Department	Department of Pure and Applied Physics
Course	Master, Doctor
Degree	Master(Engineering/Science), Doctor(Engineering/Science)

1. Diploma Policy	Research on important issues of modern physics and their technological applications is conducted in the Department of Pure and Applied Physics. Students in the graduate program are supposed to acquire expertise, research method, abilities to challenge unexplored subjects (abilities to identify and solve problems), and abilities of presentation and communication in research fields of modern physics and its application. Students who completed the program are granted with the following degrees. master (science): acquirement of expertise and research ability in modern physics master (engineering):acquirement of expertise and research ability in application of modern physics doctor (science): acquirement of research ability to solve advanced issues in modern physics doctor (engineering): acquirement of research ability to develop new application of modern physics
2. Curriculum Policy	Students are supposed to acquire practical research abilities (abilities to identify and solve challenging research issues, abilities to present and communicate research outputs) through research activities in the fields of pure and applied physics such as mathematical physics, elementary particle/nuclear/radiation physics, astrophysics, condensed matter physics, biophysics, information/engineering physics. In the graduate course of the Department of Pure and Applied Physics, students are supposed to acquire the following abilities based on the academic knowledge equivalent to that of graduates of the Department of Physics or the Department of Applied Physics of undergraduate program. master (science): acquirement of expertise and ability to solve issues in modern physics master(engineering): acquirement of expertise and research ability in application of modern physics doctor(science): acquirement of practical research ability to solve advanced issues in modern physics doctor(engineering): acquirement of practical research ability to develop new application of modern physics

Learning Outcome 1	Acquirement of specialized knowledge in mathematical physics, elementary particle/nuclear/radiation physics, astrophysics, condensed matter physics, biophysics, information/engineering physics. master (science): acquirement of specialized knowledge in modern physics master(engineering): acquirement of specialized knowledge in application of modern physics doctor(science): acquirement of specialized knowledge in modern physics doctor(engineering): acquirement of specialized knowledge in application of modern physics
Learning Outcome 2	Acquirement of specialized technology in mathematical physics, elementary particle/nuclear/radiation physics, astrophysics, condensed matter physics, biophysics, information/engineering physics. master (science): acquirement of specialized technology in modern physics master(engineering): acquirement of specialized technology in application of modern physics doctor(science): acquirement of specialized technology in modern physics doctor(engineering): acquirement of specialized technology in application of modern physics
Learning Outcome 3	Acquirement of research method in mathematical physics, elementary particle/nuclear/radiation physics, astrophysics, condensed matter physics, biophysics, information/engineering physics. master (science): acquirement of research method in modern physics master(engineering): acquirement of research method in application of modern physics doctor(science): acquirement of research method in modern physics doctor(engineering): acquirement of research method in application of modern physics
Learning Outcome 4	Acquirement of research spirit to challenge unexplored issues in modern physics and its application master (science): acquirement of research spirit to challenge unexplored issues in modern physics master(engineering): acquirement of research spirit to challenge unexplored issues in application of modern physics doctor(science): acquirement of research spirit to challenge unexplored issues in modern physics doctor(engineering):acquirement of research spirit to challenge unexplored issues in application of modern physics
Learning Outcome 5	Acquirement of research planning ability (ability to identify important issues and plan research strategy) in modern physics and its technological application doctor(science): acquirement of research planning ability in modern physics doctor(engineering): acquirement of research planning ability in application of modern physics
Learning Outcome 6	Acquirement of research presentation ability (ability to present and communicate research outputs) in modern physics and its technological application doctor(science): acquirement of research presentation ability in modern physics doctor(engineering): acquirement of research presentation ability in application of modern physics

Department	Department of Chemistry and Biochemistry
Course	Master, Doctor
Degree	Master(Science), Doctor(Science)

1. Diploma Policy	In this department, students can study advanced knowledge and experimental methods in the fields of physical chemistry, organic chemistry, inorganic/analytical chemistry, biochemistry, and research ethics. In the master course, each student conduct a research under the guidance of a professor and make a master thesis. If the student is recognized as having the knowledge and ability to explore a study on natural science with a sense of ethics, the student will be awarded the degree of Master of Science. In the doctoral course, each student conduct original research under research guidance, publish several refereed papers in journals, and make a doctoral thesis. In the examination of the doctoral thesis, if it is recognized that the student has advanced knowledge of natural science and has developed natural science, the degree of Doctor of Science will be awarded.
2. Curriculum Policy	Each research area (physical chemistry, organic chemistry, inorganic/analytical chemistry, and biochemistry) offers research guidance and seminars. Each student must take a research guidance and seminars A, B, C, and D of the supervisor, and can take classes on advanced chemistry and research ethics. There are core and recommended classes, and students are required to earn the prescribed credits. In the doctoral program, in addition to the required research ethics courses and Doctoral Student Technical Writing, students are required to earn credits for the prescribed lecture courses.

Learning Outcome 1	[Master] Acquire advanced specialized knowledge, experimental techniques, research attitude, and problem finding and solving skills. [Doctor] Acquire more advanced specialized knowledge, experimental techniques, research attitude, and problem finding and solving skills.
Learning Outcome 2	[Master] Acquire advanced specialized knowledge, as well as the ethics and culture necessary for researchers. [Doctor] Acquire a broad knowledge of science and technology, as well as the ethics, language skills, and culture necessary for researchers.
Learning Outcome 3	[Master] Acquire the advanced specialized knowledge and presentation skills required in each research field. [Doctor] Acquire more advanced specialized knowledge, the ability to summarize and present research results, and leadership skills.
Learning Outcome 4	[Master] Acquire advanced specialized knowledge, experimental techniques, research attitude, problem finding and solving skills, and research presentation skills to contribute to the deepening and development of research, and prepare a master's thesis. [Doctor] Acquire advanced specialized knowledge, experimental techniques, research attitude, problem finding and solving skills, and research presentation skills for deepening and developing research and creating new academic fields, and prepare a doctoral dissertation.

Department	Department of Applied Chemistry
Course	Master, Doctor
Degree	Master(Engineering), Doctor(Engineering)

1. Diploma Policy	Students acquire expertise in advanced chemistry, knowledge in a wide range of fields, and also learn about the application of chemistry for solving problems in modern society to realize a sustainable society. They develop practical skills to identify and solve academic and social issues, and acquire research capabilities in chemistry to create academic and social value. A master's degree (Engineering) is awarded to those who have the skills and abilities to apply basic knowledge of engineering and can contribute to society as researchers or engineers, and a doctoral degree (Engineering) is awarded to those who have the skills and abilities to realize applications with broad knowledge of engineering and can lead research and development.
2. Curriculum Policy	We offer a series of lecture courses teaching cutting-edge chemistry and related disciplines, and the application of chemistry to social issues; exercise courses to cultivate practical skills that enable the discovery of problems and the design of solutions; guidance covering master's and doctoral research to cultivate the research ability to create academic and social value related to chemistry.

Learning Outcome 1	Masters have expertise in advanced chemistry, knowledge of a range of chemistry-related fields, knowledge of the challenges of modern society and sustainability, and the ability to apply this knowledge. Doctors have in-depth expertise in advanced chemistry, knowledge of a wide range of chemistry-related fields, advanced knowledge of the challenges of modern society and sustainability, and the ability to apply this knowledge freely.
Learning Outcome 2	Has the practical ability and attitude to discover and design relevant solutions for academic and social issues.
Learning Outcome 3	Has the research capability and attitude to create academic and social value related to chemistry.

Department	Department of Life Science and Medical Bioscience
Course	Master, Doctor
Degree	Master(Engineering/Science), Doctor(Engineering/Science)

1. Diploma Policy	The curriculum of this major is based on physics and chemistry, which grasp phenomena at the molecular level of micro- and nano-meter orders, and aims to acquire knowledge of life science, medical science and medical engineering by understanding biological phenomena, especially molecular biology. On the basis of the body of the knowledge, students acquire capabilities to develop new research fields by merging the medical science field and the science and engineering field. In the master course, master thesis is evaluated. Master of science degree is conferred when a student is admitted to have enough knowledge and ability to search for the truths of science in the bioscience and medical science fields, and master of engineering degree is conferred when a student is admitted to have enough skill and ability to be applied in the medical science and medical engineering fields. In the doctoral course, students pursue original researches under supervision, publish results in international journals and academic meetings, and write doctoral dissertations. Doctor of science degree is conferred when a student is admitted to have capability to elucidate high-level knowledge and novel scientific truths, and doctor of engineering is conferred when a student possesses wide range of knowledge in engineering and skill and capability to realize application.
2. Curriculum Policy	Students learn information science and research ethics, which are necessary in practicing research and development, in addition to specialized subjects in science and engineering, life science and medical science fields. Students also acquire cutting-edge biotechnologies including bioimaging and biomaterial manipulation in laboratories after learning practical experimental skills in handling chemicals and analytical devices, manipulation of genes and proteins, cell culture techniques and animal experiments. On the basis of these knowledge and technologies, students perform practical researches and write a thesis in the master course, and their capabilities in research and writing skills are evaluated. In the doctoral course, students perform original research under supervision and acquire capabilities to present results in international meetings and journals and to write a dissertation. Earning master or doctor degrees of Science requires students to engage in life science and/or medical biosciences from the viewpoints of basic sciences to pursue mechanisms of life and/or causes of disorders. Meanwhile, earning master or doctor degrees of Engineering requires students to engage in invention or development of materials and methods for life science, medial diagnosis or therapeutics from the viewpoint of application science and technologies.

Learning Outcome 1	Students master the capabilities to understand and search biological phenomena at the molecular and cell levels.
Learning Outcome 2	Students acquire the capabilities to handle physics, chemistry, mathematics and information science as tools to promote biological and medical researches.
Learning Outcome 3	Students develop the capability to develop cutting-edge biotechnologies by integrating knowledge of life science and science and engineering.
Learning Outcome 4	Students master the capabilities to search for causes of diseases and to develop diagnoses and treatments by learning basic medicine and medical engineering.
Learning Outcome 5	Students cultivate the capabilities to understand latest research topics in bioscience and to develop original researches globally.

Department	Department of Electrical Engineering and Bioscience
Course	Master, Doctor
Degree	Master(Engineering/Science), Doctor(Engineering/Science)

1. Diploma Policy	The goal is to foster researchers and engineers who acquire the ability to see things from multiple perspectives through the systematic educational curriculums. The Graduate School aims to equip students with the qualities and abilities required for Master's students to work professionally as researchers, technology developers or system development managers, and Doctoral students as research specialists or technological development leaders, before completing their degrees and going out into the world to build a career. Master of Engineering or Doctor of Engineering will be offered to the students with the abilities acquired through the Master's or Doctor's courses in electric and electrical engineering and information technology, while Master of Science or Doctorate of Science will be offered to the students with the abilities acquired through the Master's or Doctor's courses in information science and bioscience.
2. Curriculum Policy	The department provides specialized courses that enable students to proactively deepen and specialize their research in the fields of electrical engineering, electronics, computer science, bioscience, or these interdisciplinarity, assuming that students have basic knowledge and technology from their undergraduate studies. In addition, we will establish courses that enable students to see a big picture of the entire field. Research ethics and integrity will also be provided. Research guidance courses will be offered for each specialization, and students will be required to conduct research and write their own dissertations.

Learning Outcome 1	The students in electrical engineering will further strengthen their expertise and acquire the international communication skill.
Learning Outcome 2	The students in electric engineering will further strengthen their expertise and acquire the international communication skill for nanoscience and medical electronics.
Learning Outcome 3	The students in information engineering will further strengthen their expertise and acquire the international communication skill for system design and data science.
Learning Outcome 4	The students in bio engineering will further strengthen their expertise and acquire the international communication skill for life science and bioengineering.
Learning Outcome 5	The students in inter-disciplinary domains for engineering will further strengthen their expertise and acquire the international communication skill to pioneer new multi-disciplinary domains.
Learning Outcome 6	The students in electrical science will further strengthen their expertise and acquire the international communication skill.
Learning Outcome 7	The students in materials science will further strengthen their expertise and acquire the international communication skill for nanoscience and medical electronics.
Learning Outcome 8	The students in information science will further strengthen their expertise and acquire the international communication skill for system design and data science.
Learning Outcome 9	The students in bioscience will further strengthen their expertise and acquire the international communication skill for life science and bioengineering.
Learning Outcome 10	The students in inter-disciplinary domains for science will further strengthen their expertise and acquire the international communication skill to pioneer new multi-disciplinary domains.
Learning Outcome 11	The students in this department will further strengthen their research ethics.

Department	Department of Integrative Bioscience and Biomedical Engineering
Course	Master, Doctor
Degree	Master(Engineering/Science), Doctor(Engineering/Science)

1. Diploma Policy	The Department of Bioscience and Biomedical Engineering, with faculty members from several departments and faculties, has been developing a unique education and research environment by integrating "engineering" and "science" and adding "medicine" from Tokyo Women's Medical University. Most of the education and research is conducted at the Center for Advanced Biomedical Sciences (TWIns), where a diverse group of faculty members with different backgrounds come together to conduct original research. Faculty members with different backgrounds are brought together to create an environment for unique research in interdisciplinary fields. This department aims to foster engineers who can boldly take on the challenge of new bio-industries that meet the needs of society as well as talents who can open up the frontiers of biological research. To fulfill this purpose, they must be able to work self-directedly on their research, conduct group work on interdisciplinary issues with students from different fields of expertise, and acquire the following abilities: to make clear presentations, to find the essence of a problem, to conceive independently, to solve problems by using their interdisciplinary expertise, and finally to conduct academic research with knowledge of bioethics. The master's degree is awarded to those who have mastered the ability to write a thesis of value, and the doctoral degree is awarded to those who have mastered the ability to develop these skills and open up their own research. Specifically, the Master of Engineering degree is awarded to students who, in addition to the above knowledge and abilities, have acquired basic specialized knowledge in mechanical engineering, physics, chemistry, or human sciences, and whose master's thesis is recognized as having an academic value in the examination. The Master of Science degree is awarded to students who, in addition to the above knowledge and abilities, have acquired basic specialized knowledge in biology, or physics, and whose master's thesis is recognized as having an academic value in the examination. The Doctor of Engineering degree is awarded to students who, in addition to the above knowledge and abilities, have acquired advanced specialized knowledge in mechanical engineering, physics, chemistry, or human sciences, have published a minimum of a specified number of original, peer-reviewed papers, and whose doctor's thesis is recognized as having an academic value in the examination. The Doctor of Science degree is awarded to students who, in addition to the above knowledge and abilities, have acquired advanced specialized knowledge in biology or physics, have published a minimum of a specified number of original, peer-reviewed papers, and whose doctor's thesis is recognized as having an academic value in the examination.
2. Curriculum Policy	In order to take advantage of the characteristics of a multidisciplinary department, faculty members with different backgrounds offer a variety of specific lecture courses related to Bioscience and Biomedical Engineering. The department also offers practical training courses that allow students to observe and discuss advanced medical treatment, and to experience manufacturing and electronic crafts in the fields of biomedical engineering. In addition, since its establishment in 2001, the department has offered two required courses: one for ethics education, which is necessary in the field of Bioscience and Biomedical Engineering, and the other for group work, in which students with various backgrounds work on common problems and discuss them with faculty members in the Department of Bioscience and Biomedical Engineering.

Learning Outcome 1	Through research guidance, students will acquire the knowledge directly necessary to promote their research, as well as the ability to construct and express logically.
Learning Outcome 2	Through master's thesis research and doctoral thesis research, students will acquire the ability to find the essence of problems, to conceptualize ways to solve problems, and to use interdisciplinary expertise to solve problems, as well as aquire a self-directed attitude toward research. In the doctoral course research, students will publish at least the specified number of peer-reviewed original papers.
Learning Outcome 3	Students will acquire knowledge of bioethics.
Learning Outcome 4	Master Course: Students will acquire knowledge in the field of Bioscience and Biomedical Engineering including mechanical engineering, physics, chemistry, or human science.
Learning Outcome 5	Master Course: Students will acquire knowledge in the field of Bioscience and Biomedical Engineering including biology or biophysics.
Learning Outcome 6	Master Course: Students will conduct group work on multidisciplinary issues with students from different disciplines and acquire the ability to make clear presentations.

Department	Department of Nanoscience and Nanoengineering
Course	Master, Doctor
Degree	Master(Engineering/Science), Doctor(Engineering/Science)

1. Diploma Policy	Department of Nanoscience and Nanoengineering consists of three research fields: Nanoelectronics, Nanochemistry, and Solid-state Nanoscience. Leading-edge studies are carried out utilizing the higher potentials and specialties of each research filed. Nanoscience and nanoengineering are the studies deepening our understanding of various phenomena in natural science from the view point of atomic/molecular scale, being the basis of almost all studies in science and technology. In this department, students can receive their special education, from the faculty members in the interdisciplinary research fields, such as for acquiring the ability to contribute to the creation of new industries. In the master course, in addition to taking lectures/exercises, students are required to do their research under the supervision of faculty members, results of which should be summarized in their master thesis. In carrying out the researches, students are encouraged to make presentations in international conferences and submit papers to scientific journals. Master's degree of Science is given to students who are qualified to have the ability to contribute to pursue the truth in science. Master's degree of Engineering is given to students who are qualified to have the ability to contribute to develop new technologies. In the doctoral course, students are expected to carry out highly original researches with the help of their supervisors, the results of which should be presented such as in international conferences and scientific journals. They have to summarize the research results as a doctoral thesis. Doctor's degree of Science is given to students who are qualified to have the ability to independently explore the truth of science with advanced knowledge acquired in the doctoral course. Doctor's degree of engineering is given to students who are qualified to have the ability to develop new applications and technologies with extensive knowledge acquired in the doctoral course.
2. Curriculum Policy	The department provides studies in the distinctly interdisciplinary fields of nanoscience and nanoengineering. Students, who received basic education in their undergraduate school, receive education and engage in studies in a completely new environment to acquire the ability to contribute such as to the creation of new industries by applying nanoscience and nanotechnology. There are three fields: nanoelectronics, nanochemistry and nano basic physical properties. Each filed provides research guidance and exercises, and lecture courses. For students aiming to take a master's degree of science, educations for having the ability to contribute in developing new research fields are provided. For students aiming to take a master's degree of engineering, educations for having the ability to contribute in developing new technologies and applications in industries are provided. For students aiming to take a doctor's degree of science, educations of more practical and advanced studies are provided for having the ability to independently explore new research fields. For students aiming to take a doctor's degree of engineering, educations of more practical and advanced studies are provided for having the ability to independently explore new applications and technologies in industries.

Learning Outcome 1	(Master of Science, Doctor of Science) Acquirement of specialized knowledge to understand the basics of various phenomena in natural science, developing the knowledge and ability to search for truth. (Master of Engineering, Doctor of Engineering) Acquirement of specialized knowledge to understand the basics of various phenomena in natural science, developing the skills and ability to apply basic knowledge.
Learning Outcome 2	(Master of Science, Doctor of Science) Acquirement of the ability to create and establish new research fields, by proper understanding of the social demands to the society of science and engineering. (Master of Engineering, Doctor of Engineering) Acquirement of the ability to create and establish new research fields, by proper understanding of the social demands to the society of science and engineering.
Learning Outcome 3	(Master of Science, Doctor of Science) Acquirement of the ability to promote their researches in the international environments. (Master of Engineering, Doctor of Engineering) Acquirement of the ability to promote their researches in the international environments for returning their research results to society.
Learning Outcome 4	(Master of Science, Doctor of Science) Acquirement of the initiative attitude in solving various issues, based on the own knowledge and abilities to collaborate with various people. (Master of Engineering, Doctor of Engineering) Acquirement of the initiative attitude in solving various issues, based on the own knowledge and abilities to collaborate with various people.

Department	Cooperative Major in Advanced Biomedical Sciences
Course	Doctor
Degree	Doctor (Life and Medical Sciences)

1. Diploma Policy	Medical Regulatory Science integrates social sciences (economics, business administration, laws, etc.) and humanities (ethics, psychology, etc.) as well as natural sciences (medicine and engineering) in order to conduct evaluation, prediction, adjustment, and decision in social implementation of life science, pharmaceuticals medical devices, medical technologies, and medical policies based on scientific grounds. Therefore, a diploma will be conferred to a person by the following reasons. (1)He/she has acquired scientific research methods and expert knowledge in Medical Regulatory Science research field, and is recognized to have the ability to make practical contributions to society by working as an expert or leader in the field ; and (2)He/she has presented doctoral dissertation after accepting at least one original paper (in English) on scientific research about the discovery and analysis of new issues, the proposal of evaluation scales and technical standards, the development of experimental analytical methods, and the formulation of problem solutions and policies.
2. Curriculum Policy	The major provides a course of education that will enable students to develop the abilities set forth in the diploma policy in the area of medical regulatory science. The curriculum consists of biostatistics, bioethics, clinical research, and medical regulatory science, which are the fundamentals of the field and taken by students in the spring semester of the first year. In addition, the students take corresponding exercise courses, practical training in the field of advanced medical care in the fall semester of the first year, and seminar courses in the second year for discussion with specialists in other fields in cooperation with research supervisors. They learn the ability to consider multilaterally, judge etically, and analyse statiscally, and discover and solve problems, communicate and present their research. Academic achievements 1 to 6 can be measured by submission and acceptance of academic papers.

Learning Outcome 1	Students can acquire a wide range of expertise in the medical regulatory science field by taking advanced and excersise courses of Clinical Research, Medical Regulatory Sciences, and GLP/GCP/GMP General course, and acquire the ability to apply it in writing academi papers.
Learning Outcome 2	By experiencing the convergence of different fields in the field of medical regulatory science through Advanced Medical Practice and Joint Advanced Medical Field Training, students can acquire the ability to think from multiple perspectives, including research, development, examination, medical care, patients, and society.
Learning Outcome 3	By taking advanced course of Bio and Medical Ethics, students can acquire the ability to think and judge for the correct understanding of bioethics and its implementation.
Learning Outcome 4	By taking special courses and excersise courses in biostatistics, students can acquire the ability to objectively grasp numerical data obtained from surveys on the current state of pharmaceutical affairs and medical care, and to construct logic based on the results of analysis using statistical methods.
Learning Outcome 5	Through Medical RS Seminar courses and each research guidance, students can acquire the ability to discover potential problems between health care and society through international comparative surveys and communication.
Learning Outcome 6	Through Medical RS Seminar courses and each research guidance, students can acquire the ability to communicate and present by taking a multifaceted view of life science, medical care, and social events, by soundly criticizing the current state of medical care, by predicting problems that may occur in the near future, and by seting up solutions and make constructive proposals.

Department	Cooperative Major in Advanced Health Science
Course	Doctor
Degree	Doctor (Life Sciences)

1. Diploma Policy	Cooperative Major in Advanced Health Science focuses on fostering human resources who can demonstrate the ability to solve and explore diverse issues through its characteristic interdisciplinary graduate education and research. The educational and research philosophy of the department is to nurture individuals who are well educated, internationally-minded, and possess a high sense of ethics. Specifically, students will acquire the following abilities through the joint graduate school curriculum between Waseda University and Tokyo University of Agriculture and Technology. In addition to basic knowledge of science, agriculture, and engineering, students will acquire cutting-edge expertise in life science, environmental science, or food science, and will acquire the ability to apply this knowledge. The doctoral students will acquire the ability to identify issues in the interdisciplinary fields of health science and conduct practical research through research and guidance on their doctoral thesis research. The doctoral students will acquire the ability to identify issues in the interdisciplinary fields that comprise the field of health science and conduct practical research through research and guidance on their doctoral dissertation research. The doctoral students will acquire the practical presentation and communication skills necessary for effective dissemination and discussion of research results through seminars organized by the department. The degree will be conferred upon students who present a refereed research paper on their doctoral thesis research and pass the examination and review for the doctoral thesis, recognizing their ability to realize advanced knowledge and application in health science.″
2. Curriculum Policy	We offer a joint graduate school curriculum with Waseda University and Tokyo University of Agriculture and Technology and provide specialized and general courses corresponding to various specialized fields that link science, agriculture, and engineering related to advanced health science, practical English education courses, and seminar courses including presentations and research ethics. Through the specialized courses, students learn the interconnectedness of the interdisciplinary fields that make up the health science field and develop the ability to identify issues in the interdisciplinary fields of life science, environmental science, and food science. In addition, through practical English education courses, students will practice international English skills through professional communication and technical presentations. Through the Advanced Health Science Planning and Research and Practical Presentation I exercise courses, students will cultivate the ability to solve problems, formulate and implement solutions, and learn research ethics. Students will acquire the above-specialized knowledge and skills, while also receiving research guidance in preparation for the presentation of their doctoral thesis in advanced health sciences, and acquire the ability to develop original research, problem-solving, and technological development. Students are encouraged to participate in overseas training through on-the-job training and presentations at international academic conferences to develop practical presentation skills in an international research environment.

Learning Outcome 1	Students will acquire basic knowledge in the areas of science, engineering, and agriculture
Learning Outcome 2	Students will acquire state-of-the-art expertise and experimental and measurement techniques related to either life science, environmental science, or food science
Learning Outcome 3	Students will be aware of their research ethics and social mission as researchers and engineers in the health sciences.
Learning Outcome 4	Through activities related to doctoral thesis research, students will develop practical research skills and communication skills to effectively disseminate and discuss research findings.

Department	Cooperative Major in Nuclear Energy
Course	Master, Doctor
Degree	Master (Engineering/Science), Doctor (Engineering/Science)

1. Diploma Policy	The goal is to foster capable individuals who can apply a high level of technical expertise of science and engineering, covering nuclear power and/or radiation science, to the globalizing world with deep understanding of ethics. The Cooperative Major in Nuclear Energy aims to foster scholars and engineers who can utilize the-state-of-the-art understanding and technical expertise of nuclear power and/or radiation applications to explore the cutting-edge issues and find solutions by developing the logical processes. In particular: Fostering individuals with interdisciplinary on theoretical and logical development based on a high level of understanding and technical expertise is the policy for the Master of Science. Fostering individuals with the ability to develop and present practical solutions based on a high level of understanding and technical expertise is the policy for the Master of Engineering. Fostering individuals with interdisciplinary on theoretical and logical development based on a high level of understanding and technical expertise, as well as the ability to take leaderships in identifying the cutting-edge issues and finding new solutions, is the policy for the Doctor of Science. Fostering individuals with the ability to develop and present practical solutions based on a high level of understanding and technical expertise, as well as the ability to take leaderships in identifying the cutting-edge issues and finding new solutions, is the policy for the Doctor of Engineering. In addition, the diploma policy of the cooperative partner university (Tokyo City University) is incorporated in that of the Cooperative Major in Nuclear Energy to foster high-level individuals, who can identify and resolve the cutting-edge issues of the interdisciplinary in the field of nuclear energy and radiation science.
2. Curriculum Policy	The educational and research curriculum is developed jointly with Tokyo City University to provide programs not only for nuclear power and radiation application, but to foster innovative new science and engineering with other fields. The program is designed to foster core competence not only in technical fields of nuclear power and radiation applications, but also in the human nature through deep understanding of safety and ethical thinking. The program covers from the basic understanding and skills to practical issues in the society. Through the program, the key competence of scholars and engineers to identify and resolve highly complex and emerging issues of the society are fostered. Specialized courses are developed for the basic fields such as reactor systems, reactor safety and radiation application as well as for cross-cutting fields among these basic fields and for seismic technology and risk evaluation and management. Furthermore, Master's course of Science is developed to foster abilities to identify and resolve complex issues of the society from the viewpoint of interdisciplinary in theoretical and logical development. Master's course of Engineering is developed to foster abilities to identify, develop and present practical solutions to complex issues of the society. Doctor's course of Science is developed to foster abilities to identify and resolve complex issues of the society from the viewpoint of interdiscipline on theoretical and logical development and to take leaderships throughout the process. Doctor's course of Engineering is developed to foster abilities to identify, develop and present practical solutions to complex issues of the society and to take leaderships throughout the process.

Learning Outcome 1 Master (Science)	Students will acquire advanced understanding of nuclear power and / or radiation science with deep understanding of ethics for communicating with diverse communities and making contributions to the global society.
Learning Outcome 2 Master (Science)	Students will acquire advanced and the state-of-the-art understanding and expertise in the field of nuclear power and / or radiation science.
Learning Outcome 3 Master (Science)	Students will acquire ability to identify the issues of diverse communities and the global society and propose possible solutions and lead actions to resolve the issues.
Learning Outcome 4 Master (Science)	Students will acquire advanced understanding and the ability to develop new concepts logically in the field of nuclear power and / or radiation science through interdisciplinary studies.
Learning Outcome 5 Master (Science)	Students will acquire advanced understanding and ability in the field of nuclear power and / or radiation science through programs organized by Tokyo City University.
Learning Outcome 1 Master (Engineering)	Students will acquire advanced understanding of nuclear power and / or radiation science with deep understanding of ethics for communicating with diverse communities and making contributions to the global society.
Learning Outcome 2 Master (Engineering)	Students will acquire advanced and the state-of-the-art understanding and expertise in the field of nuclear power and / or radiation science.
Learning Outcome 3 Master (Engineering)	Students will acquire ability to identify the issues of diverse communities and the global society and propose possible solutions and lead actions to resolve the issues.
Learning Outcome 4 Master (Engineering)	Students will acquire advanced understanding and the ability to utilize and implement them to resolve issues of diverse communities and the global society.
Learning Outcome 5 Master (Engineering)	Students will acquire advanced understanding and ability in the field of nuclear power and / or radiation science through programs organized by Tokyo City University.
Learning Outcome 1 Doctor (Science)	Students will acquire advanced understanding of nuclear power and / or radiation science with deep understanding of ethics for communicating with diverse communities and making contributions to the global society.
Learning Outcome 2 Doctor (Science)	Students will acquire ability to identify the issues of diverse communities and the global society and propose possible solutions and lead actions to resolve the issues.
Learning Outcome 3 Doctor (Science)	Students will acquire superior understanding and the ability to develop new concepts logically in the field of nuclear power and / or radiation science through interdisciplinary studies.
Learning Outcome 4 Doctor (Science)	Students will acquire ability to identify new issues, guide actions to resolve the issues and demonstrate leaderships in development of new science for nuclear power and / or radiation science.
Learning Outcome 1 Doctor (Engineering)	Students will acquire advanced understanding of nuclear power and / or radiation science with deep understanding of ethics for communicating with diverse communities and making contributions to the global society.
Learning Outcome 2 Doctor (Engineering)	Students will acquire ability to identify the issues of diverse communities and the global society and propose possible solutions and lead actions to resolve the issues.
Learning Outcome 3 Doctor (Engineering)	Students will acquire superior understanding and the ability to develop new concepts and technology in the field of nuclear power and / or radiation science for resolving issues of diverse communities and the global society.
Learning Outcome 4 Doctor (Engineering)	Students will acquire ability to identify new issues, guide actions to resolve the issues and demonstrate leaderships in development of new technology for nuclear power and / or radiation science.

Department	Department of Advanced Science and Engineering
Course	5-year Doctoral Course
Degree	Doctor(Engineering/Science)

1. Diploma Policy	By systematically taking specialized courses in physics, chemistry, life science, and engineering, bird's-eye view courses to develop a broad perspective that contributes to setting and solving problems in a wide range of fields, and advanced courses to experience collaboration between industry, government, and academia through training at institutions outside the university, students will acquire the skills necessary to become doctoral candidates in science and engineering who can tackle the issues of global society. In the doctoral program, students will conduct original research, publish several papers in international journals and conferences, and summarize their research results in a doctoral dissertation. Students are awarded the degree of Doctor of Science when their doctoral dissertation is judged to have an advanced knowledge of natural science and the ability to elucidate new truths. Students who are recognized as having a broad knowledge of engineering and the skills and abilities to apply them to the real world will be awarded the degree of Doctor of Engineering. Doctor (Science) Possesses an advanced knowledge of natural science and the ability to elucidate new truths. Doctor (Engineering) Possesses a broad knowledge of engineering and the skills and abilities to realize applications.
2. Curriculum Policy	By categorizing the subjects to be taken into specialized courses, bird's-eye view courses, and advanced courses, it is possible to systematically acquire the knowledge and skills necessary for doctoral students in science and engineering. In addition, students can take courses in physics, chemistry, life science, and engineering on their own initiative from a wide variety of subjects, and the department's unique bird's eye view courses are designed to promote the learning of a wide range of knowledge and skills.

Learning Outcome 1	Students in applied physics will acquire specialized knowledge, techniques, research methods, research development skills (ability to identify important issues in applied physics and develop research plans), and the ability to disseminate research information (written and oral presentation skills, communication skills).
Learning Outcome 2	Students in modern physics will acquire specialized knowledge, techniques, research methods, research development skills (ability to identify important issues in modern physics and develop research plans), and the ability to disseminate research information (written and oral presentation skills, communication skills).
Learning Outcome 3	Students in pure chemistry will make contribution to developments in physical, organic, or inorganic chemistry by acquiring techniques of research planning, material syntheses, measurements and analyses of properties, and preparing scientific papers and doctor theses.
Learning Outcome 4	Students in applied chemistry will learn about chemistry and chemical technology for the sustainable development of human society, and acquire practical methodologies that contribute to their social implementation. Examples include creating functional materials and tackling the issues in the environmental and energy fields.
Learning Outcome 5	Students in bioscience will study theories, measurements, and analyses necessary for life sciences, and acquire experimental methods and methodologies through practical research based on these theories.
Learning Outcome 6	Students in electrical engineering will acquire experimental techniques and methodologies that enable them to develop researches for solving the real-world problems, based on the academic and technological fields of electrical, electronic, information and communication sciences.