuji	
	Light Energy Engineering Research	Supervisor	Yamada Jun Shirai Katsuaki	
	Energy Transfer Engineering Research	Supervisor	Tanaka Kotaro	
	Combustion Engineering Research	Supervisor	Saito Hiroyasu	
Control /Information /Intelligence	Fluid Control Engineering Research	Supervisor	Kawakami Yukio	
	Dynamic System Control Theory Research	Supervisor	Ito Kazuhisa	
	Robot Control Engineering Research	Supervisor	Uchimura Yutaka	
	Intelligent Mechanical Systems Research	Supervisor	Matsuhira Nobuto	
	High-performance Control Engineering Research	Supervisor	Shimada Akira	
	Study on Space Exploration Robots	Supervisor	Iizuka Kojiro	
Humans-Mechanical System /Life Support	Human Factor Research	Supervisor	Kasuga Nobuyo	
	Human-machine Interface Research	Supervisor	Hirose Toshiya	
	Welfare Engineering Research	Supervisor	Yamamoto Shinichirou	
	Biological Function Engineering Research	Supervisor	Yamamoto Sota	
	Cell Device Research	Supervisor	Futai Nobuyuki	

Department	Research Guidance	Supervisor		Remarks
Design	Product Design Research	Supervisor Supervisor Supervisor Supervisor Supervisor	Masunari Kazutoshi Furuya Shigeru Yoshitake Ryoji Hashida Noriko Yang Wonseok Sakuragi Shin Hidaka Kyoko Ashizawa Yusuke	
	Net Shape Manufacturing Research	Supervisor	Anzai Masahiro	
	Die & Mold Engineering Research	Supervisor Supervisor	Tozawa Kouichi Sawa Takekazu	
Nano / Micro	Laser Application Engineering Research	Supervisor	Matsuo Shigeki	
	Thermal Mass Transfer Engineering Research	Supervisor	Ono Naoki	
	Micro Robotics Research	Supervisor	Nagasawa Sumito	
	Intelligent Materials Research	Supervisor	Maeda Shingo	
	Electronic properties under multiple extreme conditions Research	Supervisor	Ishii Yasuyuki	

-Subject ・Lecturer Professor ・Number of credits ・Semester-

Subject	Credits	Semester		Lecturer Professor	教職	Course in English
		Spring	Fall			
☆ Advanced Materials Science	2		◎	Takasaki Akito		○
☆ Neuro-Rehabilitation Engineering	2	○		Yamamoto Shinichirou		○
☆ Human-Machine System	2		○	Hirose Toshiya		○
☆ Biomechanics & Injury Prevention	2	○		Yamamoto Sota		○
☆ Experimental Thermo-fluid Engineering	2		○	Tange Manabu		○
☆ Advanced Micro and Nano Machine	2	○		Maeda Shingo		○
☆ Transport Phenomena	2		○	Tanaka Kotaro		○
☆ Advanced Applications of Fluid Engineering	2		○	Suwa Yoshihide		○
☆ Adaptive and Optimal Control	2	○		Ito Kazuhisa		○
☆ Microscale Transport Phenomena	2	○		Ono Naoki		○
Advanced Heat Transfer	2		○	Yamada Jun		○
☆ Human-Centric Robotics	2	○		Matsuhira Nobuto		○
Microscale Fluid Mechanics	2		○	Ono Naoki		○
☆ Advanced Structural Dynamics		○		Hosoya Naoki		○
Advanced Thermal Fluid Measurement Science and Engineering			○	Shirai Katsuaki		○
Advanced Seminar in Advertising Design	2		○	Hidaka Kyoko		○

＜Architecture and Civil Engineering＞

-Department･Research guidance ･Supervisor -

Department	Research guidance	Supervisor		Remarks
Architectural Planning	※Architectural Planning	Supervisor	Minami Kazunobu	
	※Living Environment	Supervisor	Shimizu Ikuro	
Architectural Design	※Architectural Design Research	Supervisor Supervisor Supervisor Supervisor Superviso	Akahori Shinobu Nishizawa Taira Horikoshi Hidetsugu Gota Osami Harada Masahiro Tanaka Atsuko Yamashiro Satoru Okano Michiko	
	※Architectural Design Research	Supervisor	Sawada Hideyuki	
	※Architectural Planning Information Research	Supervisor	Kikuchi Makoto	
	※Space Design Research	Supervisor Supervisor	Taniguchi Taizo Maeda Hidetoshi	
Architectural History	※Architectural History Research	Supervisor Supervisor	Fujisawa Akira Itou Youko	
Building Environmental Facilities	Architecture and Regional System Research	Supervisor	Murakami Kimiya	
	Building Environmental Engineering Research	Supervisor Supervisor Supervisor	Nishimura Naoya Akimoto Takashi Furuya Hiroshi	
Building Construction	Building Construction Research	Supervisor Supervisor	Kumazawa Fumitoshi Kabayama Kenji	
	Building Earthquake Disaster Prevention Research	Supervisor	Kishida Shinji	
	Building Ground Vibration Engineering Research	Supervisor	Hijikata Katsuichirou	
	Building Construction Plan Research	Supervisor	Ozawa Yuki	
	Architectural and Structural Systems Research	Supervisor	Ishikawa Yuji	
Industrial Engineering	Materials and Construction Research	Supervisor Supervisor	Hamasaki Hitoshi Koga Jyunko	
	Production System Research	Supervisor Supervisor	Kanisawa Hirotake Shide Kazuya	
Social Infrastructure Facilities	Civil Engineering Structures Research	Supervisor Supervisor	Konno Katsuaki Anami Kengo	
	Construction Composite Materials Research	Supervisor	Iyoda Takeshi	
	Concrete Structure Research	Supervisor	Katsuki Futoshi	
	Geotechnical Engineering Science	Supervisor Supervisor	Namikawa Tsutomu Inazumi Shinya	

Department	Research uidance	Supervisor		Remarks
Regional and Environmental Planning	Water Engineering Research	Supervisor Supervisor	Miyamoto Hitoshi Hirabayashi Yukiko	
	Urban Environmental Engineering Research	Supervisor	Morita Masaharu	
	Spatial Information Engineering Research	Supervisor Supervisor	Anno Sumiko Nakagawa Masafumi	
Regional and Environmental Planning	※Environmental Scientific Research	Supervisor Supervisor	Kurishima Hideaki Masuda Yukihiro	
	※Environmental planning Research	Supervisor	Nakaguchi Takahiro	
	Civil Engineering Planning Study	Supervisor Supervisor	Iwakura Seiji Endo Akira	
Urban Planning	※Urban Planning Research	Supervisor Supervisor Supervisor Supervisor	Shimura Hideaki Sato Hirosuke Kuwata Hitoshi Sakuyama Yasushi	
	※Urban Design Research	Supervisor Supervisor	Shinozaki Michihiko Suzuki Shunji	
	※Regional Information Research	Supervisor	Nakamura Hiroyuki	
	※Regional Safety Research	Supervisor	Nakamura Hitoshi Yasmin Bhattacharya	

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

-Subject・Lecturer Professor・Number of credits・Semester -

NOTE: As a general rule, students need to take “Basic Culture of Construction” in Compulsory Elective Subject.
If you take other subjects as a Compulsory Elective Subject, you need to get approval from the Dean of Architecture and Civil Engineering.

	Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
			Spring		Fall					
			1Q	2Q	3Q	4Q				
	Urban and Regional Development in Information Age	2			○		Nakamura Hiroyuki	工業	○	Compulsory Elective
	gPBL in China(a)	2	Time, registeration etc. will be announced on the bulletin board after the course content has been fixed.				Minami Kazunobu		○	
	gPBL in China(b)	2	Time, registeration etc. will be announced on the bulletin board after the course content has been fixed.				Minami Kazunobu		○	
	Architectural Design Theory and Practice	2			○		Minami Kazunobu		○	
	Building Construction System and Construction Technologies in Japan	2	Not yet fixed				Yamazaki Yusuke Minami Kazunobu		○	
☆	Architectural Planning	2	◎				Minami Kazunobu		○	
	Life Cycle Design and Management of Housing	2	Not yet fixed				Murakami Shin Minami Kazunobu		○	
☆	Houseing and Environmental Design	2			○		Shimizu Ikuro		○	
	gPBL in Asia	2	Time, registeration etc. will be announced on the message board after the course content has been fixed.				Minami Kazunobu		○	
	gPBL in Europe	2	Time, registeration etc. will be announced on the message board after the course content has been fixed.				Minami Kazunobu		○	
☆	Architectural Environment Planning	2	○				Akahori Shinobu Nishizawa Taira		○	
	Architectural Planning and Culture in Japan	2			○		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.				Akahori Shinobu Aoshima Keita		○	Acceptance Biannual programm
	Exchange program with ENSAPB(b)	2					Akahori Shinobu Aoshima Keita		○	Participant will be sent by the university Biannual program

	Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
			Spring		Fall					
			1Q	2Q	3Q	4Q				
	Exchange program with Hangyang University(a)	2	Time, registeration etc.for the course will be announced on the message board after the course content has been fixed				Akahori Shinobu Kuwata Hitoshi		○	Acceptance needed Biannual programm
	Exchange program with Hangyang University(b)	2					Akahori Shinobu Kuwata Hitoshi		○	Participant will be sent by the university Biannual program
	Exchange Program with L'Aquila University(a)	2					Itou Youko Sato Hirosuke		○	Acceptance Biannual program
	Exchange Program with L'Aquila University(b)	2					Itou Youko Sato Hirosuke		○	Participant will be sent by the university Biannual program
	Exchange program with MARHI(a)	2					Nishizawa Taira Kaihoh Kei		○	Acceptance Biannual program
	Exchange program with MARHI(ｂ)	2					Nishizawa Taira Kaihoh Kei		○	Participant will be sent by the university Biannual program
☆	History of Architecture and Urban Design	2			○		Itou Youko		○	Compulsory Elective
☆	Hearting, Ventilation, and Air Conditioning	2			○		Murakami Kimiya Akimoto Takashi		○	
☆	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			○		Hirabayashi yukiko		○	
☆	Hydrology for Engineers	2			○		Morita Masaharu		○	
	Urban Environmental Engineering	2	○				Morita Masaharu		○	
☆	Urban Planning and Design	2			○		Shinozaki Michihiko Maeda Hidetoshi		○	
	Community Design	2			○		Shimura Hideaki		○	

	Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
			Spring		Fall					
			1Q	2Q	3Q	4Q				
☆	Spatial Planning for Disaster Risk Reduction	2	◎				Nakamura Hitoshi		○	Compulsory Elective
	Internship a	2		○			Konno Katsuaki Iyoda Takeshi Minami Kazunobu Akahori Shinobu Masuda Yukihiro		○	
	Internship b	2		○			Konno Katsuaki Iyoda Takeshi Minami Kazunobu Akahori Shinobu Masuda Yukihiro		○	
	Internship c	2		○			Konno Katsuaki Iyoda Takeshi Minami Kazunobu Akahori Shinobu Masuda Yukihiro		○	
	Internship d	2		○			Konno Katsuaki Iyoda Takeshi Minami Kazunobu Akahori Shinobu Masuda Yukihiro		○	
	Lecture of Civil Engineering	2			○		Anami Kengo Iyoda Takeshi Konno Katsuaki Namikawa Tsutomu Endo Akira Miyamoto Hitoshi Anno Sumko Iwakura Seiji Nakagawa Masafumi Inazumi Shinya Hirabayashi Yukiko		○	
☆	Placemaking Studeies	2	○				Suzuki Syunji		○	

	Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
			Spring		Fall					
			1Q	2Q	3Q	4Q				
☆	Urban Environmental System Plannning	2			○		Masuda Yukihiro		○	
	Field studies for sustainable city	2	○				Nakaguchi Takahiro		○	
☆	Advanced structural systems	2	○				Ishikawa Yuji		○	

＜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	
	Tip Mechatronics Research	Supervisor	Adachi Yoshitaka	
	Fluid Control System Research	Supervisor	Kawakami Yukio	
	Control System Research	Supervisor	Chen Xinkai	
	Driving Support System Research	Supervisor	Ito Toshio	
	Cellular Physiology Control System Research	Supervisor	Yoshimura Kenjiro	
	Study on Robotics System	Suprtvisor	Iizuka Kojiro	
Electronic Information	Signal Processing System Research	Supervisor	Watanabe Eiji Ioka Eri	
	Medical Ultrasonic Engineering Research	Supervisor	Tanaka Naohiko	
	Information and Communication Design Research	Supervisor	Mano Kazunori	
	Information Network Engineering Research	Supervisor Supervisor	Miyoshi Takumi Inoue Masahiro Yokemura Taketoshi	
	Problem-solving System Research	Supervisor	Aiba Akira Suzuki Tetsuya	
	Visual Information Processing System Research	Supervisor	Takahashi Masanobu	
	Space Observation System Research	Supervisor Supervisor	Yoshida Kenji Kubota Aya	
	Quantum Information Systems Research	Supervisor	Kimura Gen	
	Diversity Communication Research	Supervisor	Yamazaki Atsuko Murakami Kayoko	
	Software Engineering Research	Supervisor	Matsuura Saeko	
	Materials for Energy and Environment	Supervisor	Miryala Muralidhar	
	High-pressure Material Science Research	Supervisor	Yamamoto Ayako	
	Electronic Circuits and Systems Design	Supervisor	Nicodimus Retdian	
Social and Environmental	Social Design Research	Supervisor	Nakai Yutaka	
	Social Mathematical Systems Research	Supervisor	Muto Masayoshi	
	Economic System Theory Research	Supervisor	Koyama Yusuke Yatagawa Rumi	
	Environmental Policy Research	Supervisor Supervisor	Iwata Tomoko Nakaguchi Takahiro	
Life Sciences	Biological Control System Research	Supervisor	Watanabe Nobuo Nakamura Naoko	
	Life in Medicinal Science Research	Supervisor	Suhara Yoshitomo Hirota Yoshihisa	
	Molecular Cell Biology	Supervisor	Fukui Koji	

Department	Research Guidance	Supervisor		Remarks
Life Sciences	Welfare Support System Research	Supervisor Supervisor Supervisor	Hanafusa Akihiko Yamamoto Shinichirou Akagi Ryota Shahrol Bin Mohamaddan	
	Food Chemistry Research	Supervisor	Osakabe Naomi	
	Environmental and Life Sciences	Supervisor	Fuse Hiroyuki	
	Biological Control Research	Supervisor	Shinkai Tadashi Okuda Hiroshi	
	Medical Polymer Chemistry Research	Supervisor	Nakamura Asao	
Mathematical Science	Applied Mathematics Research	Supervisor Supervisor Supervisor Supervisor	Kameko Masaki Ozaki Katsuhisa Matsuda Haruhide Fukuda Akiko Idogawa Tomoyuki Shimizu Kenichi	
	Mathematical Control study	Supervisor	Zhai Guisheng	
	Mathematical Physics Research	Supervisor	Suzuki Tatsuo	
	Nonlinear Analysis Research	Supervisor	Takeuchi Shingo Enomoto Yuko	
	Mathematical Analysis Research	Supervisor	Ishiwata Tetsuya	
	Complex Partial Differential Equation Research	Supervisor	Yamazawa Hiroshi	

-Subject ・Lecturer Professor・Number of credits・Semester -

Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1 Q	2 Q	3 Q	4 Q				
☆ Embedded Systems Engineering	2			○		Inoue Masahiro		○	
☆ 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		○	
☆ Topics in Mathematics	2		◎			Kameko Masaki		○	
☆ Digital Control Systems	2	○				Zhai Guisheng		○	
☆ Language Communication Studies	2	◎				Yamazaki Atsuko		○	
☆ Advanced Driver Assistance Systems	2				◎	Ito Toshio		○	
Language Information Management	2			○		Murakami Kayoko		○	
☆ Advanced Course on Materials for Energy and Environment	2				◎	Miryala Muralidhar		○	
☆ High-Pressure Science	2		◎			Yamamoto Ayako		○	
☆ Electronic Circuits and Systems	2	◎				Nicodimus Retdian		○	

＜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 Research	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	Akatsu Kan	
		Supervisor	Fujita Goro	
		Supervisor	Matsumoto Satoshi	
		Supervisor	Nishikawa Hiroyuki	
		Supervisor	Morino Hiroaki	
		Supervisor	Gyoda Koichi	
		Supervisor	Hirose Kazuhide	
		Supervisor	Usami Kimiyoshi	
		Supervisor	Ohkura Michiko	
		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	Oishi Tomoji	
		Supervisor	Tange Manabu	
		Supervisor	Matsuhira Nobuto	
		Supervisor	Yamamoto Sota	
		Supervisor	Ono Naoki	
		Supervisor	Minami Kazunobu	
		Supervisor	Maeda Hidetoshi	
		Supervisor	Itou Youko	

＜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 Research	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	
		Supervisor	Hanafusa Akihiko	
		Supervisor	Yamamoto Shinichirou	
		Supervisor	Kameko Masaki	
		Supervisor	Zhai Guisheng	
		Supervisor	Nakamura Hiroyuki	
		Supervisor	Michael Rudolf Koblischka	
		Supervisor	Anjela Dimitrova Koblischka-Veneva	
		Supervisor	Paolo Mele	
			Thomas Silverston	
			Francesca Borzumati	

-Subject・Lecturer Professor・Number of Credits・Semester-

Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1Q	2Q	3Q	4Q				
Advanced Science and Innovative Engineering	2	◎				Miryala Muralidhar Yamamoto Ayako Rzeznicka Izabela Irena Nicodimus Retdian		○	Compulsory Elective
Overseas Project Research	2	○				Mano Kazunori		○	
☆ Advanced Materials Science	2			◎		Takasaki Akito		○	
☆ Statistical Signal Processing	2	◎				Mano Kazunori		○	
☆ Micro Mechatronics	2				◎	Hasegawa Tadahiro		○	
☆Ubiquitous Computing System	2			◎		Kamioka Eiji		○	
☆ Data Communication Network	2			◎		Miyoshi Takumi		○	
☆ High Pressure Science	2	◎				Yamamoto Ayako		○	
Material Science for Engineering	2		◎			Yamamoto Ayako		○	
Structural Inorganic Chemistry Under High-Pressure	2				◎	Yamamoto Ayako		○	
High-Pressure Synthetic Methods of Inorganic Materials	2		◎			Yamamoto Ayako		○	
Materials for Energy and Environment	2			◎		Miryala Muralidha		○	
How to Write and Publish a Scientific Paper at International Journals	2	◎				Miryala Muralidha		○	
☆ Advances in Superconducting Cable Technology and its Applications	2			◎		Miryala Muralidha		○	
Superconducting materials: Synthesis and Characterization	2	◎				Miryala Muralidha		○	
General and Sustainable	2		◎			Rzeznicka Izabela Irena		○	
Basic Molecular Spectroscopy	2		◎			Rzeznicka Izabela Irena		○	
☆ Advanced Spectroscopy	2		◎			Rzeznicka Izabela Irena		○	
☆ Electronic Circuits and Systems	2	◎				Nicodimus Retdian		○	
Mathematics for Electrical and Electronics Engineering	2	◎				Nicodimus Retdian		○	

Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1Q	2Q	3Q	4Q				
Intensive course on Integrated Circuits Analysis and Design 1	2			◎		Nicodimus Retdian		○	
Intensive course on Integrated Circuits Analysis and Design 2	2				◎	Nicodimus Retdian		○	
☆ Microscale Fluid Mechanics	2			○		Ono Naoki		○	
☆ Human-Centric Robotics	2	○				Matsuhira Nobuto		○	
☆ Biomechanics & Injury Prevention	2	○				Yamamoto Sota		○	
☆ Chemical Biology	2			○		Hamasaki Keita		○	
☆ Inorganic Materials Chemistry	2			○		Oishi Tomoji		○	
☆ Environmental Analytical Chemistry	2	○				Masadome Takashi		○	
☆ Bioelectronics 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 PM Machine, Structure and Control	2			○		Akatsu Kan		○	
☆ Advanced Power System	2	○				Fujita Goro		○	
☆ Autonomous Mobile Robot	2	○				Andou Yoshinobu		○	
☆ Advanced Quantum - Beam Applications	2			○		Nishikawa Hiroyuki		○	
☆ Electric Power Control	2	○				Takami Hiroshi		○	
☆ Advances in High Voltage and Power Apparatus Engineering	2	○				Matsumoto Satoshi		○	
☆ Robot Task & System	2			○		Yoshimi Takashi		○	
☆ 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		○	
☆ Advanced Bioelectronics	2			○		Muguruma Hitoshi		○	
☆ Optical Fiber Engineering	2			○		Yokoi Hideki		○	
☆ Advanced Information System Engineering	2	○				Ohkura Michiko		○	
☆ Topics in Data Engineering	2			○		Kimura Masaomi		○	
☆ Advanced Computer	2			○		Usami Kimiyoshi		○	

Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1Q	2Q	3Q	4Q				
☆ Advanced Antenna Engineering	2	◎				Hirose Kazuhide		○	
☆ Advanced Neural Engineering	2	◎				Kanoh Shinichiro		○	
gPBL in Europe	2	Time, registeration etc. will be announced on the bulletin board after the course content has been fixed.				Minami Kazunobu		○	
gPBL in Asia	2	Time, registeration etc. will be announced on the bulletin board after the course content has been fixed.				Minami Kazunobu		○	
Architectural Planning	2	◎				Minami Kazunobu		○	
Architectural Design Theory and Practice	2			○		Minami Kazunobu		○	
Building Construction System and Construction Technologies in Japan	2	Not yet fixed				Minami Kazunobu		○	
Life Cycle Design and Management of Housing	2	Not yet fixed				Minami Kazunobu		○	
☆ History of Architecture and Urban Design	2			○		Itou Youko		○	
☆ Urban Plannign and Design	2			○		Maeda Hidetoshi Shinozaki Michihiko		○	
☆ Spatial Planning for Disaster Risk Reduction	2	◎				Nakamura Hitoshi		○	
Neurophysiology and Rehabilitation Engineering	2			○		Yamamoto Shinichirou		○	
☆ Neuro-Rehabilitation Engineering	2	○				Yamamoto Shinichirou		○	
☆ Welfare Engineering	2			○		Hanafusa Akihiko		○	
☆ Control Systems Engineering	2			○		Chen Xinkai		○	
☆ Embedded Systems Engineering	2			○		Inoue Masahiro		○	
☆ Computational Models	2			○		Aiba Akira		○	
☆ Topics in Mathematics	2	○				Kameko Masaki		○	
☆ Digital Control Systems	2	○				Zhai Guisheng		○	
☆ Language Communication Studies in Engineering	2	◎				Yamazaki Atsuko		○	
☆ Engineering Optimization	2			○		Hasegawa Hiroshi		○	
☆ Adaptive and Optimal Control	2	○				Ito Kazuhisa		○	
☆ Methods in Bio-inspired Nanomaterial Science	2	○				Matsumura Kazunari		○	

Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1Q	2Q	3Q	4Q				
☆ Materials Chemistry	2				◎	Noda Kazuhiko		○	
☆ Thin Film Physics	2				◎	Kyuno Kentaro		○	
☆ Basic Physics in Electron Microsopy	~~2~~	◎				Shimojo Masayuki		○	
☆ High Functional Materials		Not held in the AY2018				Murakami Masato		○	
☆ Advanced Driver Assistance Systems					◎	Ito Toshio		○	
☆ Experimental Thermo - fluid Engineering				○		Tange Manabu		○	
☆ Mobile Communication Networks		○				Morino Hiroaki		○	
☆ Advanced Biofluid Engineering			◎			Watanabe Nobuo		○	
☆ Urban and Regional Development in Information Age	2			○		Nakamura Hiroyuki		○	

＜Sub-Major Program Subjects＞

-Elective Subject ・Supervising Teacher ・Number of Credits ・Semester-

Elective Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1 Q	2 Q	3 Q	4 Q				
Introduction to Science Communication	2	○				Yamamoto Ayako Nicodimus Retdian			
Advanced Research Paper Writing & Presentation	2			○		Yamazaki Atsuko Miyake Tsutomu		○	
Global Engineering Management	2			○		Niitsu Yoshihiro		○	
Global Internship	2	○				Rzeznicka Izabela		○	Cannot be included in Completion Requirements
Intensive Workshop	2			○		Niitsu Yoshihiro		○	
※ Management of Intellectual Property	2			◎		Tanaka Hideho		○	
※ International Marketing	2				◎	Nakamura Jun		○	
※ Management of Innovation	2		◎			Hayashi Ryuichi		○	
Project Management	2				◎	Hirata Sadayo		○	

*Courses marked※ are held together with the MOT (Engineering Management Research Department). Please confirm the lecture time from the university timetable.

*All Sub-Major Program Subjects can be included in Completion Requirements for the students of Global Course of Engineering and Science

＜Common Subjects＞

-Elective Subject ・Supervising Teacher ・Number of Credits ・Semester-

Elective Subject	Credits	Semester				Lecturer Professor	教職	Course in English	Remarks
		Spring		Fall					
		1 Q	2 Q	3 Q	4 Q				
Global Project Based Learning	2			○		Hasegawa Hiroshi Inoue Masahiro Yamazaki Atsuko Mano Kazunori		○	
Industrial Project Based Learning	2			○		Hasegawa Hiroshi Inoue Masahiro Yamazaki Atsuko Mano Kazunori			
Advanced Research Paper Reading & Application	2	○				Kawaguchi Keiko			
Instrumental Analysis in Materials Characterization	2	○				Rzeznicka Izabela		○	
Surface and Interface Science	2			○		Rzeznicka Izabela		○	
Pedagogy	2			○		Okada Yoshiko	全教科 選択必修		Cannot be included in Completion Requirements
Curriculum Design in Mathematics Education	2	○				Makishita Hideo	数学		
Japanese Language Ⅰ	2	○		○		Hannya Yoko		Only for International students	Cannot be included in Completion Requirement
Japanese Language Ⅱ	2	○		○		Hannya Yoko Inoue Yoko			
Japanese Language Ⅲ	2	○		○		Inoue Yoko			

Subject Assignment List

-Doctor’ｓ Course-

＜Regional Environment Systems＞

-Research Guidance　Field ・Research Guidance Subject and Supervisor -

Field	Research Guidance Subject	Teacher	Remarks
Regional Environment Planning	Advanced Research Program on Regional Environmental Design (Research Guidance)	Morita Masaru Inazumi Shinya Shinozaki Michihiko Murakami Kimiya Iwakura Seiji Fujisawa Akira Akahori Shinobu Itou Youko Nishimura Naoya Horikoshi Hidetsuku Shimura Hideaki Minami Kazunobu Kanisawa Hirotake Akimoto Takashi Nakaguchi Takahiro Kuwata Hitoshi Endo Akira Kabayama Kenji Kikuchi Makoto Taniguchi Taizo Maeda Hidetoshi Namikawa Tsutomu Furuya Hiroshi Gota Osami Shimizu Ikuro Sawada Hideyuki Nakamura Hitoshi Harada Masahiro Nishizawa Taira Kurishima Hideaki Miyamoto Hitoshi Nakagawa Masafumi Sato Hirosuke Sakuyama Yasushi Shide Kazuya Masuda Yukihiro Suzuki Shunji Iwata Tomoko Hirabayashi yukiko	
Environmental Materials Engineering	Advanced Research Program on Eco-materials Engineering (Research Guidance)	Takasaki Akito Murakami Masato Oishi Tomoji Masadome Takashi Nakamura Asao Imabayashi Shinichiro Noda Kazuhiko Naga Naofumi Yamashita Mitsuo Kitagawa Osamu Matsumura Kazunari Kariya Yoshiharu Nomura Mikihiro Koga Jyunko Arai Tsuyoshi	

Field	Research Guidance Subject	Teacher	Remarks
Environmental Materials Engineering	Advanced Research Program on Eco-materials Engineering (Research Guidance)	Kidowaki Masatoshi Kiyono Hajime Tajima Toshiki Hatano Akihiko Konishi Toshifumi Fujiki Akira Sakaue Kenichi Hashimura Shinji Utsunomiya Takao Miryala Muralidhar Yamamoto Ayako Hori Akiko Hamasaki Hitoshi Sakai Naomichi Ikegami Daisuke Camelia Miron Michael Rudolf , Koblischka, Anjela Dimitrova Koblischka-Veneva, Paolo Mele	
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 Matsumoto Satoshi Ono Naoki Kimijima Shinji Saito Hiroyasu Tange Manabu Suwa Yoshihide Ishii Yasuyuki	
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 Hijikata Katsuichirou Ishikawa Yuji Ozawa Yuki	
Tip Management Engineering	Advanced Research Program on Management of Technology (Research Guidance)	Tanaka Hideho Nakamura Jun Hirata Sadayo	

＜Functional Control Systems＞

-Research Guidance, Field ・Research Guidance Subject and Supervisor-

Field	Research Guidance Subject	Teacher	Remarks
Communication Function Control Engineering	Advanced Research on Telecommunication Function Control (Research Guidance)	Watanabe Eiji Horiguchi Tsuneo 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 Inoue Masahiro Matsuda Haruhide Mano Kazunori Horie Ryota Hirakawa Yukata Kimura Gen Nicodimus Retdian	

Field	Research Guidance Subject	Teacher	Remarks
Function Device Engineering	Advanced Reserch Program on Functional Devices Technology (Research Guidance)	Horio Kazushige Nagayama Katsuhisa Homma Tetsuya Muguruma Hitoshi Koike Yoshikazu Yokoi Hideki Yamaguhi Masaki Kyono Kentaro Masaki Tadahiko Ueno Kazuyoshi Aoki Koushirou Ishikawa Hiroyasu Masunari Kazutoshi Sasaki Masahiro Shimojo Masayuki Furuya Shigeru Yumoto Atsushi Ishizaki Takahiro Maeda Shingo Hashida Noriko Yoshitake Ryoji Yang Wonseok Serizawa Ai Matsuo Shigeki Maeda Tadashi	
System Control Engineering	Advanced Research Program on Systems Control Engineering (Research Guidance)	Nishimura Tsuyoshi Ohkura Michiko Kawakami Yukio Usami Kimiyoshi Igarashi Harukazu Chen Xinkai Yamamoto Shinichirou Sugimoto Tooru Adachi Yoshitaka Takami Hiroshi Matsuura Saeko Hasegawa Hiroshi Hasegawa Tadahiro Shimada Akira Kasuga Nobuyo Anzai Masahiro Saeki Masato Tozawa Kouichi Ito Kazuhisa Akatsu Kan 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	

Field	Research Guidance Subject	Teacher	Remarks
System Control Engineering	Advanced Research Program on Systems Control Engineering (Research Guidance)	Takeuchi Shingo Yamazaki Atsuko 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	

Field	Research Guidance Subject	Teacher	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 Shinkai Tadashi Watanabe Nobuo Kanoh Shinichiro Yoshimura Kenjiro Futai Nobuyuki Akagi Ryota	