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HANDBOOK

OF

GRADUATE PROGRAMS FOR INTERNATIONAL STUDENTS

ACADEMIC YEAR 2016

琉球大学大学院理工学研究科

**Graduate School of Engineering and Science
University of the Ryukyus**

2016 Academic Calendar

[2016]

Sep. 26 (Mon.)		Distribution of Grades and Timetables
Oct. 1 (Sat.)		Start of Academic Year and Fall Term
Oct. 3 (Mon.)		Start of Fall Term Classes
Oct. 7 (Fri.)		Entrance Ceremony
Oct. 3 (Mon.)	~ Oct. 17 (Mon.)	Registration Adjustment Period
Dec. 23 (Fri.)	~ Jan. 4 (Wed.)	Winter Break

[2017]

Jan. 5 (Thu.)		Fall Term Classes Restart
Jan. 10 (Tue.) *		Substitution day for classes on Mondays
Jan. 13 (Fri.)		No Class (preparation for entrance exam)
Feb. 6 (Mon.)	~ Feb. 10 (Fri.)	Fall Term Examinations
Feb. 14 (Tue.)	~ Feb.15(Wed.) **	Substitution day
Feb. 17 (Fri.)	~ Mar. 31 (Fri.)	Spring Break
Mar. 31 (Fri.)		End of Fall Term

[Tentative Schedule]

Apr. 1 (Sat.)		Start of Spring Term
Apr. 3 (Mon.)		Distribution of Grades and Timetables
Apr. 3 (Mon.)	~ Apr. 6 (Thu.)	Spring Term Registration
Apr. 10 (Mon.)		Start of Spring Term Classes
Apr. 10 (Mon.)	~ Apr. 21(Fri.)	Registration Adjustment Period
Apr. 10 (Mon.)	~ Apr. 25(Tue.)	Medical Examination Period
Apr. 20 (Thu.)		Deadline for Submission of Doctoral Dissertation for Preliminary Review
May 22 (Mon.)		University Anniversary Day
May 27 (Sat.)		Sports Day (Holiday)
Jun. 20 (Tue.)		Deadline for Submission of Doctoral Dissertation for Final Review
Jun.23 (Fri.)		Okinawa War Memorial Day (Holiday)
Jun. 27 (Tue.)*		Substitution day for classes on Fridays
Jul. 31 (Mon.)	~ Aug. 4 (Fri.)	Spring Term Examination
Aug.10 (Thu.)		Deadline for Submission of Master's Thesis
Aug. 8 (Tue.)	~ Aug. 9 (Wed.) **	Substitution Day
Aug. 11 (Fri.)	~ Sep. 30 (Sat.)	Summer Break
Middle of September		Graduation Ceremony
Sep. 30(Sat.)		End of Spring Term and Academic Year

<Note>

* No other examination or make-up classes shall be scheduled on these days.

** Substitution days for classes or examinations that are canceled due to typhoon or other reasons.

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Charter of the University of the Ryukyus

(Drafted May 22, 2007)

Preface

The University of the Ryukyus was established in 1950 on the remains of Shuri Castle, which was burnt to ashes in the Battle of Okinawa. Under the U.S. administration governing Okinawa, the strong desire of Okinawans for postwar reconstruction and restoration of education moved the U.S. Military Government to establish the first university in the Ryukyu Archipelago. In 1966, administration of the University was transferred to the Ryukyu Government, and with the reversion of Okinawa to Japan in 1972, the University became a national university. In 1977, the University was moved to a large new campus in the region where the three municipalities of Nishihara Town, Ginowan City, and Nakagusuku Village meet, and it became a national university corporation in 2004. Although the University of the Ryukyus has gone through a number of historic hardships, such as interference in academic freedom and the autonomy of the University during such transitions, it has made great contributions to the development of human resources in the local community and to the production of new knowledge.

The environment in which the University exists has changed greatly since the beginning of the 21st century. The University's role as an educational and research institution has been evolving in order to deal with a variety of issues, including the globalization of the economy and society, the rapid dissemination of information, the falling birthrate and aging population, and growing social and regional disparity; thus, radically innovative approaches to higher education are needed. National universities are entering an age of competition and rigorous evaluation that is accompanied by tough financial reforms, especially after their corporatization. The University of the Ryukyus is expected to contribute to the protection of the rich natural environment of and the sustainable development of the local community as a hub university in an

island region that includes a vast marine area. Based on the principles set forth in this Charter, the University of the Ryukyus will also actively deal with future system changes through the cooperation of faculty, staff, and students, who are all constituent members of our university.

The University of the Ryukyus embraces the idea of “*Nuchi du takara* (Life is indeed a treasure).” It is based on the historical lessons of Okinawa and has at its root the dignity of life and the individual. It profoundly takes notice of the basic tenet of education in postwar Okinawa: “Never allow the horrors of war to happen again.” The University is located in the Ryukyu Archipelago, which possesses unique natural, cultural, and historical characteristics. Located in such a region, the University will unwaveringly continue its mission to boldly cultivate human resources who are responsible and well rounded, and who aspire to realizing world peace and improving public welfare.

Inheriting and developing the founding spirit of “Freedom and Equality, Tolerance and Peace” and proclaiming our determination to create a “university with great individuality that both maintains its regional characteristics and possesses an international outlook,” we, the faculty, staff, and students of the University hereby establish the Charter of the University of the Ryukyus as the basic standard that we will follow when taking future initiatives.

Section 1. Education

(Educational Purpose and Principle)

1. As a university that emphasizes education based on the principle that students are our main constituents and possess the right to learn, the educational purpose of the University of the Ryukyus is the cultivation of people who can create a society reflecting fully the spirit of “Freedom and Equality, Tolerance and Peace.” The university shall contribute to the sustainable growth of society as a whole through educational activities based on autonomy and independence.

(Responsibility and Social Evaluation of Education)

2. The University of the Ryukyus shall provide all people with equal educational opportunities throughout their life span and be responsible for the maintenance, reinforcement, and development of educational activities appropriate for an institution of higher education. The University of the Ryukyus shoulders a responsibility to society in its educational activities and is profoundly aware of social evaluation in line with the educational purpose and principle stated in the previous clause.

(Promotion of Multicultural Exchange)

3. In view of the fact that the Ryukyu Archipelago has nurtured a multifaceted culture and that a spiritually rich human nature is cultivated through diverse cultural exchanges, the University of the Ryukyus respects all of the cultures humanity has developed on this planet and will promote their exchange.

Section 2. Research

(Principles of Research)

1. The University of the Ryukyus respects academic freedom, and based on the fact that fundamental research and applied research are the two wheels of research activity, the inheritance, creation, and development of knowledge shall be held as our principles of research.

(Regional Characteristics)

2. Acknowledging the importance of fundamental research, the University of the Ryukyus aims to develop research from a diversified point of view, utilizing the regional characteristics of the Ryukyu Archipelago, which possesses a distinctive natural environment, culture, and history, and it further aims to become a world-class and distinctive research hub.

(Promotion of Research Exchanges)

3. Along with sharing information with the local community, the University of the Ryukyus shall promote research exchanges with domestic institutions and

institutions in foreign countries, particularly in the Asian and Pacific regions, and shall disseminate research accomplishments to the rest of the world.

(Responsibility and Social Evaluation of Research)

4. While balancing the responsibility of realizing the research principles of inheritance, creation, and development of knowledge with its role in society, the University of the Ryukyus shall endeavor to maintain and develop a sound research system. Research should be carried out while observing social ethics and standards and be open to mutual academic criticism and social evaluation.

Section 3. Contribution to Society

(An Open University and Social Mission)

1. The University of the Ryukyus aims to be a university that is “open to society” and that unites people. Recognizing the interrelationship by which the university changes society and vice versa, ceaseless efforts shall be made to accomplish the university’s social mission as the highest institution of learning in the Ryukyu Archipelago.

(Cooperation with Society)

2. The University of the Ryukyus shall not only return its academic knowledge and technology to society but shall also cooperate to form partnerships with diversified individuals and organizations to tackle common challenges.

(Responsibility for the Sustainable Development of the Local Community)

3. While working on the revitalization of the local community, the University of the Ryukyus shall assume the responsibility of contributing to the protection of the rich natural environment and sustainable development of the local community.

Section 4. University Management

(Respecting Basic Human Rights)

1. The University of the Ryukyus shall respect basic human rights and shall not discriminate on the basis of race, religion, gender, nationality, or special needs. We will also actively disclose relevant information in our possession while protecting personal information. The University of the Ryukyus shall provide an educational, research, and work environment in which all of its constituent members can fully exercise their individuality and abilities.

(Democratic University Management and Efficient Administration)

2. The University of the Ryukyus shall run an efficient operation with a democratic university management that supports education and research in order to secure the

academic freedom and autonomy of the university. We shall also establish a financial base and sound management that will respond to the environment surrounding incorporated national universities such as ours and sustain the accompanying competition and evaluation.

(Autonomy and Solidarity)

3. The University of the Ryukyus shall form an intellectual community based on the autonomy and solidarity of faculty and staff, and it aims to be a creative and continuously evolving university in which the faculty, staff, and students unite as one. The constituent members of the university shall faithfully attend to independently accomplishing their roles and responsibilities, and reflect diversified feedback from society back to the management of the university.

Concluding Section Contribution to Peace

Historically, Okinawa has served as a “Bridge between Nations” in promoting peace and friendship among Asian countries, and it also experienced a devastating land battle, known as the “Typhoon of Steel,” during the Battle of Okinawa. Currently, vast U.S. military bases still exist in Okinawa even though its reversion to Japan took place after a long postwar U.S. administration. In light of a history such as this and the current conditions in Okinawa, the University of the Ryukyus shall contribute to the establishment of international peace.

The University of the Ryukyus respects ethics and humanity, and it shall base its contributions to peace on education, research, contribution to society, and the purposes of university management and principles set forth in this Charter.

(Amendments to the Charter)

Amendments to this Charter shall be made according to separately established procedures.

Supplementary provision

This Charter has been in effect since May 22, 2007.

Educational Philosophy of the University of the Ryukyus

Guiding Principles

Okinawa was the site of the final battle of the Pacific War, which resulted in the loss of a great number of lives as well as heavy destruction to its nature and cultural heritage. To this day, vast U.S.bases still remain in Okinawa. For these reasons, the University of the Ryukyus has followed its guiding principles of “Freedom and Equality, Tolerance and Peace” since its founding. The quest for truth, and the desire to make a broader and meaningful contribution to both our immediate region and to global society continue to be our primary objectives.

Our University’s Vision

The world continues to change dramatically in the 21st Century. Global warming has become a serious threat. The wasteful use of resources for development primarily benefiting advanced countries has and continues to lead to the depletion of natural resources and regional conflicts.

As such, it become important for our modern societies to put an emphasis on our abundant wisdom and the supple, flexible mind of the south, as alternatives to the theories that benefit the advanced countries in the north, and we must pay particular attention to the vital importance of ecological and environmental issues.

The University of the Ryukyus, with the guidance from Michigan State University, has developed its own traditions: contributing to and advancing along with the local community; conducting international exchange; broadening our knowledge base through academic and educational activities, particularly on a regional level with other Asian countries with whom we share many commonalities; and making a global intellectual contribution to exchanges with Europe and America. Furthermore, we have enhanced development of human resources, regardless of gender and nationality.

Our university vision can be summed as follows:

1. Contribute to society both locally and globally through education and research.
2. Promote the advancement of knowledge with other Asian countries through international exchange.
3. Conduct high-quality education and research as a global knowledge hub.

Human Resources

The mission of the University of the Ryukyus is to send promising individuals out into

society with a high-quality education. We aim to cultivate individuals with the following qualities:

1. Those who can make contributions at the local level as well as on a larger societal scale
2. Those who can take an active role both nationally and globally
3. Those who will strive to accomplish their dreams
4. Those who possess drive and are open-minded
5. Those who can learn from Okinawan history and the university's guiding principles and take advantage of them

Long-term Goals

Our university strives to make contributions to both local and global society based on our founding traditions and principles. In order to develop our university as a knowledge hub to the world, it is necessary to have dedication, with the nurturing of young individuals also being of vital importance.

We have played our role over the years in developing leaders who are active in areas such as science, the fine arts, politics and economics. Although we will continue to develop high quality individuals in these areas, our university must also respond to emerging trends that will have both a local and global impact, such as social change as a result of globalization and population shifts. We need to look at academic development in new areas, as well as in fields of an interdisciplinary nature. With these matters in mind, we have established the following goals:

1. Conduct education which focuses on continual improvement in the quality of graduates
2. Improve the environment in which the potential of young researchers and new academic fields is developed
3. Promote basic research and research utilizing Okinawa's regional characteristics
4. Strive to be a university that makes intellectual contributions to society at large that passes on learning, and that generates new learning.

In order for the University of the Ryukyus to aim towards future expansion and the achievement of its goals, it is necessary to have high-caliber faculty and driven students with drive, along with a sound financial base and flexible management. We have high hopes for and expectations of our strongly-motivated students.

University of the Ryukyus Graduate School Regulations

Chapter 1 General Regulations

(Purpose)

Article 1 The purpose of the University of the Ryukyus Graduate School (hereafter referred to as the Graduate School) is research and instruction of both theory and practical applications in the academic fields, contributing to the development of culture.

(Educational and Research Objectives)

Article 1 (2) The human resource development, educational and research objectives for each graduate program and major field (within the Graduate School) shall be set out in the Graduate School Regulations.

(Entrance Selection)

Article 1 (3) Entrance selection shall be done in a fair and reasonable manner with an appropriate framework.

(Publication of Status of Educational and Research Activities)

Article 1 (4) For publication of the status of educational and research activities, Article 1 clause 3 of the University of the Ryukyus Regulations (hereinafter referred to as the "Regulations") shall be applied correspondingly.

Chapter 2 Structure and Student Numbers

(Graduate Schools)

Article 2 The following majors shall have Graduate Schools:

Humanities and Social Sciences

Tourism Sciences

Education

Medicine

Health Sciences

Engineering and Science

Agriculture

Law

(Course)

Article 3 The Graduate Programs of Tourism Sciences and Agriculture shall be at Master's level. The Graduate Program and the Professional Degree Program of Education shall be at a Master's level. The Graduate Programs of Medicine, Humanities and Social Sciences, Health Sciences, and Engineering and Science shall be at a Master's level and Doctoral level. The Graduate Program of Law shall be at a Juris Doctor level.

2 The Doctoral Programs of the Graduate School of Humanities and Social Sciences, Health Sciences, and Engineering and Science shall be divided into a two year Master's Program (hereafter referred to as the Master's Program) and a three year Doctoral Program (hereafter referred to as the Doctoral Program). The two year course shall be treated as a Master's level course.

(Program Purpose)

Article 3(2) The Master's Program will foster outstanding research abilities in specialty fields and provide the high level of specialization needed in the professional world through broad scholastic instruction.

2 The Doctoral Program will enable students to become independent researchers in their fields of specialty and will foster high levels of research abilities and scholastic foundations necessary to engage in highly specialized work.

3 The Juris Doctor Program and the Professional Degree Program will foster outstanding abilities and sound scholastic foundations necessary to engage in work that requires highly specialized expertise.

(Majors)

Article 4 The Graduate School shall consist of the following majors:

Humanities and Social Sciences:

Master's Program

Social Systems and Policy, Human Sciences, Languages and Cultures

Doctoral Program

Comparative Culture and Area Studies

Tourism Sciences:

Tourism Sciences

Education:

Master's Program

School Education, Special Support Education, Clinical Psychology,

Subject Education

Professional Degree Program

Professional Teacher Education

School Education, Special Support Education, Clinical Psychology,

Medicine:

Master's Program

Medicine

Doctoral Program

Medicine

Microbiology

Health Sciences:

Master's Program

Health Sciences

Doctoral Program

Health Sciences

Engineering and Science:

Master's Program

Mechanical Systems Engineering, Civil Engineering and Architecture,
Electrical and Electronics Engineering, Information Engineering,
Mathematical Sciences, Physics and Earth Sciences, and Chemistry,
Biology and Marine Science

Doctoral Program

Material, Structural and Energy Engineering, Interdisciplinary
Intelligent Systems Engineering, and Marine and Environmental
Sciences

Agriculture:

Bioproduction, Environmental Sciences and Technology, and Bioscience
and Biotechnology

(Instruction is carried out by the United Graduate School of Agricultural Sciences,
Kagoshima University)

Law:

Law

(Educational and Research Activities, the United Graduate School of Agricultural Sciences,
Kagoshima University)

Article 4 (2) The United Graduate School of Agricultural Sciences is a co-operative
Doctoral Program involving the University of the Ryukyus, Saga University, and Kagoshima
University.

2 The classes held by the United Graduate School, detailed in the preceding clause, shall

be carried out by instructors of Saga University's Faculty of Agriculture, Kagoshima University's Faculty of Agriculture and Faculty of Fisheries, and the University of the Ryukyus' Faculty of Agriculture and staff members of the University of the Ryukyus' Tropical Biosphere Center.

(Course Capacity)

Article 5 The admission numbers for the Graduate Schools are laid out in the following table.

Graduate School	Major	Master's Program		Doctoral Program		Juris Doctor Program Professional Degree Program	
		New admissions	Course capacity	New admissions	Course capacity	New admissions	Course capacity
Humanities and Social Sciences	Comprehensive Social Systems Studies	17	34				
	Human Sciences	16	32				
	Languages and Cultures	12	24				
	Comparative Culture and Area Studies			4	12		
	Subtotal	45	90	4	12		
Tourism Sciences	Tourism Sciences	6	12				
Education	School Education	3	6				
	Special Support Education	3	6				
	Clinical Psychology	3	6				
	Subject Education	12	24				
	Professional Teacher Education					14	28
	Subtotal	21	42			14	28
Medicine	Medicine	15	30				
	Medicine			25	100		
	Medicine for Infection Control			13	52		
	Subtotal	15	30	38	152		

Health Sciences	Health Sciences	10	20	3	9		
Engineering and Science	Mechanical Systems Engineering	27	54				
	Civil Engineering and Architecture	24	48				
	Electrical and Electronics Engineering	24	48				
	Information Engineering	18	36				
	Mathematical Sciences	10	20				
	Physics and Earth Sciences	16	32				
	Chemistry, Biology and Marine Science	26	52				
	Materials, Structural and Energy Engineering			4	12		
	Interdisciplinary Intelligent Systems Engineering			3	9		
	Marine and Environmental Sciences			5	15		
	Subtotal	145	290	12	36		
Agriculture	Subtropical Agriculture	35	70				
Law	Law					16	48
Total		277	554	49	177	30	76

Chapter 3 Teaching Structure

(Teaching Structure)

Article 6 In order to achieve the Graduate School's educational and research objectives, adequate faculty members will be in available for each Graduate Program, according to the scale of the Graduate Program as well as the major, the type of degree, and the specialty

field.

- 2 At the Graduate School, a collaborative system and an appropriate division of responsibilities for faculty members are ensured, so that special attention will be paid to the carrying out of organized education.

Chapter 4 Administration Structure

(Graduate School Director)

Article 7 A Director shall be appointed to head of each Graduate School.

- 2 The Director of the Graduate School (except the Director of Graduate School of Medicine) shall be, as a rule, the Dean of the Faculty (in cases where multiple faculties are represented the Director shall be chosen by the Graduate School Committee concerned). However, in the case whereby the Dean of the Faculty is not a professor of the Graduate Schools concerned, the Director shall be chosen from among those professors of the courses that make up the Graduate School.
- 3 The Director of Graduate School of Medicine shall be the Dean of Faculty of Medicine. However, in the case whereby the Dean of Faculty of Medicine is not a professor of Graduate School of Medicine, the Director of Graduate School of Medicine shall be chosen by the Faculty of Medicine Committee.

Article 7(2) A Vice Director shall be appointed to each Graduate School.

- 2 Selection of a Vice Director and matters necessary and relating shall be set forth in a separate document.

(Graduate School of Engineering and Science Committee)

Article 8 A Graduate School Committee shall be established.

- 2 Matters necessary and relating to the Graduate School Committee shall be set forth in a separate document.

(Graduate School Committee)

Article 8 (2) The University of the Ryukyus Graduate School Committee (hereafter referred to as the Graduate School Committee) is established to deliberate on matters pertaining to the administration of the Graduate Schools.

- 2 Matters necessary and relating to the Graduate School committee shall be set forth in a separate document.

Chapter 5 Academic Year, Terms and Holidays

Article 9 Articles 14 through 16 of the University of the Ryukyus Regulations (hereafter referred to as the University Regulations) set forth the rules governing the academic year, terms and holidays.

Chapter 6 Standard Course Length and Period of Enrollment

(Standard Course Length)

Article 10 The standard length of courses are as follows;

- | | |
|---|---------|
| (1) Master's Programs | 2 years |
| (2) Doctoral Programs | 3 years |
| (3) Graduate School of Medicine, Doctoral Program | 4 years |
| (4) Graduate School of Law, Juris Doctor Program | 3 years |
| (5) Graduate School of Education, Professional Degree Program | 2 years |

2 Notwithstanding (1) in the preceding clause, mainly in the case of students with practical experience, there should be no obstacles to the scholastic process and all necessary aspects of instruction and research will be correctly carried out by combining both daytime and night time classes, and any other specified class times or periods. Depending upon student classification, major and the Graduate School, a course may be completed in a time period more than 1 year but less than 2 years.

(Period of Enrollment)

Article 11 Students may not be enrolled in a course for more than twice the stipulated standard course length.

Chapter 7 University Entrance, Temporary Absence, Return, Transfer, Withdrawal, and Removal from the Register

(University Entrance)

Article 12 University entrance is at the beginning of the academic year. However, in special cases whereby it is deemed by the Graduate School that delayed entrance does not constitute an obstacle to learning, students may enter at the beginning of a term.

(University Entrance Qualifications)

Article 13 Those eligible for enrollment in the Master's Program or the Juris Doctoral Program in the Graduate School of Law are as follows:

- (1) University graduates
- (2) Those upon whom a bachelor's degree has been conferred as set forth in Article 104 subparagraph 4 of the School Education Act (Statute 26, 1947).
- (3) Those who have completed 16 years of formal education abroad.
- (4) Those who have completed a course of 16 years of formal education in a foreign country by taking classes through correspondence offered by a school of the aforementioned foreign country in Japan.
- (5) Those who have completed a course of education at the undergraduate level at an educational institution located in Japan (limited to those considered as having completed 16 years of formal education in a foreign country). The aforementioned institution should be located within the education system of a foreign country designated as appropriate by the Ministry of Education, Culture, Sports, Science, and Technology.
- (6) Those who have completed a special course offered by a special technical school that is designated as appropriate by the Ministry of Education, Culture, Sports, Science, and Technology, after the date set by the Ministry of Education, Culture, Sports, Science, and Technology (limited to a school whose course term is more than 4 years and fulfils the criterion of the Ministry of Education, Culture, Sports, Science, and Technology).
- (7) Those designated by the Ministry of Education, Culture, Sports, Science and Technology.
- (8) Those having attended university for 3 or more years, or, have completed 15 years of formal education abroad and have attained excellent results at a graduate school.
- (9) Those who have entered a graduate school as defined by Article 102, Subparagraph 2 of the School Education Act (Statute No. 26, 1947) and who have been recognized as having the adequate academic skills for graduate-level education at this graduate school.
- (10) Dependent upon individual entrance qualification screening, those having graduated university or the equivalent thereof, and 22 years of age or older.

2 Those eligible for enrolment in the Doctoral Program are as follows:

- (1) Holders of a master's degree or professional degree.
- (2) Those who have been awarded a master's degree, professional degree, or the equivalent thereof, from an institution outside of Japan.
- (3) Those who have taken classes through correspondence offered by a foreign graduate

school in Japan and who have been awarded a master's degree, professional degree, or the equivalent thereof from that institution.

- (4) Those who have completed a course of education at a foreign graduate school in Japan, and who have been awarded a master's degree, or professional degree, or the equivalent thereof from the aforementioned graduate school. The aforementioned graduate school should be located within a foreign education system designated as appropriate by the Ministry of Education, Culture, Sports, Science and Technology.
- (5) Those who have completed a Master's curriculum at and been conferred a Masters-equivalent degree from United Nations University (hereinafter referred to as "United Nations University"), established based on the December 11, 1972 United Nations General Assembly Resolution stipulated under Article 1-2 of the Act on Special Measures Incidental to Enforcement of the Agreement between the United Nations and Japan regarding the Headquarters of the United Nations University (Law No. 72, 1976).
- (6) Those who have completed the educational curriculum at an foreign institution, at an educational institution designated as class 4, or at the United Nations University, and have passed the examination and screening prescribed in Article 16 Clause 2 of the Graduate School Foundation Standards (Order 28 of the Ministry of Education, 1974), thereby are deemed to have a Master's degree or the equivalent thereof.
- (7) Those designated by the Ministry of Education, Culture, Sports, Science and Technology.
- (8) Dependent upon screening of an individual's entrance qualifications, those who hold a master's degree, professional degree, or the equivalent thereof from a graduate school and who are 24 years old or above.

3 Those eligible for entrance into the Graduate School of Medicine are as follows;

- (1) Those having graduated university (limited to those majoring in Medicine, Dentistry, Veterinary Medicine or Pharmacy with a course term of more than 6 years).
- (2) Those upon whom a bachelor's degree in Medicine, Dentistry, Veterinary Medicine or Pharmacy have been conferred as set forth in Article 104 subparagraph 4 of the School Education Act.
- (3) Those who have completed 18 years of formal education abroad (including degrees in Medicine, Dentistry, Veterinary Medicine or Pharmacy).
- (4) Those who have completed a course of 18 years of formal education (including degrees in Medicine, Dentistry, Veterinary Medicine or Pharmacy) in a foreign country by taking classes through correspondence offered by a school of the aforementioned foreign country in Japan.
- (5) Those who have completed a course of education at the undergraduate level at an

educational institution located in Japan (limited to degrees in Medicine, Dentistry, and Veterinary Medicine, and to those considered as having completed 18 years of formal education in a foreign country). The aforementioned institution should be located within the education system of a foreign country designated as appropriate by the Ministry of Education, Culture, Sports, Science, and Technology.

- (6) Those designated by the Ministry of Education, Culture, Sports, Science and Technology.
- (7) Those having attended university for 4 or more years, or, have completed 16 years of formal education abroad and have attained excellent results at a graduate school.
- (8) Dependent upon examination of individual entrance qualifications, those who hold a Master's Degree or the equivalent thereof by the graduate school and who are 24 years old or above.

(Entrance Procedures)

Article 14 Those wishing to be considered for entrance into the Graduate School must submit the prescribed forms with the application fee by the specified application date.

(Entrance Selections)

Article 15 Selections for entrance will be made by the Graduate School Committee from among those applying for acceptance. Final decisions for entrance will be made by the President of the University.

- 2 The selection outlined in the preceding clause is dependent upon an examination of academic ability, enquiries to the students home university and the deliberation by the Graduate School Committee.
- 3 Selection method and period shall be determined prior to each call for entrance applications.

(Entrance Procedures and Entrance Permission)

Article 16 Those receiving a notice of acceptance must submit the prescribed documents and the university entrance fee by the specified date.

- 2 The President of the University will grant admission to those students who have completed the entrance procedures. However, those students applying for the entrance fee exemption, or postponement of the fee payment will be given admission prior to the payment.

(Continuing onto the Doctoral Program)

Article 16 (2) For those having completed the Master's Program and wishing to continue

onto the Doctoral Program, permission will be granted based on a decision by the Graduate School concerned.

(Re-entrance)

Article 17 Upon the deliberation of the Graduate School Committee, the President of the University reserves the right under Article 23 of the regulations, to grant permission for re-entrance to the equivalent year for those students having withdrawn no more than two years previously.

(Transfer)

Article 18 Upon the deliberation of the Graduate School Committee, the President of the University reserves the right to grant permission for the entrance of a student transferring from another graduate school providing there is a vacancy available.

- 2 Students wishing to transfer from another Graduate School must attach a letter of permission from the Director of the Graduate School in which they are currently enrolled to their application documents.

(Temporary Absence)

Article 19 For those students who, for medical or other reasons beyond their control, will be absent for longer than 3 months, permission for temporary absence may be obtained from the President of the University by submitting an application form with an attached doctors certificate and/or letter of reason.

- 2 Dependent upon reasons other than medical, the President of the University may order the temporary suspension of enrolment for a period specified through deliberations of the Graduate School Committee.

(Period of Temporary Absences)

Article 20 Temporary absences shall be granted for the remainder of the terms or the academic year concerned. However, in light of special circumstances the period of a temporary absence may be extended.

- 2 Temporary absences may not exceed the following length for the specified Programs:
 - (1) Master's Program 2 years
 - (2) Doctoral Program 3 years
 - (3) Graduate School of Medicine, Doctoral Program 4 years
 - (4) Graduate School of Law, Juris Doctor Program 3 years
 - (5) Graduate School of Education, Professional Degree Program 2 years
- 3 The period of a temporary absence shall not include the period of enrollment set forth

in Article 11 of the regulations.

(Return)

Article 21 When the period allowed for a temporary absence expires, or the reason for the absence no longer applies, students may, with the permission of the President of the University return to the university and resume their studies.

2 Those returning from a medical absence must submit a doctor's certificate.

(Transfer)

Article 22 Those students attempting to transfer to a different Graduate School must submit a request to the Graduate School Director, and receive permission from the President of the University.

(Withdrawal)

Article 23 Those wishing to withdraw from the university must obtain permission from the President of the University.

(Removal from the Register)

Article 24 Those students who fit the following description will, upon deliberation of the Graduate School Committee, be removed from the register by the President of the University:

- (1) Those whose whereabouts are unknown for a long period of time
- (2) Those exceeding the allowed period of enrolment
- (3) Those who exceed the temporary absence period set forth in Article 20 clause 2, and can no longer study
- (4) Those who for medical or other reasons are deemed cannot complete the work for the course
- (5) Those who fail to submit the prescribed documents following the completion of a temporary absence
- (6) Those students who will have failed to pay the allotted entrance fee by the end of a grace period after denial of fee exemption or payment postponement, or acceptance of partial fee exemption or payment postponement
- (7) Those students who are late in paying tuition fees, or fail to pay after receiving a payment due reminder

Chapter 8 Curriculum

(Guidelines for Drawing up the Curriculum)

Article 25 Graduate Schools shall offer classes necessary for the achievement of students' educational objectives, create plans for guidance on thesis/dissertation preparation, and develop education curricula systematically.

2 In forming the curriculum, the Graduate School must give particular consideration to students acquiring a high level of technical knowledge and ability in their major field, and cultivating a fundamental knowledge of the specialized fields related to their major field.

(Classes and Research Guidance)

Article 25 (2) Education at the Graduate School is carried out through classes and research guidance.

2 Graduate Program classes are taught and research guidance is given by faculty members accepted for the Graduate Program who have qualifications required under Article 9 clause 1 of the Graduate School Foundation Standards (Order 28 of the Ministry of Education, 1974).

3 Notwithstanding clause 1 of this Article, education in the Juris Doctor Program and the Professional Degree Program is carried out through classes. In this case, the Juris Doctor Program and the Professional Degree Program classes are taught through case studies by field of specialty, field work, bilateral or multilateral debate, question and answer, and other appropriate methods to provide practical education designed to achieve their goals.

4 Classes in the preceding clause are taught by faculty members accepted for the Graduate Program who have qualifications required under Article 5 clause 1 of the Professional Graduate School Foundation Standards (Order 16 of the Ministry of Education, Culture, Sports, Science, and Technology, 2003).

(Classes)

Article 25 (3) At the Graduate School, classes required to meet educational objectives will be established according to each major field.

2 Classes and credits for Graduate School shall be set forth in a separate document.

(Credit Calculation Criteria in the case of a class carried out using a combination of 2 or more instruction methods)

Article 25 (4) In calculating credits at the Graduate School when a class is carried out using 2 or more instruction methods, including lectures, seminars, experiments, laboratory and practical work, according to the combination, 1 credit shall be earned for time as set forth in

Article 28 (2) applying Article 20, clause 3 of the University Regulations.

(Method of Completion)

Article 26 Method of completion of classes in the Graduate School shall be set forth in a separate document.

(Special Case of Educational Method)

Article 26 (2) In a Graduate School Program, should it be deemed especially necessary from an educational viewpoint, appropriate classes or research instruction may be held in the evening, at other specified times or periods.

(Completing a Curriculum over a Long Period)

Article 26 (3) Depending on regulations governing each graduate program at the Graduate School, students who, for example, are in employment, may be allowed to exceed the standard period of study (as set forth in Article 10) to complete courses and curriculum. In the case that students express their desire to complete the curriculum systematically and over a fixed time period, the Graduate School can approve this planned completion.

2 With regard to the preceding clause, the period of study required to complete the scheduled curriculum may not exceed the period of enrollment as set forth in Article 11.

(Completion of Classes in Other Graduate Schools)

Article 27 Should the President deem it to be of educational benefit, based upon consultation with the Graduate School concerned, students from this Graduate School may study courses in other Graduate Schools.

2 Regarding the preceding clause, upon deliberation of the Graduate School Committee, students may participate in classes and earn no more than 10 credits from these activities.

3 Notwithstanding the preceding clause, the credits earned from activities in other Graduate Schools shall be treated in the following manner;

(1) In the case of a Graduate School of Law, students may earn no more than 36 credits upon deliberation of the Graduate School of Law Committee.

(2) In the case of a Professional Degree Program of the Graduate School of Education, students may earn no more than 24 credits upon deliberation of the Graduate School of Education Committee.

4 The period of study in clause 1 includes the enrolment period.

5 The type of classes, the number of credits, and the way in which classes are taken are laid out in a separate document.

(Acknowledgement of Credits Gained Prior to Enrolment)

Article 27 (2) Should it be determined by the Graduate School to be of educational merit, students may have credits gained from a Graduate School (including other Graduate Schools) prior to enrolment at the University of the Ryukyus Graduate School recognised after completing their enrolment (under Article 15 of the Graduate School Foundation Standards (Order 28 of the Ministry of Education, 1974) this includes credits earned as an auditor).

2 The recognition of earned credits from the Graduate School concerned as set forth in the preceding clause, or the number of credits able to be conferred, excluding cases whereby a student returns to Graduate School after an absence or transfers from a different Graduate School, shall be, upon deliberation of the Graduate School Committee, limited to no more than 10 credits, to include the number of earned credits as set forth in the preceding article.

3 Notwithstanding the preceding clause, the credits earned from activities in other Graduate Schools shall be treated in the following manner;

(1) In the case of a Graduate School of Law, the number of credits able to be conferred shall be limited to no more than 30 credits (excluding the credits in excess of 30 credits set forth in the preceding Article 27(3)-(1)), including the number of earned credits as set forth in the preceding Article 27(3)-(1).

(2) In the case of the Professional Degree Program of the Graduate School of Education, the number of credits able to be conferred shall be limited to no more than 24 credits, including the number of earned credits as set forth in the preceding Article 27(3)-(2).

(Clear Specification of Grading and Evaluation Standards)

Article 27 (3) At the Graduate School, the methods and content details of classes and research guidance and the annual class and research guidance syllabi will be clearly specified to students in advance.

2 In order to ensure objectivity and academic rigor in evaluating and recognizing the completion of academic thesis/dissertation along with other requirements for the award of the degree, the process shall be appropriately carried out in line with the aforementioned criteria, with the students being made fully aware of the criteria beforehand.

(Organized Training for the Purpose of Improving Educational Content)

Article 27 (4) Organized training and research for the purpose of improving the contents and methods of classes and research guidance at the aforementioned Graduate School shall be implemented.

(Receiving instruction at a different Graduate School)

Article 28 Should the President deem it to be of educational benefit, based upon consultation other Graduate Schools or Research Institutes, students may receive necessary instruction at a Graduate School or Research Institution that is appropriate to their studies. However, for students enrolled in Master's Programs the instruction concerned shall not exceed a period of one year.

(Application of the University Regulations)

Article 28 (2) Articles 20 and 21 of the University Regulations set forth rules governing credit calculation criteria for each class, the conferring of credits and accreditation for completed classes at the Graduate School.

Chapter 9 Requirements for Program Completion, the Conferral of Degrees and Teaching Licenses

(Acknowledgement of Credits)

Article 29 Earning of credits is dependent upon examinations and research reports.

2 The prescribed credits shall be conferred as a result of attaining a passing grade in examinations or research reports

(Grade Evaluation)

Article 30 Grades are allocated in five categories: A, B, C, D, and F. The grades A, B, C, and D are considered passing grades. However, the Juris Doctor Program shall fall under separate rules.

(Completion Requirements for Master's Programs)

Article 31 The completion requirements for Master's Programs are: the completion of 2 years (for courses and majors whereby the standard course length is other than 2 years completion shall be based upon that course or major's standard course length requirements), the earning of 30 or more credits, receipt of the necessary research instruction in accordance with the objectives of the aforementioned Master's Programs, and a passing grade awarded for final examinations or review of thesis and research accomplishments based on a specific assignment relating to the special field of study. However, in the case of students with excellent performance, attendance at Graduate School for longer than one year may be deemed sufficient for completion.

(Completion Requirements for the Doctoral Program)

Article 31 (2) The completion requirements for the Doctoral Program are, the completion of 3 years, the earning of 12 or more credits, receipt of the necessary research instruction, and a passing grade being awarded for both final examinations and thesis. However, in the case of students with excellent performance, attendance of Graduate School for greater than one year may be deemed sufficient for completion.

- 2 Under Article 10 clause 2 of the regulations, those students completing their studies in the Master's Program in greater than 1 year but no more than 2 years, and according to the conditional clause 1 of the preceding article of the regulations, the requirements for completion of the Doctoral Program for those students having attended in full and completed the Master's Program the term "1 year" in the preceding conditional clause shall be read as "3 years including the time spent in the Master's Program". The regulations of the same conditional clause shall still apply.

(Completion Requirements for the Graduate School of Medicine Program)

Article 31 (3) The completion requirements for the Graduate School of Medicine Program are, attendance of Graduate School for a period of 4 years or more, the earning of 30 or more credits, receipt of the necessary research instruction, and a passing grade being awarded for both final examinations and doctoral thesis. However, in the case of students with excellent performance, attendance of Graduate School for longer than three years may be deemed sufficient for completion.

(Completion Requirements for the Graduate School of Law Program)

Article 31 (4) The completion requirements for the Graduate School of Law Program are, attendance of Graduate School for a period of 3 years or more, the earning of 93 or more credits, and meeting certain GPA standards which fall under separate rules upon completion of the third year.

- 2 For attendance period in the preceding clause, if credits earned at another institution before enrolling at the Graduate School of Law (limited to those earned after enrollment in accordance with Article 102 clause 1 of the School Education Act) are to be recognized as credits earned at the Graduate School of Law, and that the student is to be recognized as having completed a part of the educational curriculum at the Graduate School of Law in accordance with Article 27 (2) clause 1, the Graduate School may grant the student deemed completion of no more than 1 year of study at the Graduate School of Law upon considering the student's credits earned and the period needed to earn them.
- 3 For those who already have the basic scholarly knowledge of law that is required to study at the Graduate School of Law (hereinafter referred to as "Learned Law Student"), the

Graduate School of Law may grant deemed attendance of no more than 1 year for attendance period as stipulated in clause 1, and as for credits stipulated in the said clause, the Graduate School of Law may also grant no more than 36 of 37 first year credits as deemed completed.

- 4 The period of deemed attendance for the Learned Law Student in the preceding clause, including the period granted as per clause 2, shall not exceed 1 year.
- 5 The number of credits deemed completed for the Learned Law Student as per clause 3 shall not exceed 30 credits (except credits deemed legitimate even if the total number of credits exceeds 30 in accordance with clause 3 and the provisions of Article 27-2), which includes those deemed completed as per Article 27 and Article 27-2.

(Completion Requirements for the Professional Degree Program of the Graduate School of Education)

Article 31 (5) Completion requirements for the Professional Degree Program of the Graduate School of Education are enrolment at the Graduate School for a period of 2 years or more with 48 or more earned credits (including 10 or more credits associated with the practicum for teachers having advanced and specialized abilities and excellent qualifications, held at elementary schools or other related institutions for the purpose of fostering practical abilities).

2 For attendance period in the preceding clause, if credits earned at another institution before enrolling at the Graduate School of Education (limited to those earned after enrolment in accordance with Article 102 clause 1 of the School Education Act) are to be recognized as credits earned at the Graduate School of Education, and that the student is to be recognized as having completed a part of the educational curriculum at the Graduate School of Education in accordance with Article 27 (2) clause 1, the Graduate School may grant the student completion of no more than 1 year of study at the Graduate School of Education upon considering the student's credits earned and the period needed to earn them. However, the student must enroll in the Professional Degree Program of the Graduate School of Education for at least 1 year.

3 The Graduate School of Education may, if it recognizes educational merits, exempt all or part of credits to be earned through practicum as per clause 1, not exceeding a total of 10 credits, for those having practical experience as school teachers before enrolling in the Graduate School.

(Conferral of Degrees)

Article 32 Master's Degrees shall be conferred upon those students successfully completing the Master's Program.

- 2 Those students successfully completing the Doctoral Program will be awarded Doctoral Degrees.
- 3 Those students successfully completing the Graduate School of Law Program will be awarded a Juris Doctor Degree. Those students successfully completing the Professional Degree Program of the Graduate School of Education will be awarded a Master's Degree of Education.
- 4 Particulars necessary for a degree are laid out in a separate document.

(Obtaining the prescribed qualifications to earn a Teacher's License)

Article 32 (2) Those students attempting to obtain the prescribed qualifications to earn a Teachers' License must obtain the prescribed credits as set forth in the Teachers' License Act and the Teachers' License Act Rules of Practice.

(abbreviated)

Chapter 10 Entrance Examination Fee, Admission Fee, Tuition Fees and Training-support Fee

(Entrance Examination Fee, Admission Fee, Tuition Fees and Training-support Fee)

Article 33 The entrance examination fee, admission fee, tuition fee and training-support fee are set forth in the Fee Regulations of the University of the Ryukyus.

- 2 For payment methods of the entrance examination fee, admission fee, and tuition fee, as well as exemption from and postponement of payment, Articles 41~43 of the School Regulations, and Article 44 (2) and Article 45 of the regulations shall be applied.
- 3 For Law School Graduate Training Students set forth in the Article 33 (5), the entrance examination fee and admission fee shall not be required.
- 4 For those who are enrolled as Law School Graduate Training Students after their completion of the Graduate School of Law, the training-support fees shall not be required for the first six months.
- 5 Notwithstanding the preceding clause 1, those having completed the Master's Program or the Juris Doctor Program and continuing onto the Doctoral Program at the University shall not be required to pay the entrance examination fee and admission fee.
- 6 Notwithstanding the preceding clause 1, if a faculty member of the University of the Ryukyus Elementary School or Secondary School enrolls in the Faculty of Education with the permission of the principal of the respective school, or if that faculty member enrolls by special admission for adult students (e.g. current high school teachers), his tuition shall not be collected. However, if the student's attendance period exceeds the standard

period of study stipulated in Article 10 clause 1 (Article 26-3 clause 1), tuition for the period in excess shall be collected.

- 7 Those that are enrolled in the Doctoral Program at the Graduate School or the Specialist Degree Program, and recognized as having outstanding character and research accomplishments (including academic grades), shall have their tuition payment waived (hereinafter referred to as “Student with Outstanding Academic Research Accomplishment”).
- 8 Notwithstanding clause 1, entrance examination fees, admission fees, and tuition fees associated with being a student of an overseas graduate school based on the agreement concerning the double degree program between the University of the Ryukyus Graduate School of Engineering and Sciences and overseas graduate schools, shall not be collected.
- 9 Notwithstanding clause 1, admission fees of privately funded international students who are enrolled in a special graduate program for international students that is accredited by the Ministry of Education, Culture, Sports, Science, and Technology, shall not be collected.
- 10 Notwithstanding clause 2, for those who are enrolled in the Professional Teacher Education course of the Graduate School of Education, collection of the tuition fee shall be exempted or postponed based on separately defined criteria.

(Paid Tuition Fees etc.)

Article 34 The entrance examination fees, admission fees, tuition fees and training-support fees that have been paid are non-refundable.

- 2 Notwithstanding the preceding clause, under Article 33 (2) of the regulations, those students who have paid their fees but file a decline of entrance by the 31st of March of the previous academic year may upon application be refunded the amount paid.
- 3 Notwithstanding clause 1 of the regulations, those students who pay their second term fees at the same time as they pay their first terms fees and subsequently take a temporary leave of absence or withdraw from the university prior to the payment period of the second term fees are entitled to a refund of the second term amount.
- 4 Notwithstanding clause 1, if a student paid tuitions fees for both the Master’s Program and the Doctoral Program at the time of Master’s Program tuition fee collection, but took a leave of absence from or left the program before the time of Doctoral Program tuition fee collection, the student shall be reimbursed an amount equivalent to the tuition fee of the Doctoral Program.

Chapter 11 Special Auditors, Special Researchers, Auditors, Law
School Graduate Training Students and International Students

(Special Auditor)

Article 35 The President of the University may permit a student from another Graduate School to take a specified course in the Graduate School of the University of the Ryukyus based upon consultation with the university concerned.

2 The status of students covered in the preceding clause shall be that of Special Auditor.

(Special Researcher)

Article 35 (2) The President of the University may permit a student from another Graduate School to receive research instruction in the Graduate School of the University of the Ryukyus based upon consultation with the university concerned.

2 The status of students covered in the preceding clause shall be that of Special Researcher.

(Auditor)

Article 35 (3) The President of the University may, upon deliberation of the Graduate School Committee, permit a student from outside the Graduate School to enrol in one or more classes offered by the Graduate School should the individual so desire. The student may also be awarded credit for classes completed.

(Researcher)

Article 35 (4) The President of the University may, upon deliberation of the Graduate School Committee, permit a student to enroll in the Graduate School as a researcher in order to pursue research on a specific topic.

(Law School Graduate Training Student)

Article 35 (5) For those who have completed the courses of the Graduate School of Law and wish to continue studying independently for the bar examination under the learning environment of the university, the President of the University may permit them to enroll in the Graduate School of Law as Law School Graduate Training Students, upon deliberation of the Graduate School of Law Faculty Committee.

(International Students)

Article 36 The President of the University may permit an International Student to enroll in the Graduate School provided he or she is selected.

2 International Students may be accepted over and above the course capacity restrictions.

Chapter 12 Reward and Punishment

(Commendation)

Article 37 Those people who, as students, are deserving may, upon the deliberation of the Graduate School Committee and the Council, be commended by the President of the University.

(Disciplinary Measures)

Article 38 For students who breach the regulations of the Graduate Schools, or fail to discharge their duties as students, upon deliberation of the Graduate School Committee and the Council, the President of the University may take disciplinary action.

- 2 The disciplinary action in the preceding clause shall include admonition, suspension and/or expulsion from the university.
- 3 The period of suspension in the preceding clause shall be included in the period of enrollment set forth in Article 11, and it shall not be included in the standard length required for completion of courses set forth in the Article 10. However, a period of suspension within one month may be included in the standard length required for completion of courses.
- 4 Expulsion from the university as set forth in clause 2 shall befall students who:
 - (1) have shown unsatisfactory character and conduct that are deemed to be irreversible.
 - (2) have neglected their studies and it is deemed that their work cannot be completed.
 - (3) have disrupted the order of the university or those who have been defiant of their duties as a student.

Chapter 13 Miscellaneous Provisions

(Corresponding Application)

Article 39 Aside from these Regulations and respective Graduate School regulations, other rules and regulations governing undergraduate students shall apply correspondingly.

- 2 For the preceding clause, “undergraduate” shall be read as “Graduate School”; “Dean of Department” shall be read as “Director of Graduate School”; “Faculty Council” shall be read as “Graduate School committee”, respectively.

Degree Regulations for the University of the Ryukyus

April 1, 1987

enacted

The Degree regulations for the University of the Ryukyus (March 26, 1977), revised.

(Aim)

Article 1 These regulations, based on Article 13 of the Degree regulations (Ministry of Education, Culture, Sports, Science and Technology. Ministerial Order 9, 1953), Article 39 clause 2 of the University of the Ryukyus Regulations and Article 32 clause 3 of the University of the Ryukyus Graduate School Regulations, set forth the particulars of the process for thesis screening, examinations, and scholastic ability necessary in the conferral of degrees at the University of the Ryukyus (hereafter referred to as the University).

(Requirements for the Conferral of Bachelor's Degrees)

Article 2 Bachelors Degrees shall be awarded to students graduating from the University.

(Requirements for the Conferral of Master's Degrees)

Article 3 Master's Degrees shall be awarded to those students completing the Master's Program of the Graduate School of the University (Master's Program for the Graduate School of Humanities and Social Science, and Engineering and Science (hereafter referred to as Master's Program).

(Requirements for the Conferral of Doctoral Degrees)

Article 4 Doctoral Degrees shall be awarded to those students completing Doctoral Programs at the University.

(Requirements for the Conferral of Juris Doctoral Degrees)

Article 4(2) Juris Doctoral Degrees shall be awarded to those students completing the Juris Doctor Program at the University.

(Doctoral Degrees Based on Dissertation submission)

Article 5 In addition to the particulars set forth in the preceding article, students shall be awarded Doctoral Degrees based on achieving a passing grade in the doctoral dissertation review, having completed the course and the confirmation of scholastic ability.

(Submission of Thesis/Dissertation)

Article 6 Master's Thesis shall be submitted to the Dean of the Graduate School.

2 Doctoral Dissertations shall be submitted to the President of the University, via the Dean of the Graduate School, a request for review, a list of publications, an dissertation abstract and their Curriculum Vitae.

(Application for the Conferral of Degrees)

Article 7 Those students applying to graduate under Article 5 of the regulations shall submit to the President of the University, via the Dean of the Graduate School, a degree application, their dissertations, a list of publications, a dissertation abstract, their Curriculum Vitae, and the prescribed reviewing fee.

2 Those students continuing their doctoral studies for a period in excess of the prescribed standard course length, having earned the prescribed credits and who submit their theses after having withdrawn from the university are subject to the regulations set forth in the preceding clause. However, those who submit within one year of their withdrawal from the university shall be exempt from the dissertation reviewing fee.

Article 8 Only one dissertation submission is permitted. However, the attachment of other publications as reference documents is possible.

Article 9 The Graduate School Committee may require the submission of a translation of the thesis/dissertation, models and samples deemed necessary during the reviewing process.

Article 10 Accepted theses/dissertations shall not be returned.

(Reviewing Referral)

Article 11 When, under articles 6 and 7 of the regulations, the Graduate School Dean and the President of the University accept submitted theses/dissertations, they must refer them for reviewing by the Graduate School Committee.

(Review)

Article 12 When theses/dissertations are referred for reviewing, the Graduate School Committee shall establish a reviewing committee.

2 The reviewing committee shall consist of three or more members.

3 The reviewing committee shall carry out confirmations of scholastic ability, and final examinations in addition to thesis/dissertation screening.

4 Each Graduate School shall, if necessary for the reviewing process, seek the co-operation of staff members of other Graduate Schools or Research Institutions by inducting them as reviewing committee members.

(Final Examinations)

Article 13 Final examinations shall take the form of a presentation or written test relevant to the topic of the submitted thesis/dissertation and shall be held after the completion of the reviewing process.

(Confirmation of Scholastic Ability)

Article 14 The confirmation of scholastic ability set forth in Article 5 of the regulations shall be conducted to ascertain the level scholastic and research ability both orally and in written form. In the case of a foreign language, without acknowledgement of the existence of a special reason by the Graduate Course Committee, both of these procedures shall be carried out.

2 Those students having exceeded the prescribed standard length of the Doctoral Program at the University's Graduate school and who submit dissertations within 3 years of having withdrawn from the university after having earned the prescribed credits may be exempt from the scholastic ability confirmation process.

(Screening Period)

Article 15 Confirmation of scholastic ability, final examinations, and thesis/dissertation reviewing shall, in the case of Master's students, be completed during the period in which they are enrolled at the university. In the case of Doctoral Program students these processes must be completed within 1 year of receipt of their doctoral dissertation.

(Report to the Graduate School Committee)

Article 16 Following the completion of the reviewing, final examination, and scholastic ability confirmation process, the reviewing committee must report their findings in writing to the Graduate School Committee attaching an abstract of their opinions to the results of the final examination and the scholastic ability confirmation.

(Graduate School Committee Decision)

Article 17 The Graduate School Committee shall base their degree conferral decision on the report set forth in the preceding article.

2 For the decision of the previous clause to stand, two thirds or more of the committee members must be in agreement.

(Report to the President)

Article 18 The Dean of the Faculty must report, in writing, the degree conferral decision of the Faculty Committee to the President of the University.

2 When the Graduate School Committee has reached the decision of the preceding clause, the Graduate School Dean must report to the President of the University, the decision, and the grades of the final examination and scholastic ability confirmation.

3 Notwithstanding the preceding clause, when the Graduate School of Law Committee has reached the decision of degree conferral, the Dean of the Graduate School of Law must report, in writing, to the President of the University.

(Degree Conferral)

Article 19 Based on the report of the preceding clause, the President of the University shall decide upon conferral of the degree. Those to whom degree will be conferred shall be issued with the prescribed degree certification. Those to whom a degree will not be conferred shall be informed as to the reason.

2 When the President of the University decides to confer a degree, as set forth in the previous clause, he/she must inform the appropriate faculty Dean or the Dean of the Graduate School concerned of his decision.

(Report of the Conferral of Doctoral Degrees)

Article 20 When a doctoral degree is conferred upon an individual, the President of the University must, under Article 12 of the Degree Regulations (Ministry of Education Ministerial Order 9, 1953) inform the Minister of Education.

(Publication of Doctoral Dissertations Abstracts)

Article 21 When a doctoral degree is conferred upon an individual, the University of the Ryukyus shall publish an abstract of the concerned dissertation and the report of the dissertation committee within three months of awarding the degree by using the academic repository of the University.

(Publication of Doctoral Dissertations)

Article 22 Those being conferred with doctoral degrees must publish their concerned doctoral dissertations in their entirety within one year of being award their degree. However, they are exempt should their theses have been published prior to the conferral of the degree.

2 Notwithstanding the preceding clause, if the recipient of a doctoral degree has reasons beyond his or her control, and with the consent of the President of the University, an abstract of the concerned doctoral dissertation may be published in

place of the dissertation in its entirety. In such cases, the Dean of the Graduate School may call for the reading of the concerned dissertation in its entirety.

- 3 The publishing by the recipient of a doctoral degree in accordance with the preceding Clause 2 shall be done by using the academic repository of the University.

(Specialty Field Names)

Article 22 (2) The name of the specialty field shall be appended to any degree conferred.

- 2 The names of the specialty fields are as follows:

(Bachelor's Degree Specialty Field Names)

Faculty	Department	Name
Law and Letters	Social Systems and Policy	Law, Economics, Business Administration , Policy Science and International Relations, Social System Analysis
	Human Sciences	Human Science
	Languages and Cultures	Humanities
Tourism Sciences and Industrial Management	Tourism Sciences	Tourism
	Industrial Management	Business Administration
Education		Education
Science		Science
Medicine		Medicine
		Health Science
Engineering		Engineering
Agriculture		Agriculture

(Master's or Doctoral Program Specialty Field Names)

Graduate School	Name	
	Master's Program	Doctoral Program
Humanities and Social Sciences	Law, Political Science, Economics, Business Administration, Sociology, Education, Psychology, Philosophy, Literature, History, Geography, Linguistics and Communication, Arts	Philosophy
Education	Education	
Medicine		Medicine
Health Sciences	Health Sciences	
Engineering and Science	Science Engineering	Science Engineering Philosophy
Agriculture	Agriculture	

(Degree conferred by the Graduate School of Law)

Article 22 (3) The degree conferred by the Graduate School of Law shall be Juris Doctor under Article 5 clause 2 of the Degree Regulations (Ministry of Education, Culture, Sports, Science and Technology. Ministerial Order 9, 1953).

(Degree Names)

Article 23 Those receiving degrees from the University of the Ryukyus shall, when using the degree name, append it with “The University of the Ryukyus”.

(Cancellation of Conferral)

Article 24 Should it become clear that an individual upon whom a degree has been conferred has obtained the degree by dishonest means or has, by his or her conduct, dishonoured the degree then President of the University may, upon deliberation of the Faculty Committee in the case of Bachelor’s, and the Graduate School Committee in the case of Master’s or Doctors, rescind the conferral, order the return of the degree itself, and make public the circumstances of these actions.

2 Should the Faculty Committee or the Graduate School Committee reach the decision set forth in the preceding clause, the Faculty Committee Regulations shall apply to bachelor’s, and Article 17 clause 2 of the regulations shall apply to Master’s and Doctors.

(Degree Certificate Style)

Article 25 Degree certification shall take the form as laid out in Table 1 for Bachelor’s, Table 2 for Master’s, and Tables 3 or 4 for Doctor’s.

(Miscellaneous Provisions)

Article 26 In addition to these regulations, upon approval of the President of the University, the Dean of the Faculty or the Dean of the Graduate School may set forth additional particulars relating to degrees.

University of the Ryukyus Graduate School of Engineering and Science Regulations

April 1, 1997
enacted

The degree regulations for the University of the Ryukyus (April 1, 1985), revised.

(Aim)

Article 1 These regulations set forth necessary particulars relating to the University of the Ryukyus Graduate School of Engineering and Science (hereafter referred to as the Graduate School) in addition to those set forth in the University of the Ryukyus Degree Regulations (hereafter referred to as the Regulations) and the University of the Ryukyus Graduate School Regulations (hereafter referred to as the University Regulations).

(Educational and Research Objectives)

Article 1(2) At the Graduate School, research and instruction in both theory and the practical application of Engineering and Science fields shall be carried out, and furthermore, the objectives are to develop individuals with a high level of technical knowledge, practical skills and with a broad outlook who will contribute to the deepening of the Engineering and Science fields and technological progress.

Article 1(2-2) The purposes in regards to human resource development as well as educational and research purposes for the Graduate School's major programs are defined in the attached table.

(Courses, Majors, Classes)

Article 2 The following majors and classes are on offer at the Graduate School.

Master's Program

Mechanical Systems Engineering	Design, Analysis and Processing of Engineering Materials Thermal and Fluid Engineering Mechanics and Control Engineering
Civil Engineering and Architecture	Environmental Planning and Design Engineering Structural and Mechanical Engineering of Bridges and Buildings

	Environmental Disaster Prevention Engineering
Electrical and Electronics Engineering	Electromagnetic Energy Engineering Electronic Materials Engineering Electronic Systems Engineering
Information Engineering	Computer Systems Intelligent Systems
Mathematical Sciences	Fundamental Mathematics Mathematical Analysis Information Mathematics
Physics and Earth Sciences	Theoretical Physics Experimental and Computational Physics Geology and Marine Geology Meteorology, Oceanography and Sedimentology
Chemistry, Biology and Marine Science	Inorganic and Analytical Chemistry Marine Chemistry Ecology and Systematics Cell and Functional Biology Fisheries Biology and Coral Reef Studies Tropical Biology
Doctoral Program	
Materials, Structural and Energy Engineering	Processing Development Engineering Energy Development Engineering
Interdisciplinary Intelligent Systems Engineering	Environment and Information Engineering Electronics and Information Engineering
Marine and Environmental Sciences	Island Archipelago Marine Science Coral Reef Science Tropical Biology

(Vice Dean of the Graduate School)

Article 3 The Vice Dean of the Graduate School shall be appointed to support the Dean of the Graduate School.

2 The Vice Dean shall be either the Dean of the Faculty of Engineering or Science who is not the Dean of the Graduate School.

(Chair of the Major Field)

Article 4 The Chair of each of the major fields in both Master's and Doctoral Programs shall be appointed from among the professors.

2 The term of the Chair is one year. Reappointment of the Chairship, however, may be made.

(Classes and Credits)

Article 5 The classes and credits to be awarded for each major are set out in a separate table.

(Supervisor)

Article 6 A Supervisor shall be appointed to guide each student in his/her research and theses/dissertations.

2 Either a qualified professor, associate professor, lecturer and assistant professor shall serve as an academic supervisor with regard to the Master's Program; a qualified professor or associate professor shall serve as an academic supervisor with regard to the Doctoral Program.

3 The Supervisor shall offer appropriate advice and assistance with regard to a student's research, and the classes in which they study.

4 If deemed necessary by the Supervisor, a Vice-Supervisor may be appointed for each student.

5 The Supervisor shall appoint a Vice-Supervisor from instructors qualified to provide research guidance.

6 The Vice-Supervisor shall provide research guidance to students under the instructions of the Supervisor.

7 In special circumstances, upon the deliberation of the Graduate School Committee, students may change their Supervisor.

(Education Methods)

Article 7 Education at the Graduate School shall take place in the form of class instruction and research guidance.

2 If deemed educationally necessary, class instruction and research guidance, provided

in an appropriate manner, may take place in the evening or any other time or period.

(Research Theme)

Article 8 Students must, by the specified fixed date, with the consent of their Supervisor, decide upon and submit a designated form to the Dean of the Graduate School of their intended topic of research.

2 In the case of the above, the Supervisor shall, upon consulting the student, present a year-long research guidance schedule to the student.

(Method of Study)

Article 9 Students must obtain consent from the supervising instructor of all classes they undertake. They must also inform the Dean of the Graduate School by the specified date using the specified means.

Article 10 When it is deemed necessary by the Supervisor, students of the Master's Program may be instructed to take classes in another major, at other Graduate Schools or Faculties within the University, and students of the Doctoral Program may be instructed to take classes in another major or at other Graduate Schools within the University. However, in regards to the program completion requirements, Master's students are required to take Master's classes, and Doctoral students are required to take Doctoral classes.

2 The courses mentioned in the preceding clause, including those classes specified in Article 27 clause 2 of the University Regulations, may not exceed 10 credits for students in the Master's Program, or 4 credits for students in the Doctoral Program.

(Recognition of Credits and Evaluation)

Article 11 Verification of credits obtained from each class shall be conducted by the supervising instructor in accordance with the predefined evaluation standard. The evaluation shall be based upon examination results and research reports, among others. Passing grades are A, B, C, and D, while the grade of F is a failure.

2 Students who cannot sit a regular scheduled examination due to unavoidable circumstances such as illness etc., may take a make-up examination.

3 Those students who do not receive a passing grade on an examination may, depending upon circumstances, take a retest.

4 The Dean of the Graduate School shall decide times of make-up examinations and retests.

(Theses/Dissertations, Final Examinations and Evaluation)

Article 12 During the specified enrollment period, students may take final

examinations providing they have obtained, from the classes set forth in Article 5, 30 or more credits, in the case of Master's Program students, or 12 or more credits, in the case of Doctoral Program students, have received the necessary research and dissertation compilation instruction, and have submitted their dissertations.

2 Classes defined in Article 27-2 of the Graduate School Regulations, and those defined in Article 10 that have been accepted by the Supervisor may be counted as classes as defined in Article 5. However, in regards to the program completion requirements, Master's students are required to take Master's classes, and Doctoral students are required to take Doctoral classes.

3 Evaluation of dissertation and approval of coursework completion shall take into consideration various elements including the following: Clarity of proposition, persuasiveness of argument process, uniqueness of research findings, ability of expression, and appropriateness of materials referenced. The result shall be Pass or Fail.

4 Above notwithstanding, each course may define its own evaluation standard based on its course objective.

Article 13 Students must, upon obtaining consent from their Supervisor, submit their theses/dissertations to the Dean of the Graduate School by the specified date.

Article 14 Particulars relating to final examinations and screening of theses/dissertations shall be defined in Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science (enacted 1 April 1997).

(Researchers)

Article 15 Those eligible to enroll in the Graduate School as a researcher must meet any one of the following requirements:

Master's Program

- (1) A person holding a Master's degree or the foreign equivalent thereof.
- (2) One who is deemed to have scholastic ability equal to or above those specified in the preceding clause.

Doctoral Program

- (1) A person holding a doctoral degree or the foreign equivalent thereof.
- (2) One who is deemed to have scholastic ability equal to or above those specified in the preceding clause.

(Supplementary Regulations)

Article 16 The Graduate School Committee shall specify separately any necessary particulars relating to the graduate course that are not set forth in these regulations.

Supplementary Provision (23 June 2010)

This regulation is to be enforced from 23 June 2010, and is to be in effect from 1 April 2009.

Supplementary provision (June 20, 2012)

This regulation is to be enforced from June 20, 2012.

Table (Article 1(2-2)) Purposes Concerning Human Resource Development, Education, and Research

	Major Course	Purposes Concerning Human Resource Development, Education, and Research
Master's Program	Mechanical Systems Engineering Course	To develop human resources that will become researchers or professionals with a high level of technical research ability and academic knowledge through the administration of education and research in the field of mechanical engineering and related fields.
	Civil Engineering and Architecture Course	To develop human resources with a high level of technical knowledge through the administration of education and research centered on civil engineering and architecture to build a safe and rich society that is in harmony with nature.
	Electric and Electronics Engineering Course	To develop creative human resources with a high level of technical knowledge and skills through the administration of cutting-edge education and research in the field of electric and electronics engineering that meets the needs of society.
	Information Engineering Program Course	To develop human resources with a high level of technical knowledge and skills that can make a positive contribution to society and help the development of the academic field and scientific technology through the administration of education and research on the theories and application of information engineering.
	Mathematical Sciences Course	To develop human resources with a high level of technical knowledge and skills that can make a positive contribution to modern society through the administration of education and research in the field of mathematical sciences.
	Physics and Earth Sciences Course	To develop broad-minded human resources with a high level of technical knowledge and skills that can make a positive contribution the development of the academic field and scientific technology through the administration of education and research in the fields of physics and Earth sciences as well as related fields.
	Chemistry, Biology and Marine Sciences Course	To develop broad-minded human resources with a high level of technical knowledge and skills ranging from basic to advanced applications that can make a positive contribution to local regions as well as international society by utilizing the characteristics of Okinawa's rich natural environment to the fullest through the administration of education and research in the fields of chemistry and biology as well as related fields.
	Doctoral Program	Material, Structural and Energy Engineering Course
Interdisciplinary Intelligent Systems Engineering Course		To develop creative technical experts and researchers with a high level of technical knowledge and skills through the administration of education and research in the interdisciplinary and integrated field concerning the fields of environmental information engineering and electronic information engineering that meets the needs of society.
Marine and Environmental Sciences Course		To develop creative and broad-minded researchers through the administration of education and research that aims to further understanding of the basic underlying principles of Earth's environment including the sea and islands by utilizing the characteristics of Okinawa's natural environment.

Research Plan in Academic Year ()

Date:

To Dean of the Graduate School
of Engineering and Science

(Doctoral • Master's) Program _____ Course _____

Name _____

Signature

Student Number _____ Year _____

Research Title

Research Objective

Research Contents

Research Plan

Comments from Supervisor

Supervisor _____

Signature

Comments from Vice-Supervisor

Vice-Supervisor _____

Signature

AREAS OF STUDY	SUBJECT		CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
REQUIRED	COMMON	Master's Thesis in Mechanical Systems Engineering I	1.5	3	1	Fall	By using the knowledge obtained in the undergraduate course, various problems and the solutions in the field of state-of-the-art technology are considered.	
		Master's Thesis in Mechanical Systems Engineering II	1.5	3	1	Spring	By using the knowledge obtained in the undergraduate course, various problems and the solutions in the field of state-of-the-art technology are considered.	
		Master's Thesis in Mechanical Systems Engineering III	1.5	3	2	Fall	By using the knowledge obtained in the undergraduate course, various problems and the solutions in the field of state-of-the-art technology are considered.	
		Master's Thesis in Mechanical Systems Engineering IV	1.5	3	2	Spring	By using the knowledge obtained in the undergraduate course, various problems and the solutions in the field of state-of-the-art technology are considered.	
		Special Seminars in Mechanical Systems Engineering I	1.5	3	1	Fall	Important practical approach to the problems in the field of state-of-the-art technology are studied.	
		Special Seminars in Mechanical Systems Engineering II	1.5	3	1	Spring	Important practical approach to the problems in the field of state-of-the-art technology are studied.	
		Special Seminars in Mechanical Systems Engineering III	1.5	3	2	Fall	Important practical approach to the problems in the field of state-of-the-art technology are studied.	
		Special Seminars in Mechanical Systems Engineering IV	1.5	3	2	Spring	Important practical approach to the problems in the field of state-of-the-art technology are studied.	
DESIGN, ANALYSIS AND PROCESSING OF ENGINEERING MATERIALS	ELECTIVE	SPECIAL	Advanced Theory of Crystal Growth I	2	2	1	Spring	This lecture focuses on crystals in static or dynamic growth that spans many disciplines, ranging from applied physics, applied mathematics and chemistry to materials science.
			Topics on Composite Materials	2	2	1	Spring	This lecture focuses on the design of composite materials based on the theory of elasticity.
			Advanced Strength of Materials	2	2	1	Spring	For safety of machine and structure, design method of those has been developed. In this lecture, the concept of machine design and the fundamental mechanics of materials are studied.
			Advanced Fracture Mechanics	2	2	1	Fall	On the basis of the fracture mechanics, students investigate some special topics for the strength of cracked materials. Then they study what are the useful parameters to evaluate such material's strength. Also, they learn how to apply the fracture mechanics to the real problems.
			Advanced Theory of Plasticity	2	2	1	Fall	Studies on continuum mechanics and plastic constitutive theory, Analysis of plastic large deformation of metals.
			Advanced Manufacturing System Engineering I	2	2	1	Spring	Analysis of ultra precision cutting grinding, design of optimum condition in manufacturing system, injection molding of composite material.
			Advanced Manufacturing System Engineering II	2	2	1	Fall	Design of composite material in polymers, polymerization theory. Analysis in chemistry.
			Corrosion Engineering	2	2	1	Fall	Corrosion, corrosion protection.
			Theory of Elasticity	2	2	1	Spring	Study on stress analysis of two-dimensional problems and linear fracture mechanics.
			Advanced Stress Analysis	2	2	1	Spring	Stress and strain, constitutive equation, stress function, two-dimensional elastic stress analysis, integral transforms, boundary element method.
			THERMAL AND FLUID ENGINEERING	ELECTIVE	SPECIAL	Advanced Engineering Thermodynamics I	2	2
Advanced Engineering Thermodynamics II	2	2				1	Fall	The first and second laws of thermodynamics, effective utilization of energy resource and exergy.

AREAS OF STUDY	SUBJECT		CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
THERMAL AND FLUID ENGINEERING	ELECTIVE	Advanced Energy Conversion I	2	2	1	Fall	Study of the thermodynamics and high speed flow considering the density change of the fluid. And its energy conversion between the internal energy and kinetic energy.
		Advanced Energy Conversion II	2	2	1	Spring	Conversion of natural energy such as sunlight, solar heat, wind force, and biomasses.
		Advanced Fluid Mechanics I	2	2	1	Fall	Study of numerical calculations of compressible flow by solving shock tube problems changing the initial and boundary conditions.
		Advanced Fluid Mechanics II	2	2	1	Fall	Wing theory, aerodynamic tools of two and three dimensional incompressible flow.
		Advanced Measurements of Turbulent Flow	2	2	1	Fall	Measurements of turbulent flow by using sensors, data acquisition.
		Computational Fluid Mechanics I	2	2	1	Fall	Computational methods for incompressible flow and numerical grid generation.
		Computational Fluid Mechanics II	2	2	1	Spring	Computational methods for incompressible flow and applications.
		Advanced Fluid Machinery	2	2	1	Spring	Airfoil performances, design for wind energy conversion systems.
		Advanced Heat Transfer Engineering I	2	2	1	Spring	Study of heat transfer and its application.
		Advanced Heat Transfer Engineering II	2	2	2	Fall	Study of heat transfer and its application.
MECHANICS AND CONTROL ENGINEERING	SPECIAL	Advanced Signal Processing in Mechanical Engineering	2	2	1	Fall	Digital signal processing, fast fourier transform, wavelet, image processing and feature extraction.
		Soft Control Engineering	2	2	1	Spring	An intensive study of the intelligent control systems: fuzzy control system, neuro-control system, genetic algorithms, stochastic control system.
		Advanced Control Engineering	2	2	1	Spring	PID control, regulator, observer, fuzzy control, GA., intelligent control.
		Neural Network Modeling	2	2	1	Fall	Mathematical description of neural units is given, which will be used to construct theoretically or numerically tractable neural network models that can learn from failure, recall by association, self-organize topographic map of data space.
		Intelligent Control Engineering	2	2	1	Spring	Genetic algorithms, neural network, design for nonlinear systems.
		Advanced Partial Differential Equation I	2	2	1	Fall	Advanced partial differential equation.
		Advanced Partial Differential Equation II	2	2	1	Spring	Advanced partial differential equation.
		Advanced Transport Phenomena	2	2	1	Spring	Fundamentals of momentum, heat and mass transfer.

2016 SUBJECTS (Engineering)

Table (Article 5)

Master's Program

Mechanical Systems Engineering

AREAS OF STUDY	SUBJECT		CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ELECTIVE COMMON		Scientific Ethics	1	1	1	Spring	The purpose of scientific ethics is to engage students in reading about, considering, and discussing the responsible conduct of science.
		Overview of Special Program for Engineering	2				In this lecture, the special program foreign students are introduced to life & study in Japan. There are various aspects that they have to learn about Japan. The difference in cultures and understanding of the environment, people and rules are the main aim of this lecture where they came to study and learn more. Also, comparison study between Japan and other countries, are an important matter to ease the life & study in Japan for foreign students.
		Special Lecture on Mechanical Systems Engineering I-III	2	Intensive Course			Recent technological problems and topics are explained from various point of view.
		Special Lecture on Mechanical Systems Engineering IV-VI	1				Recent technological problems and topics are explained from various point of view.

Requirements:

Students must obtain a total of 30 or more credits including 6 credits from Master's Thesis in Mechanical Systems Engineering and further 6 credits from Special Seminars in Mechanical Systems Engineering. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and thesis.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
	REQUIRED	COMMON	Master's Thesis in Civil Engineering and Architecture I	1.5	3	1	Fall	Topics and the methodologies for the master thesis are carefully discussed and selected with each laboratory's supervisor.
			Master's Thesis in Civil Engineering and Architecture II	1.5	3	1	Spring	Topics and the methodologies for the master thesis are carefully discussed and selected with each laboratory's supervisor.
			Master's Thesis in Civil Engineering and Architecture III	1.5	3	2	Fall	Topics and the methodologies for the master thesis are carefully discussed and selected with each laboratory's supervisor.
			Master's Thesis in Civil Engineering and Architecture IV	1.5	3	2	Spring	Topics and the methodologies for the master thesis are carefully discussed and selected with each laboratory's supervisor.
			Special Seminar in Civil Engineering and Architecture I	1.5	3	1	Fall	Review and presentation of papers about theme of master thesis research.
			Special Seminar in Civil Engineering and Architecture II	1.5	3	1	Spring	Review and presentation of papers about theme of master thesis research.
			Special Seminar in Civil Engineering and Architecture III	1.5	3	2	Fall	Review and presentation of papers about theme of master thesis research.
			Special Seminar in Civil Engineering and Architecture IV	1.5	3	2	Spring	Review and presentation of papers about theme of master thesis research.
ENVIRONMENTAL PLANNING AND DESIGN ENGINEERING			Advanced Architectural Planning	2	2	1	Fall	Architectural planning, program and process.
			Advanced Theory of Architectural Design	2	2	1	Spring	Modernism, culture, environment, South-east Asia.
			Advanced Regional Planning	2	2	1•2	Fall	Tourism, island resort, resource management, local economy.
			Advanced Urban Planning	2	2	1	Spring	City planning, urban design, planning theory, planning system.
			Advanced Community Space Planning	2	2	1	Fall	District planning, neighborhood, community.
			Advanced Thermal Environmental Engineering	2	2	1	Spring	Urban climate, thermal environment, thermal comfort, natural energy, renewable energy.
			Advanced Environmental Noise	2	2	1	Fall	The analysis and the results of the research on environmental noise.
STRUCTURAL AND MECHANICAL ENGINEERING OF BRIDGES AND BUILDINGS	ELECTIVE	SPECIAL	Advanced Construction Materials	2	2	1	Fall	Durability of concrete, salt attack, alkali aggregate reaction, fresh concrete.
			Advanced Structural Mechanics	2	2	1	Spring	Elastoplastic analysis, plastic moment, collapse load factor, mechanism, limit states.
			Advanced Steel Structural Engineering	2	2	1	Spring	Steel structure, structural design, thin-walled member behaviour.
			Advanced Mechanics of Materials I	2	2	1	Spring	This course covers the derivation of fundamental laws of various physical phenomena of materials and the numerical methods (i.e. FDM, FEM) for solving the resulting partial differential equations
			Advanced Mechanics of Materials II	2	2	1	Fall	This course is concerned with the numerical solutions of engineering problems such as heat transport, diffusion, seepage in porous media and deformation and vibration of structures by finite element method. The topics of weak form formulation, discretization, numerical integration and solution of linear equation systems and programming topics are covered in detail.
			Advanced Bridge Engineering	2	2	1	Fall	Bridge engineering, suspension bridge, structural engineering, finite element method.
			Advanced Computational Solid Mechanics	2	2	2	Spring	Numerical simulation method, computational engineering and science.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
ENVIRONMENTAL DISASTER PREVENTION ENGINEERING	ELECTIVE	SPECIAL	Advanced Soil Mechanics	2	2	1	Spring	Seepage, groundwater and erosion, earth pressure and bearing capacity, compression and consolidation of soils.	
			Advanced Continuum Mechanics	2	2	1	Spring	Hooke's law, constitutive equations of a solid and a fluid, properties of modulus, properties of failure of a solid material, new theory of continuum mechanics. Numerical simulations.	
			Advanced Structural Design in Natural Hazard Prone Areas	2	2	1-2	Spring	This course focuses on the structural design in natural disaster prone areas. The damages of the buildings will be analyzed from the view point of earthquake engineering, wind engineering and geotechnical engineering. Furthermore, the design loads and structural analysis methodology, will be introduced.	
			Disaster Mitigation and Building Sustainability	2	2	1-2	Fall	Disaster mitigation and reduction of environmental impact of the construction industry	
			Environmental Ecological Engineering	2	2	2	Fall	Lectures include basic theories of ecology and discussion about how we can apply such knowledge for sustainable development and ecosystem conservation.	
	COMMON		Scientific Ethics	1	1	1	Spring	The purpose of scientific ethics is to engage students in reading about, considering, and discussing the responsible conduct of science.	
			Overview of Special Program for Engineering	2	2	1		In this lecture, the special program foreign students are introduced to life & study in Japan. There are various aspects that they have to learn about Japan. The difference in cultures and understanding of the environment, people and rules are the main aim of this lecture where they came to study and learn more. Also, comparison study between Japan and other countries, are an important matter to ease the life & study in Japan for foreign students.	
			Special Lecture on Civil Engineering and Architecture I-III	2	Intensive Course		Will be given a theme by a supervisor.		
			Special Lecture on Civil Engineering and Architecture IV-VI	1	Intensive Course		Will be given a theme by a supervisor.		

Requirements:

Students must obtain a total of 30 or more credits including 6 credits from Master's Thesis in Civil Engineering and Architecture and further 6 credits from Special Seminars in Civil Engineering and Architecture. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and thesis.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
REQUIRED	COMMON		Master's Thesis in Electrical and Electronics Engineering I	1.5	3	1	Fall	Students study on reseach topic and make master's thesis in electrical and electronics engineering under the guidance of supervisor.
			Master's Thesis in Electrical and Electronics Engineering II	1.5	3	1	Spring	Students study on reseach topic and make master's thesis in electrical and electronics engineering under the guidance of supervisor.
			Master's Thesis in Electrical and Electronics Engineering III	1.5	3	2	Fall	Students study on reseach topic and make master's thesis in electrical and electronics engineering under the guidance of supervisor.
			Master's Thesis in Electrical and Electronics Engineering IV	1.5	3	2	Spring	Students study on reseach topic and make master's thesis in electrical and electronics engineering under the guidance of supervisor.
			Special Seminars in Electrical and Electronics Engineering I	1.5	3	1	Fall	Students learn special topics in electrical and electronics engineering related to individual research field.
			Special Seminars in Electrical and Electronics Engineering II	1.5	3	1	Spring	Students learn special topics in electrical and electronics engineering related to individual research field.
			Special Seminars in Electrical and Electronics Engineering III	1.5	3	2	Fall	Students learn special topics in electrical and electronics engineering related to individual research field.
			Special Seminars in Electrical and Electronics Engineering IV	1.5	3	2	Spring	Students learn special topics in electrical and electronics engineering related to individual research field.
ELECTROMAGNETIC ENERGY ENGINEERING	ELECTIVE	SPECIAL	Advanced Power System Engineering	2	2	1	Spring	Power system engineering, high voltage and high current phenomena, and their applications.
			Advanced Magnetic Materials	2	2	1	Spring	Ferromagnetic materials, magnetostriction, magnetic anisotropy.
			Advanced Electric Machinery	2	2	1	Spring	The characteristic of electric machinery and the control and energy conversion for electric machinery with power electronics techniques are discussed.
			Advanced Power Energy Conversion	2	2	1	Spring	Power energy conversion, renewable energy, optimal operation.
			Advanced Power Electronics	2	2	1	Fall	DC/DC converter, PWM inverter, motor control, AC/DC converter, energy conversion, renewable energy, FACTS devices in power system, advanced control.
			Advanced Power System Analysis	2	2	1	Fall	Computational methods for power system load flow, optimal power flow and stability analysis.
			Advanced Plasma Engineering	2	2	1	Fall	Characteristics of plasma, plasma processing.
ELECTRONIC MATERIALS ENGINEERING	ELECTIVE	SPECIAL	Organic Electronics Material Engineering	2	2	1	Fall	Organic functional materials, organic electronics devices.
			Advanced Electronic Materials Engineering	2	2	1	Spring	Electronic materials, thin film materials processing for electronics.
			VLSI System Design	2	2	1	Spring	VLSI architecture, VLSI layout, circuit simulation, VLSI CAD tools.
			Advanced Quantum Computer Engineering	2	2	1	Spring	Quantum algorithms, quantum gates, quantum devices.
			Thin-film Semiconductor Process Technology	2	2	1	Fall	The device performance and fabrication process of TFT and its application for LCD, and new solar cells are described.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ELECTRONIC MATERIALS ENGINEERING			Physics and Chemistry of Electronic materials	2	2	1	Fall	The structure, physical and chemical properties of electronic materials.
			Advanced Vacuum Technology	2	2	1	Fall	Vacuum pumps and gauges, phenomena in vacuum, fabrication processes for semiconductor.
ELECTRONIC SYSTEMS ENGINEERING	ELECTIVE	SPECIAL	Advanced Dependable Systems	2	2	1	Spring	Dependable computer systems, fault-tolerant systems and error detecting/correcting codes.
			Advanced Nonlinear Control Theory	2	2	1	Spring	Geometric properties of nonlinear control systems, stability, nonlinear control system design.
			Advanced Medical Electronics	2	2	1	Spring	Medical instrumentation, therapeutic and prosthetic devices.
			Advanced Signal Processing Systems	2	2	1	Fall	Digital signal processing, high-resolution spectral analysis in signal processing, and applications of signal processing.
			Advanced Modern Control Theory	2	2	1	Fall	Subject of control, model error CAD system, design method of controlling system.
			Advanced Wireless Communication Systems	2	2	1	Fall	Deterministic and random signal analysis, digital modulation schemes, optimum receivers for AWGN channels, multicarrier systems.
			Advanced Image Processing	2	2	1	Spring	Image processing systems and its applications based on image analysis or inverse problems.
			Advanced Reconfigurable Architecture	2	2	1	Fall	Fundamental of reconfigurable device architecture, and its design method.
			Optical Device Instrumentation Technology	2	2	1	Spring	Passive and Active fiber components using the ultra long optical transmission system based on light-wave phenomenon, "Maxwell's equations, transmission characteristics on optical fibers and fiber design".
				COMMON	Scientific Ethics	1	1	1
Special Lecture on Electrical and Electronics Engineering I-III	1	Intensive Course				The lecture gives various current topics in the field of electrical and electronics engineering.		
Special Lecture on Electrical and Electronics Engineering IV-VI	2					The lecture gives various current topics in the field of electrical and electronics engineering.		
Overview of Special Program for Engineering	2	2			1		In this lecture, the special program foreign students are introduced to life & study in Japan. There are various aspects that they have to learn about Japan. The difference in cultures and understanding of the environment, people and rules are the main aim of this lecture where they came to study and learn more. Also, comparison study between Japan and other countries, are an important matter to ease the life & study in Japan for foreign students.	

Requirements:

Students must obtain a total of 30 or more credits including 6 credits from Master's Thesis in Electrical and Electronics Engineering and further 6 credits from Special Seminars in Electrical and Electronics Engineering. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and thesis.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
	REQUIRED	COMMON	Master's Thesis in Information Engineering I	1.5	3	1	Fall	The academic supervisor and adviser guide students in their research to help them prepare their degree thesis.
			Master's Thesis in Information Engineering II	1.5	3	1	Spring	The academic supervisor and adviser guide students in their research to help them prepare their degree thesis.
			Master's Thesis in Information Engineering III	1.5	3	2	Fall	The academic supervisor and adviser guide students in their research to help them prepare their degree thesis.
			Master's Thesis in Information Engineering IV	1.5	3	2	Spring	The academic supervisor and adviser guide students in their research to help them prepare their degree thesis.
			Special Seminars in Information Engineering I	1.5	3	1	Fall	Seminar-style practical training exercises are held in particular fields of Information Engineering.
			Special Seminars in Information Engineering II	1.5	3	1	Spring	Seminar-style practical training exercises are held in particular fields of Information Engineering.
			Special Seminars in Information Engineering III	1.5	3	2	Fall	Seminar-style practical training exercises are held in particular fields of Information Engineering.
			Special Seminars in Information Engineering IV	1.5	3	2	Spring	Seminar-style practical training exercises are held in particular fields of Information Engineering.
COMPUTER SYSTEMS	ELECTIVE	SPECIAL	Computer Systems	2	2	1	Fall	Computer architectures, network systems, operating systems, parallel processing, and distributed systems.
			Software Systems	2	2	1	Spring	Software system development, large program, object oriented systems, persistent object, verification, test.
			System Architecture	2	2	1	Fall	This course provides a detailed introduction of digital system design with stress of wireless communication system. The course begins with a wireless communication related signal processing basics and how to design such system with digital technology. Digital system components such as FPGA, LSI, DSP devices will be deeply explained and shows how to use them in real life.
			Signal Processing Theory	2	2	1	Fall	Studying of 2-D systems and mathematical characteristics of images, visual perception of human and stereo imaging, 2-D image transforms, image enhancement by histogram and filtering, image restoration, image compression, edge detection algorithms.
			Multimedia Information Processing	2	2	1	Fall	Digital signal processing, intelligent image processing, physiology and cognitive science for human perception. Neural computing and algorithms for communication systems are also discussed.
			Information Network Theory	2	2	1	Fall	This lecture focuses on technology required for the information network system.
INTELLIGENT SYSTEMS			Speech Information Processing	2	2	1	Fall	Special lecture on speech analysis, speech synthesis and automatic speech recognition. Fundamentals and applications of the human-machine interface using spoken language are discussed.
			Advanced Control Engineering	2	2	1	Spring	State-space description, linear state-variable feedback, observer and compensator design, some algebraic complements, state feedback and compensator design, optimal regulator theory, robust control and its applications.

2016 SUBJECTS (Engineering)

Table (Article 5)

Master's Program

Information Engineering

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
INTELLIGENT SYSTEMS	ELECTIVE	SPECIAL	Intelligent Robotics	2	2	1	Spring	Lecture on intelligence of autonomous robot, especially on learning method and emergence of robot behaviors. Behavior based AI systems are also discussed.
			Intelligent Systems	2	2	1	Spring	Knowledge representation, reasoning, machine learning, design and development of intelligent systems.
			Mathematical Modeling	2	2	1	Fall	Lecture on mathematical statistics, computational statistics, data science, bio science and human behavior modeling.
			Data Mining Theory	2	2	1	Fall	Description: Web inspired research involving search, models of search, retrieval and data mining, algorithm design and analysis.
			Complex Systems Engineering	2	2	1	Spring	Lecture on evolutionary computation, neural networks, & other soft-computing methods. Design and development of the complex systems are also discussed.
	ELECTIVE	COMMON	Scientific Ethics	1	1	1	Spring	The purpose of scientific ethics is to engage students in reading about, considering, and discussing the responsible conduct of science.
			Overview of Special Program for Engineering	2	2	1		In this lecture, the special program foreign students are introduced to life & study in Japan. There are various aspects that they have to learn about Japan. The difference in cultures and understanding of the environment, people and rules are the main aim of this lecture where they came to study and learn more. Also, comparison study between Japan and other countries, are an important matter to ease the life & study in Japan for foreign students.
			Special Lecture on Information Engineering I-IV	1	Intensive Course			Special lecture on selected topics in particular fields of information engineering.
			Special Lecture on Information Engineering V-VI	2		Special lecture on selected topics in particular fields of information engineering.		

Requirements:

Students must obtain a total of 30 or more credits including 6 credits from Master's Thesis in Information Engineering and further 6 credits from Special Seminars in Information Engineering. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and thesis.

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
BIOSCIENCE	REQUIRED	COMMON	Advanced Seminar	6	22.5	1,2	Fall & Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
		Thesis Research	12	90	1,2	Fall & Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.	
	ELECTIVE	SPECIAL	Evolutionary Ecology of Reef Animals I	2	30	1,2	Fall	Reviews and discussions of reproductive strategies, life-history strategies, population dynamics and population genetics of marine organisms, with emphasis on colonial animals.
			Evolutionary Ecology of Reef Animals II	2	30	1,2	Spring	Reviews and discussions of reproductive strategies, life-history strategies, population dynamics and population genetics of marine organisms, with emphasis on colonial animals.
			Advanced Topics in Marine Animal Behavior I	2	30	1,2	Fall	Topics in behavioral studies for marine animals, such as biotelemetry measurement, ethology and comparative psychology. This class deals mainly with cephalopods as a model animals for this field.
			Advanced Topics in Marine Animal Behavior II	2	30	1,2	Fall	Topics in behavioral studies for marine animals, such as biotelemetry measurement, ethology and comparative psychology. This class deals mainly with cephalopods as a model animals for this field.
			Advanced Fisheries Biology	2	30	1,2	Fall	Life history and fishing methods of fishes in Japan (sardine, herring, mackerel, yellowtaile, sea bream, flounder, ayu, etc.).
			Advanced Plant Taxonomy	2	30	1,2	Spring	Classification and phylogeny of the angiosperms with special reference to the orchid family.
			Plant Phylogeny and Evolution	2	30	1,2	Fall	Recent advances in flowering plant phylogeny and evolution.
			Life of Tunicates	2	30	1,2	Spring	Introduction to specific features and functions supporting the life of marine invertebrates, dealing with tunicates.
			Stress Physiology	2	30	1,2	Fall	Introduction to basic principles of stress physiology, including the production and scavenging mechanisms of active oxygen and active nitrogen in living organisms.
			Advanced Study in Genetics	2	30	1,2	Fall	Principles and fundamental genetics.
			Advanced Cell Biology	2	30	1,2	Fall	Current topics in cell biology, with emphasis on the biogenesis of organelles and cytoskeleton.
			Advanced Molecular Physiology	2	30	1,2	Spring	Fundamentals of molecular biology, cellular physiology, developmental biology, immunology, and neurobiology. Focuses on mammalian and insect systems.
			Advanced Scientific Manuscript Writing	2	30	1,2	Spring	Structure and organization of scientific publications, as well as how to organize and write manuscripts will be discussed. Special attention will be put on logical organization and troublesome grammar points. Classes in English.
			Advanced Comparative Endocrinology	2	30	1,2	Fall	Endocrine organs and various hormones in vertebrates. Roles of hormones in metabolism, reproduction, and behavior.
			Marine Molecular Ecology	2	30	1,2	Fall	Principles and fundamental methods in aquatic animals using molecular and population genetics. Practical method on DNA analysis.
			Systematic Zoology	2	30	1,2	Spring	Principles and practices of taxonomy, systematics, and phylogenetics of animals, with reference to contemporary discussions on relevant conceptual issues.

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
BIOSCIENCE	ELECTIVE	SPECIAL	Advanced Marine Biology	2	30	1,2	Fall	After the revision of basic marine biology concept, the class will discuss about littoral and pelagic ecosystems from major geographic regions (tropical, temperate and polar).
			Molecular Biochemistry of Plant Biodegradation	2	30	1,2	Fall	Reviews on the current topics in biodegradation of plants with special reference to the mechanisms by which lignocellulolytic enzymes are involved in breakdown of plant cell walls.
			Advanced Plant Morphology	2	30	1,2	Spring	Structure and function of reproductive organs in tropical and subtropical plants are discussed. Pollination mechanisms are also subjects for discussion.
			Advanced Evolutionary Ecology	2	30	1,2	Spring	Evolutionary analysis of form and function, life-history, and sexual dimorphism in animals.
			Marine Environmental Biology and Ecology	2	30	1,2	Spring	Overview of current research on marine environmental biology.
			Advanced Coral Reef Ecology	2	30	1,2	Spring	Reviews on current topics in coral reef ecology.
			Advanced Marine Zootaxonomy	2	30	1,2	Spring	Practices of zootaxonomy of marine invertebrates.
			Interaction between Coral and Associated Organisms	2	30	1,2	Fall	Overview of the biological and chemical interactions between corals and other marine organisms.
			Advanced Seminar of Evolutionary Reproductive Biology	2	30	1,2	Spring	Instruction of reproductive biology in terms of evolutionary aspects and practice of analyses with laptop computer.
			Advanced Plant Taxonomy and Phytogeography	2	30	1,2	Spring	Principles and fundamental methods in plant taxonomy and phytogeography with special reference to the diversity of flowering plants.
	COMMON	Introduction to Oceanography I	2	30	1,2	Fall	General introductory course on marine science.	
		Introduction to Oceanography II	2	30	1,2	Spring	General introductory course on oceanography.	
		International Field Course	2	30	1,2	Spring	Field course with foreign universities.	
FUNDAMENTAL	Essential Research Skills and Ethics in Science	1	15	1,2	Spring	Ethical foundations of scientific practices to skills of scientific presentation.		

Requirements for course completion:

Students must obtain a total of 30 or more credits including 6 credits from Advanced Seminar and 12 credits from Thesis Research on Bioscience Field. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Master's thesis.

Remarks regarding the following subjects:

Credits for Advanced Seminar are earned over 2 years (3 credits received per year).

Credits for Thesis Research are earned over 2 years (6 credits received per year).

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
ENVIRONMENTAL SCIENCE	REQUIRED	COMMON	Advanced Seminar	6	22.5	1,2	Fall & Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
			Thesis Research	12	90	1,2	Fall & Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.
	ELECTIVE	SPECIAL	Island Ecology	2	30	1,2	Fall	Principles of island biogeography and related topics.
			Advanced Phycology	2	30	1,2	Fall	Current topics on taxonomy, phylogeny, morphology, genetics, ecology etc. of algae and related organisms.
			Advanced Plant Ecology	2	30	1,2	Fall	Review of current topics on the maintenance and origin of biodiversity patterns based on taxonomic, functional and phylogenetic properties.
			Advanced Marine Inorganic Chemistry I	2	30	1,2	Fall	Chemical composition and properties of seawater and chemical processes in the interfaces of the air-sea-ocean bottom.
			Advanced Marine Inorganic Chemistry II	2	30	1,2	Spring	Chemical composition and properties of seawater and chemical processes in the interfaces of the air-sea-ocean bottom.
			Aquatic Chemistry I	2	30	1,2	Fall	Chemical concepts of natural waters. Acid-base, precipitation-dissolution, coordination, redox and surface chemistry.
			Aquatic Chemistry II	2	30	1,2	Spring	Chemical concepts of natural waters. Acid-base, precipitation-dissolution, coordination, redox and surface chemistry.
			Topics on Marine Chemical Ecology	2	30	1,2	Spring	Recent research on chemicals involved in the ecology of marine organisms will be reviewed.
			Introduction to Atmospheric Chemistry	2	30	1,2	Spring	This course provides an overview of atmospheric chemistry and a working knowledge of the critical issues that atmospheric chemists face today.
			Environmental Analytical Chemistry I	2	30	1,2	Spring	This course deals with qualitative and quantitative analytical chemistry, especially principles and procedures of chemical analyses of environmental water sample.
			Environmental Analytical Chemistry II	2	30	1,2	Fall	This course deals with qualitative and quantitative analytical chemistry, especially principles and procedures of chemical analyses of environmental water sample.
			Advanced Chemical System Engineering	2	30	1,2	Fall	1. Introduction of hydrogen energy (production, storage, and utility) 2. Lecture on chemical engineering 3. Training for patent application
			Advanced Ocean Remote Sensing I	2	30	1,2	Spring	Principles of ocean remote sensing such as radiometer, scatterometer and altimeter. Applications of ocean remote sensing to physical oceanography.
			Advanced Ocean Remote Sensing II	2	30	1,2	Spring	Principles of ocean remote sensing such as radiometer, scatterometer and altimeter. Applications of ocean remote sensing to physical oceanography.
			Advanced Meteorology I	2	30	1,2	Fall	Lecture on basic theory and recent advances of atmospheric sciences, including the evolution and structure of precipitating cloud systems in the tropical and subtropical regions.

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
ENVIRONMENTAL SCIENCE	ELECTIVE	SPECIAL	Advanced Meteorology II	2	30	1,2	Spring	Lecture on basic theory and recent advances of atmospheric sciences, including the evolution and structure of precipitating cloud systems in the tropical and subtropical regions.
			Advanced Numerical Weather Prediction I	2	30	1,2	Fall	Fundamentals on numerical weather prediction, including basic equations, computer programming, and performing idealized and real through experiments.
			Advanced Numerical Weather Prediction II	2	30	1,2	Spring	Fundamentals on numerical weather prediction, including data analysis, forecast errors, and data assimilation.
			Advanced Metamorphic Petrology I	2	30	1,2	Fall	Petrogenesis and dynamics of metamorphic rocks and its geotectonic implications.
			Advanced Metamorphic Petrology II	2	30	1,2	Spring	Petrogenesis and dynamics of metamorphic rocks and its geotectonic implications.
			Advanced Geochemistry I	2	30	1,2	Fall	Isotopic and trace element geochemistry of igneous rocks and its geotectonic implications.
			Advanced Geochemistry II	2	30	1,2	Spring	Isotopic and trace element geochemistry of igneous rocks and its geotectonic implications.
			Geogravity I	2	30	1,2	Fall	Basic theory, gravimetry, data reduction and analysis method, application to geodesy, potential theory in conjunction with geomagnetism, application to crustal movement and geological structure.
			Geogravity II	2	30	1,2	Spring	Basic theory, gravimetry, data reduction and analysis method, application to geodesy, potential theory in conjunction with geomagnetism, application to crustal movement and geological structure.
			Crustal Movement Monitoring I	2	30	1,2	Fall	Basic theory for the monitoring of crustal movement, volcanic activity, earthquake, etc., based on radiation science and geomagnetism.
			Crustal Movement Monitoring II	2	30	1,2	Spring	Basic theory for the monitoring of crustal movement, volcanic activity, earthquake, etc., based on radiation science and geomagnetism.
			Advanced Seismology I	2	30	1,2	Fall	This course constitutes an overview of observational and theoretical seismology and the utilization of seismic waves for the study of the earth's interior. Topics include elastic wave propagation, seismic ray theory, interpretation of travel times, surface wave, and seismic tomography.
			Advanced Seismology II	2	30	1,2	Spring	This course constitutes an overview of observational and theoretical seismology and the utilization of seismic waves for the study of the earth's interior. Topics include elastic wave propagation, seismic ray theory, interpretation of travel times, surface wave, and seismic tomography.
			Coral Reef Earth Science I	2	30	1,2	Fall	Lecture on recent advances and topics on earth sciences related to coral reefs, which include geomorphology, geology, geohistory, paleontology, carbonate sedimentology, paleoceanography, environmental sciences, and geocotechnology.
			Coral Reef Earth Science II	2	30	1,2	Spring	Lecture on recent advances and topics on earth sciences related to coral reefs, which include geomorphology, geology, geohistory, paleontology, carbonate sedimentology, paleoceanography, environmental sciences, and geocotechnology.

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
ENVIRONMENTAL SCIENCE	ELECTIVE	SPECIAL	Advanced Earth Environmental Science I	2	30	1,2	Fall	Lecture on ocean and climate changes during the Quaternary and the present time derived from reconstructions using geological archives, based on paleoceanography, paleoclimatology, and geochemistry.
		SPECIAL	Advanced Earth Environmental Science II	2	30	1,2	Spring	Lecture on ocean and climate changes during the Quaternary and the present time derived from reconstructions using geological archives, based on paleoceanography, paleoclimatology, and geochemistry.
		COMMON	Introduction to Oceanography I	2	30	1,2	Fall	General introductory course on marine science.
			Introduction to Oceanography II	2	30	1,2	Spring	General introductory course on oceanography.
	International Field Course		2	30	1,2	Spring	Field course with foreign universities.	
	FUNDAMENTAL	Essential Research Skills and Ethics in Science	1	15	1,2	Spring	Ethical foundations of scientific practices to skills of scientific presentation.	

Requirements for course completion:

Students must obtain a total of 30 or more credits including 6 credits from Advanced Seminar and 12 credits from Thesis Research on Environmental Science Field. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Master's thesis.

Remarks regarding the following subjects:

Credits for Advanced Seminar are earned over 2 years (3 credits received per year).

Credits for Thesis Research are earned over 2 years (6 credits received per year).

Table (Article 5) Master's Program

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
PHYSICS, CHEMISTRY, AND MATHEMATICAL SCIENCES	REQUIRED	COMMON	Advanced Seminar	6	22.5	1,2	Fall & Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
			Thesis Research	12	90	1,2	Fall & Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.
	ELECTIVE	SPECIAL	Advanced Chemistry of Marine Toxins I	2	30	1,2	Fall	Studies on marine toxins related to exploitation of food and medical resources. Reviews on origins, properties, and structures of marine toxins.
			Advanced Chemistry of Marine Toxins II	2	30	1,2	Spring	Studies on marine toxins related to exploitation of food and medical resources. Reviews on origins, properties, and structures of marine toxins.
			Biochemistry of Metal Ions	2	30	1,2	Spring	Lecture on roles of metal ions in biology.
			Molecular Spectroscopy I	2	30	1,2	Spring	Spectroscopies to characterize molecular properties and the applications in biophysical chemistry.
			Principles of Structure Determination I	2	30	1,2	Fall	Basic theory of structure determination by X-ray diffraction and nuclear magnetic resonance.
			Principles of Structure Determination II	2	30	1,2	Spring	Basic theory of structure determination by X-ray diffraction and nuclear magnetic resonance.
			Transport Properties of Metals and Alloys	2	30	1,2	Fall	Electrical resistivity and thermopower of metals and alloys.
			Theory of Dielectrics	2	30	1,2	Fall	Lecture on structural phase transition of ferroelectric crystals.
			Particle Beam Physics	2	30	1,2	Fall	Introduction to crystallography, X-ray and neutron scattering.
			Advanced Condensed Matter Physics	2	30	1,2	Spring	Electronic structure and the Fermi Surface of rare earth and actinide compounds.
			Quantum Theory in Solids	2	30	1,2	Fall	Advanced quantum mechanics and statistical physics for understanding solids.
			Field Theory	2	30	1,2	Spring	Introduction to quantum field theory.
			Solid State Physics at Low Temperatures	2	30	1,2		Lecture on phase transition phenomena based on Fermiology and transport properties that appear in ultra-low temperature.
			General Relativity and Its Application	2	30	1,2	Fall	Lecture on general relativity from scratch and explanation of the application to cosmology.
			Introduction to Relativistic Astrophysics	2	30	1,2	Fall	Lecture on physics of compact objects—black holes, white dwarfs, and neutron stars.
			Introduction to Physics of Materials	2	30	1,2	Spring	Lecture on theoretical and computational methods to understand magnetism.
			Elementary Excitations in Solid State Physics	2	30	1,2	Spring	Quantum theory of plasmons and phonons in solids.
			Electron Correlation	2	30	1,2	Spring	Quantum theory of electron correlation in solid.

Table (Article 5) Master's Program

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
PHYSICS, CHEMISTRY, AND MATHEMATICAL SCIENCES	ELECTIVE	SPECIAL	Introduction to Polymer Physics	2	30	1,2	Spring	Lecture on physics of polymers.
			Magnetic Resonance in Solids	2	30	1,2	Fall	Lecture on NMR and NQR spectroscopy for strongly correlated electron systems.
			Foundations of Surface Physics	2	30	1,2		Basic physical properties of surfaces, semiconductor and metal surfaces, theoretical approaches to surface physics.
			Physics of Disordered Materials	2	30	1,2		Lecture on physical properties of disordered materials.
			Advanced Astrophysics	2	30	1,2	Spring	Star formation, galaxy formation, and related astrophysics.
			Physics of Magnetic Materials	2	30	1,2	Spring	Lecture on magnetic properties of solid state.
			Stochastic Processes and Their Applications I	2	30	1,2	Fall	Introduction to theory of stochastic processes and its applications.
			Stochastic Processes and Their Applications II	2	30	1,2	Spring	Introduction to theory of stochastic processes and its applications.
			Data Structures and Algorithms I	2	30	1,2	Fall	Introduction to theory of data structures and algorithms.
			Data Structures and Algorithms II	2	30	1,2	Spring	Introduction to theory of data structures and algorithms.
			Advanced Topics in Mathematical Statistics I	2	30	1,2	Fall	Introduction to recent developments of theory of mathematical statistics and their applications.
			Advanced Topics in Mathematical Statistics II	2	30	1,2	Spring	Introduction to recent developments of theory of mathematical statistics and their applications.
	COMMON	Introduction to Oceanography I	2	30	1,2	Fall	General introductory course on marine science.	
		Introduction to Oceanography II	2	30	1,2	Spring	General introductory course on oceanography.	
		Special Lecture on Physics I –VI	1	15	1,2	Fall & Spring	The lecture gives various current topics in the field of physics.	
FUNDAMENTAL	Essential Research Skills and Ethics in Science	1	15	1,2	Spring	Ethical foundations of scientific practices to skills of scientific presentation.		

Requirements for course completion:

Students must obtain a total of 30 or more credits including 6 credits from Advanced Seminar and 12 credits from Thesis Research on Physics, Chemistry, and Mathematical Science Field. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Master's thesis.

Remarks regarding the following subjects:

Credits for Advanced Seminar are earned over 2 years (3 credits received per year).

Credits for Thesis Research are earned over 2 years (6 credits received per year).

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
	REQUIRED	COMMON						
PROCESSING DEVELOPMENT ENGINEERING	REQUIRED	COMMON	Dissertation I on Material, Structural and Energy Engineering	3	6	1	Spring	Students write doctoral dissertation under the guidance of supervisor.
			Dissertation II on Material, Structural and Energy Engineering	3	6	2	Fall	Students write doctoral dissertation under the guidance of supervisor.
	ELECTIVE	SPECIAL	Advanced Material Function Development of New Construction Material	2	2	1~3	Spring	This lecture focuses on durability of concrete and rheology of fresh concrete.
			Special Topics in Strength of Materials	2	2	1~3	Fall	This lecture focuses on relationship between the fracture mechanisms and strength in engineering materials.
			Advanced Numerical Stress Analysis	2	2	1~3	Fall	This lecture focuses on the two-dimensional stress analysis based on Boundary Element Method (BEM).
			Advanced Computational Mechanics	2	2	1~3	Fall	This lecture focuses on analyses based on FEM and physics-based model for elastoplastic deformation and dislocation.
			Special Topics on Fatigue Strength	2	2	1~3	Fall	The strengths of metals, when cyclic stress is applied, are discussed. The mechanisms of crack initiation and growth are focused to understand the metal fatigue.
			Advanced Theory of Crystal Growth II	2	2	1~3	Fall	This lecture focuses on phenomena in crystal growth based on fluctuations described by Langevin equations and Green functions.
			Advanced Electronic Functional Materials	2	2	1~3	Fall	This lecture focuses on the synthesis and properties of inorganic functional materials. Moreover, electrical and optical applications of functional materials are discussed.
			Advanced Stability of Structures	2	2	1~3	Spring	This stability of structures lecture focused on the stability behavior and design of steel structure members. The members considered are columns, beams, flat plates and shells.
			Special Topics in Manufacturing Process	2	2	1~3	Fall	This lecture focuses the analysis and design of polymer composites materials in manufacturing system.
			Advanced Steel Structures	2	2	1~3	Fall	The objectives of this lecture are to have fundamental knowledge on steel materials and steel structures, to develop a basic understanding of the design of steel structures.
			Advanced Plasma Engineering	2	2	1~3	Fall	This lecture focuses on the basic approaches to plasma production and control. Moreover, various aspects of plasma processes are introduced.
			Topics on Ferroelectric Crystals	2	2	1~3	Fall	Lecture on structural phase transitions of ferroelectric and superionic crystals
			Advanced Ferromagnetic Materials	2	2	1~3	Fall	Study on the magnetic domain structure and its observation techniques, and relating phenomena are discussed.
			Quantum Physics of Materials	2	2	1~3	Fall	The students will study the basic electron theory in solids
			Organic Electronics Device Engineering	2	2	1~3	Spring	Lectures on properties of organic electronics materials and physics of organic electronics devices
Thin-film Semiconductor Device Technology	2	2	1~3	Fall	This lecture provides a chance to get a knowledge about advanced thin film semiconductor devices.			
Advanced Geoengineering	2	2	1~3	Spring	Crustal stress determination, Earthquake prediction, Disposal of radioactive wastes, Multi-parameter responses of minerals and rocks during deformation and fracturing, Modeling and analysis of coupled phenomenon of seepage, diffusion, heat and stress of rock masses, Static and dynamic stability analyses of geoengineering structures.			

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ENERGY DEVELOPMENT ENGINEERING	ELECTIVE	SPECIAL	Strongly-Correlated Materials Science	2	2	1~3	Spring	Fundamentals and applications of strongly-correlated materials science are introduced using English textbooks.
			Properties of Condensed Matter under Multiple-Extreme Conditions	2	2	1~3	Spring	Overview of transport, magnetic and thermal properties in heavy fermion system around quantum critical point, and introduction of methods of obtaining low temperatures and high pressures
			Heat Transfer Augmentation	2	2	1~3	Fall	This lecture focuses on the theory of thermal energy transfer. Moreover, heat and mass transfer augmentation technique in convective flow are discussed.
			Advanced Study on Transport Phenomena	2	2	1~3	Spring	Steady-state molecular diffusion, Transient diffusion, Mass transfer associated with chemical reaction, Convective mass transfer, Mass transfer equipment
			Advanced Fluid Dynamics	2	2	1~3	Fall	Lecture on the concept of high speed gas flow and shock waves using the governing equation of fluid dynamics and thermodynamics.
			Advanced Energy Conversion	2	2	1~3	Spring	Lecture on concept of an energy conversion from internal energy to the kinetic energy of gas flow with numerical method
			Advanced Wind Engineering for Building Structures	2	2	1~3	Fall	This courses focuses on the fundamental concepts for the design of wind proof structures. Studying of expected wind velocity return period, wind pressures and forces on structures.
			Advanced Coastal Engineering on Coral Seas	2	2	1~3	Spring	To be focused on nonlinear interactions of waves in coral sea, littoral drift of sand, wave deformations on reef flat, numerical simulations.
			Advanced Electromagnetic Energy Engineering	2	2	1~3	Fall	The basic concepts of the high power pulsed power engineering which is the most important application of the electro magnetic energy engineering will be introduced by using mainly following text book, journals, proceedings or books.
			Advanced Magnetic Resonance in Solids	2	2	1~3	Spring	Advanced lecture on NMR and NQR spectroscopy for strongly correlated electron systems.
			Electronic transport properties of metals	2	2	1~3	Fall	Lecture on the electrical resistivity, thermopower and Hall effect in metals and alloys
			Magnetism in Condensed Matter Physics	2	2	1~3	Spring	Lecture on magnetism and phase transition in quantum spin systems
			Advanced Control of Electric Power Energy	2	2	1~3	Spring	The students will study the energy conversion between electricity and others. In addition, control methods by power electronics technology are discussed.
				COMMON	Special Field Works	2	2	1~3
Special Educational Training	2	2			1~3	Fall & Spring	The lecture provides a chance for educational training. The contents of the class will be determined by discussion.	
Special Lecture on Material, Structural and Energy Engineering I ~ III	1	1			1~3	Fall & Spring	The lecture gives various current topics on Interdisciplinary Structure and Energy Engineering.	
Special Lecture on Material, Structural and Energy Engineering IV ~VI	2	2			1~3	Fall & Spring	The lecture gives various current topics on Interdisciplinary Structure and Energy Engineering.	
Advanced Scientific Ethics	1	1			1~3	Fall & Spring	The purpose of scientific ethics is to engage students in reading about, considering, and discussing the responsible conduct of science.	

Requirements for course completion:

Students must obtain 12 or more credits, 3 of which must be obtained from Dissertation I on Material, Structural and Energy Engineering and 3 of which must be obtained from Dissertation II on Material, Structural and Energy Engineering.

In addition to receiving the necessary instruction, students must also receive a passing grade on final examinations and Doctoral dissertation.

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
	REQUIRED	COMMON	Dissertation I on Interdisciplinary Intelligent Systems Engineering	3	6	1	Spring	Students write doctoral dissertation under the guidance of supervisor.
			Dissertation II on Interdisciplinary Intelligent Systems Engineering	3	6	2	Fall	Students write doctoral dissertation under the guidance of supervisor.
ENVIRONMENT AND INFORMATION ENGINEERING	ELECTIVE	SPECIAL	Advanced Fluid Mechanics in Environmental Engineering	2	2	1~3	Fall	Various types of air flow, water treatment and other fluid movement including turbulence concerning with environmental engineering are illustrated and discussed in the classes.
			Advanced Design Theory of Tropical Architecture	2	2	1~3	Spring	Holistic architectural design and its background in the tropics including traditional houses and modern built environment
			Advanced Sustainable Regional Development	2	2	1~3	Fall	This class discusses sustainability of regional development promoting economic development and incorporating environmental concerns.
			Advanced Theory of Community Living Space Planning	2	2	1~3	Fall	Theory of urban planning and regional planning with a point of view of social space systems. Theory investigation through case study. Development process and characteristic of community space in Okinawa as a case study of relationship between local culture and regional living space.
			Advanced Spoken Language Processing	2	2	1~3	Fall	In this lecture, I provide speech processing, especially speech analysis which is the base of speech recognition and speech synthesis. The speech processing becomes more useful recently in the multimedia information processing. The lecture adopts a seminar style of discussion in English for the purpose of training of communication for international conferences.
			Advanced Software Systems	2	2	1~3	Spring	High level programming technique is studied using real system software.
			Advanced Parallel and Distributed Systems	2	2	1~3	Spring	We discuss architectures, system softwares, and algorithms for parallel and distributed systems and investigate their advanced research.
			Advanced Autonomous Neural Systems	2	2	1~3	Spring	Some epoch-making theories of autonomous neural systems including the learning, self-organization, autonomy, restration, interaction and their real applications for engineering scenes will be discussed. The fundamentals are also discussed by emphasis on both gross aspects and cellular aspects of neural systems with engineering aspects. Research works will be required for doctoral candidates.
			Applied Probability Theory	2	2	1~3	Fall	As a stochastic model of the complex phenomenon, we pick up random walks, branching processes, population genetics models and discuss such as their construction, estimates of the arrival probability, the phase transition.
			Advanced Algebraic Geometry	2	2	1~3	Fall	Study of the theory of projective varieties with emphasis on commutative algebras. In some computations, computers are used effectively.
			Representation Theories of the Symmetric Groups and the General Linear Groups	2	2	1~3	Fall	After the basics of finite groups, we explain the representation theories of the symmetric groups and the general linear groups.
			Introduction to Numerical Relativity	2	2	1~3	Spring	A course for studying methods for numerically solving Einstein's equation coupled with the equations for relativistic fluid. Numerical relativity is a tool to analyse spacetime dynamics and relativistic astrophysical phenomena.
			Introduction to the Structure of Space-time	2	2	1~3	Fall	Advanced general relativity and the structure of space-time
			Physics of Electron	2	2	1~3	Fall	The lecture gives fundamental descriptions on electron correlation in solid.
Advanced Acoustic Architectural Design	2	2	2	Spring	Explanation of assessment of the architectural design and disposition of the acoustic material.			

AREAS OF STUDY			SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ENVIRONMENT AND INFORMATION ENGINEERING			Homotopy Theory	2	2	1~3	Fall	Study of the rational homotopy theory. Applications of the minimal model to the problem of determining the homotopy type are discussed. Algebraic groups are studied in detail.
			C*-algebras and K-theory	2	2	1~3	Fall	We study projections and unitaries in C*-algebras and their K-theory as fundamental tools. Moreover, we study classification of AF-algebras as an application.
			Noncommutative Geometry	2	2	1~3	Fall	We study the general theory of C*-algebras and their K-theory and KK-theory. As applications, we study some topics in Noncommutative Geometry.
			Advanced Emergent and Intelligent Robotics	2	2	1~3	Spring	An overview of emergent and intelligent robots that introduces some of its fundamental concepts, background material on hardware, control (from both biological and engineering perspectives), software architecture, and robot intelligence.
			Advanced Mathematical Modeling	2	2	1~3	Fall	Advanced lecture on mathematical statistics, computational statistics, data science, bio science and human behavior modeling.
			Advanced Information Network Theory	2	2	1~3	Fall	This lecture focus on advanced technology required for the information network system.
			Advanced Wave Signal Processing	2	2	1~3	Fall	Discussion and student presentations on applications of electromagnetic wave and multidimensional processing. Focusing mainly on radar signal processings.
ELECTRONICS AND INFORMATION ENGINEERING	ELECTIVE	SPECIAL	Introduction to Superstring Theory	2	2	1~3	Fall	Lecture on superstring theory from the elementary level to the more advanced level.
			Advanced Acoustic Signal Processing	2	2	1~3	Fall	The mechanism of human speech production, Acoustic phonetics. Uniform lossless tube and formants. Effects of losses in the vocal tract. Wave propagation in concatenated lossless tubes and relationship to digital filter. Short-time energy, Zero-Crossing rate, Autocorrelation, Average Magnitude Difference Function (AMDF), Speech vs. Silence discrimination. Pitch period estimation. Homomorphic Speech Processing, Cepstrum, Pitch detection, Formal estimation. The Homomorphic Vocoder. Linear Predictive Coding (LPC) of speech. Synthesis of speech from LP parameters. Pitch and Formant analysis using LPC, LPC vocoder. Digital Speech Processing for Man - Machine Communication by Voice. Acoustic Echo and Noise Cancellation Algorithms will be also studied.
			Advanced Optimal System Design	2	2	1~3	Spring	In this lecture, we discuss the optimal design method that play an important role in the engineering fields.
			Advanced Adaptive Systems	2	2	1~3	Fall & Spring	Studies on adaptive methods: least mean square algorithm, recursive least mean square algorithm, adaptive filter, neural network, genetic algorithm, particle filter.
			Advanced Asynchronous Systems	2	2	1~3	Fall	To implement high speed and high performance computers, the traditional global clock control can not be exploited for the clock skew problem. Asynchronous digital systems are one of the most novel technique to over come the clock skew, power consumption and reliability problems. In this lecture, we discuss some mathematical bases and the novel design techniques for asynchronous systems.
			Advanced Intelligent Control Systems	2	2	1~3	Fall	This special lecture provides some control methods, fuzzy control, neural-network, Kalman filter, and H-infinity control, for nonlinear time-variant systems. Some optimization methods are also lectured.
			Advanced Intelligent Systems	2	2	1~3	Fall	We discuss intelligent system technology. In particular we focus on machine learning neural network, collective intelligence and multi-agent system.

AREAS OF STUDY		SUBJECT	CREDITS	HOURS PER WEEK	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ELECTRONICS AND INFORMATION ENGINEERING	SPECIAL	Advanced Computer Control Theory	2	2	1~3	Fall	Robust control, H-infinity control, H2 control, mu-synthesis, LMI's and Controller order reduction
		Advanced System Architecture	2	2	1~3	Fall	Specific digital system related processing or architecture will be focused such as digital communication, error correction, digital Media processing and so on.
		Approximation Theory	2	2	1~3	Fall	Study of convergence of Korovkin-type approximation processes by positive linear operators on function spaces. Degree and rate of convergence are discussed in detail.
		Theory of Special Functions	2	2	1~3	Fall	Introductory lectures on special functions, especially on gamma function and hypergeometric functions.
		Advanced Algebraic Topology	2	2	1~3	Fall	Study of topological aspects of the space of rational functions from the Riemannian sphere to complex manifolds.
		Categorical Homotopy Theory	2	2	1~3	Fall	An introductory course on closed model categories.
		Physics at Solid Surfaces	2	2	1~3	Fall	Application of quantum theory of many-particle systems to electronic structure and excitations at solid surfaces and in small particles
		Advanced Biomedical Engineering	2	2	1~3	Spring	Lectures on medical instrumentation, therapeutic and prosthetic devices, and biomedical signal processing
		Advanced Electronic Properties of Molecular Solids	2	2	1~3	Fall	I focus on advanced electronic structure methods for properties of organic solids: from density functional theory to many-body electronic structure theory.
	COMMON	Special Field Works	2	2	1~3	Fall & Spring	The lecture provides a chance for field work. The details will be determined based on the students' experience.
		Special Educational Training	2	2	1~3	Fall & Spring	The lecture provides a chance for educational training. The contents of the class will be determined by discussion.
		Special Lecture on Interdisciplinary Intelligent Systems Engineering I ~ III	1	1	1~3	Fall & Spring	The lecture gives various current topics on Interdisciplinary Intelligent Systems Engineering.
		Special Lecture on Interdisciplinary Intelligent Systems Engineering IV ~ VI	2	2	1~3	Fall & Spring	The lecture gives various current topics on Interdisciplinary Intelligent Systems Engineering.
		Advanced Scientific Ethics	1	1	1~3	Fall & Spring	The purpose of scientific ethics is to engage students in reading about, considering, and discussing the responsible conduct of science.

Requirements for course completion:

Students must obtain 12 or more credits, 3 of which must be obtained from Dissertation I on Interdisciplinary Intelligent Systems Engineering and 3 of which must be obtained from Dissertation II on Interdisciplinary Intelligent Systems Engineering.

In addition to receiving the necessary instruction, students must also receive a passing grade on final examinations and Doctoral dissertation.

Table (Article 5) Doctoral Program

Course: Marine and Environmental Sciences

FIELD	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
BIOSCIENCE	REQUIRED	COMMON	Advanced Special Seminar	2	30	1-3	Fall/ Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
		Advanced Special Exercise	2	60	1-3	Fall/ Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.	
	ELECTIVE	SPECIAL	Fish and Shellfish Molecular Population Genetics	2	30	1-3	Fall	Genetic species identification of fish and shellfish, existence of cryptic species, exploration of genetic markers for stock identification, study method for aquatic organisms will be presented and discussed. How to write dissertation will be instructed.
			Cephalopod Behavior	2	30	1-3	Fall	Various aspects of behavioral characteristics in cephalopods. These include learning, memory, sociality, and reproductive behavior in octopus, squid and cuttlefish. This class tries to learn how intelligent these creatures (cephalopods) are.
			Reproductive Physiology	2	30	1-3	Spring	Physiological and behavioral mechanisms of reproductive events in low vertebrates. Special attention is paid to endocrine regulation of respective function.
			Advanced Marine Ecology	2	30	1-3	Fall	Reviews and discussions of recent topics in ecology of coral reef organisms with emphasis on responses of the organisms to climate change.
			Coral Disease	2	30	1-3	Spring	Overview of coral diseases/syndromes for conservation of future coral reefs
			Freshwater Biology	2	30	1-3	Spring	Life historical characteristics of freshwater fishes (primary freshwater fish, amphidromous fish, catadromous fish) in the Ryukyu Archipelago
			Plant Taxonomy and Biogeography	2	30	1-3	Fall	Topics on taxonomy, speciation, biogeography, morphological evolution and adaptation of vascular plants of Japan with special reference to the Ryukyus
			Plant Molecular Phylogeny	2	30	1-3	Spring	Discussion of current topics in molecular phylogeny and evolution of vascular plants
			Plant Cytogenetics	2	30	1-3	Spring	Cytology of plastids and mitochondria, and fundamental genetics of cell nucleus, plastids and mitochondria of plants and animals adding current topics.
			Plant Molecular Biology	2	30	1-3	Fall	Current topics in molecular genetics, genome science, genetic engineering, and bioimaging techniques, mainly focusing on plants
			Oxygen Biology	2	30	1-3	Fall	Comprehensive review on biochemistry and biology of reactive oxygen (ROS) and nitrogen species (RNS)
			Microscopic Structures of Body Surfaces and Their Functions	2	30	1-3	Fall	Microscopic structures of the body surface of marine invertebrates and the approaches to reveal their properties and functions
			Developmental Physiology	2	30	1-3	Spring	Molecular and cellular aspects of mammalian and insect developmental systems.
Species Biology	2	30	1-3	Fall	Discussion and presentation about the definition, identification and characteristics of "species".			
Evolutionary Biology of Tropical Organisms	2	30	1-3	Fall	Discussion about evolutionary mechanisms that create biodiversity in the tropics.			
Advanced Lecture in Plant Reproductive Morphology	2	30	1-3	Fall	Structure and function of reproductive organs in tropical and subtropical plants are discussed. Pollination mechanisms are also subjects for discussion.			

FIELD			SUBJECT	CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION
BIOSCIENCE	ELECTIVE	SPECIAL	Molecular Enzymology of Plant Degradation	2	30	1-3	Fall	Reviews on the recent advances on molecular machinery and classifications of enzymes involved in biodegradation of plant cell walls.
			Evolutionary Anthropology	2	30	1-3	Spring	Review of evolutionary histories of human: genetics, extant primates, fossils, culture, and society.
			Ecology of Tropical Coasts	2	30	1-3	Fall	Review on current topics of tropical coastal ecology, including coral reefs and discussion on environmental issues.
			Advanced Seminar of Reproductive Biology	2	30	1-3	Fall	Seminar and laboratory work on reproductive biology.
Advanced Island Biology			2	30	1-3	Spring	Topics relating to island biogeography	
Applied Phycology			2	30	1-3	Fall	Discussion and presentation about recent and advanced phycological studies especially in applied phycology.	
Advanced Ecology			2	30	1-3	Fall	Review of current topics on the maintenance and origin of biodiversity patterns based on taxonomic, functional and phylogenetic properties.	
Advanced Ecology of Coral Reef Organisms			2	30	1-3	Fall	Review, presentation and discussion about coral reef organisms and related research fields.	
Advanced Marine Environmental Chemistry			2	30	1-3	Fall	Chemical problems in marine environments.	
Advanced Environmental Chemistry			2	30	1-3	Spring	This course provides an overview of chemical reactions occurring in aquatic environment. In particular, this course deals with photochemical reactions caused by sunlight.	
Carbonate Geochemistry			2	30	1-3	Spring	This course deals with carbonates in lithosphere and hydrosphere, especially natural mechanism of CO ₂ absorption from atmosphere in the global carbon cycles and its role in coral reefs.	
Advanced Aquatic Chemistry			2	30	1-3	Spring	Chemical concepts of natural waters.	
Advanced Marine Geophysics			2	30	1-3	Fall & Spring	Reviewing the recent studies on marine geophysics, regional tectonics and geodynamics, discussion about the reviewed studies.	
Advanced Ocean Wave Remote Sensing			2	30	1-3	Fall & Spring	Physics of ocean surface waves, principle of ocean wave remote sensing and application of ocean wave remote sensing to physical oceanography.	
Tropical Meteorology			2	30	1-3	Fall	This course provides fundamental knowledge of about tropical atmosphere, including energy balance, atmospheric structure and circulation, tropical cyclone, and intraseasonal variability.	
Environmental Tectonics			2	30	1-3	Fall & Spring	Basics and application on the environmental changes related to crustal movement, weathering process, material circulation, sea-level change, etc..	
Igneous Petrology and Geochemistry	2	30	1-3	Fall & Spring	Reviews and discussion about trace elements and isotopic composition of environmental Earth materials.			
Geodynamics	2	30	1-3	Fall	This course deals with mechanics of deformation of the crust and mantle. Geological areas of application include earthquakes and tsunamis, tectonic plate flexure, and upper mantle flow and deformation.			

Table (Article 5) Doctoral Program

Course: Marine and Environmental Sciences

FIELD			SUBJECT	CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION
ENVIRONMENTAL SCIENCE	ELECTIVE	SPECIAL	Coral-reef Biogeoscience	2	30	1-3	Fall	A seminar to study topics and terms on multidisciplinary research on biogeosciences related to coral reefs in the present and past.
			Crustal Evolution	2	30	1-3	Fall	This unit of study provides an introduction to crustal evolution process from the point of views of petrogenesis of metamorphic rock and its geochronology.
			Advanced Biodiversity of Marine Invertebrates	2	30	1-3	Spring	Discussion of marine biodiversity, historical and modern problems in its estimation, and varying concepts of species and methodologies to detect and count them.
Chemistry of Bioactive Marine Natural Products			2	30	1-3	Spring	Advanced chemistry (separation, structure, reaction, and synthesis) of bioactive substances such as toxins, and their bioactivity and application.	
Organic Structural Spectroscopy			2	30	1-3	Spring	Spectroscopic methods to analyze the structures of organic molecules will be reviewed.	
Solid State Chemistry			2	30	1-3	Spring	Students will study how structural phase transitions are experimentally investigated. Experimental techniques such as thermal measurements, X-ray diffractions, magnetic resonance, and optical techniques are introduced. The theoretical background for phase transitions will also be studied.	
Electron Correlations in Solids		2	30	1-3	Fall	Understanding of theoretical approaches to electron correlations in solids.		
PHYSICS, CHEMISTRY, AND MATHEMATICAL SCIENCES		COMMON	International Field Exercise	2	30	1-3	Spring	Field course with foreign universities.
		FUNDAMENTAL	Essential Research Skills and Ethics in Science	1	15	1-3	Spring	Ethical foundations of scientific practices to skills of scientific presentation.

Requirements for course completion:

Students must obtain a total of 12 or more credits including 2 credits from Advanced Special Seminar and 2 credits from Advanced Special Exercise. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Doctoral dissertation.

COURSE	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
MASTER'S/DOCTORAL COURSES	REQUIRED	COMMON	Advanced Seminar I – IV	6	22.5	1,2	Fall & Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
			Thesis Research I – IV	12	90	1,2	Fall & Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.
			Advanced Special Seminar	2	30	3	Fall/ Spring	Present and discuss research information such as original academic papers, as well as research plans and findings, in a seminar format.
			Advanced Special Exercise	2	60	3	Fall/ Spring	For each individual research objective and phase, provide direct instruction and guidance concerning research methods and development.
MASTER'S COURSE	ELECTIVE	COMMON	Introduction to Oceanography I	2	30	1,2	Fall	General introductory course on marine science.
			Introduction to Oceanography II	2	30	1,2	Spring	General introductory course on oceanography.
			Advanced Scientific Manuscript Writing	2	30	1,2	Spring	Structure and organization of scientific publications, as well as how to organize and write manuscripts will be discussed. Special attention will be put on logical organization and troublesome grammar points.
			International Field Course	2	30	1,2	Spring	Field course with foreign universities.
			International Field Exercise	2	30	3-5	Spring	Field course with foreign universities.
			Essential Research Skills and Ethics in Science	1	15	1,2	Spring	Ethical foundations of scientific practices to skills of scientific presentation.
			Advanced Marine Inorganic Chemistry I	2	30	1,2		Chemical composition and properties of seawater and chemical processes in the interfaces of the air-sea-ocean bottom.
		Advanced Marine Inorganic Chemistry II	2	30	1,2		Chemical composition and properties of seawater and chemical processes in the interfaces of the air-sea-ocean bottom.	
		Aquatic Chemistry I	2	30	1,2	Fall	Chemical concepts of natural waters. Acid-base, precipitation-dissolution, coordination, redox and surface chemistry.	
		Aquatic Chemistry II	2	30	1,2	Spring	Chemical concepts of natural waters. Acid-base, precipitation-dissolution, coordination, redox and surface chemistry.	
		Advanced Chemistry of Marine Toxins I	2	30	1,2	Fall	Studies on marine toxins related to exploitation of food and medical resources. Reviews on origins, properties, and structures of marine toxins.	
		Advanced Chemistry of Marine Toxins II	2	30	1,2	Spring	Studies on marine toxins related to exploitation of food and medical resources. Reviews on origins, properties, and structures of marine toxins.	
		Topics on Marine Chemical Ecology	2	30	1,2	Spring	Recent research on chemicals involved in the ecology of marine organisms will be reviewed.	
		Environmental Analytical Chemistry I	2	30	1,2	Spring	This course deals with qualitative and quantitative analytical chemistry, especially principles and procedures of chemical analyses of environmental water sample.	
Environmental Analytical Chemistry II	2	30	1,2	Fall	This course deals with qualitative and quantitative analytical chemistry, especially principles and procedures of chemical analyses of environmental water sample.			

COURSE	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
MASTER'S COURSE	ELECTIVE	SPECIAL	Advanced Chemical System Engineering	2	30	1,2	Fall	1. Introduction to hydrogen energy (production, storage, and utility) 2. Lecture on chemical engineering 3. Training for patent application
			Advanced Coral Reef Ecology	2	30	1,2	Spring	Reviews on current topics in coral reef ecology.
			Marine Environmental Biology and Ecology	2	30	1,2	Spring	Overview of current research on marine environmental biology.
			Interaction between Coral and Associated Organisms	2	30	1,2	Fall	Overview of the biological and chemical interactions between corals and other marine organisms.
			Advanced Study in Genetics	2	30	1,2	Fall	Principles and fundamental genetics.
			Stress Physiology	2	30	1,2	Fall	Introduction to basic principles of stress physiology, including the production and scavenging mechanisms of active oxygen and active nitrogen in living organisms.
			Life of Tunicates	2	30	1,2	Spring	Introduction to specific features and functions supporting the life of marine invertebrates, dealing with tunicates.
			Advanced Cell Biology	2	30	1,2	Fall	Current topics in cell biology, with emphasis on the biogenesis of organelles and cytoskeleton.
			Advanced Molecular Physiology	2	30	1,2	Spring	Fundamentals of molecular biology, cellular physiology, developmental biology, immunology, and neurobiology. Focuses on mammalian and insect systems.
			Advanced Comparative Endocrinology	2	30	1,2	Fall	Endocrine organs and various hormones in vertebrates. Roles of hormones in metabolism, reproduction, and behavior.
			Advanced Phycology	2	30	1,2	Fall	Current topics on taxonomy, phylogeny, morphology, genetics, ecology etc. of algae and related organisms.
			Plant Phylogeny and Evolution	2	30	1,2	Fall	Recent advances in flowering plant phylogeny and evolution.
			Advanced Plant Ecology	2	30	1,2	Fall	Review of current topics on the maintenance and origin of biodiversity patterns based on taxonomic, functional and phylogenetic properties.
			Advanced Fisheries Biology	2	30	1,2	Fall	Life history and fishing methods of fishes in Japan (sardine, herring, mackerel, yellowtail, sea bream, flounder, ayu, etc.).
			Marine Molecular Ecology	2	30	1,2	Fall	Principles and fundamental methods in aquatic animals using molecular and population genetics. Practical method of DNA analysis.
			Evolutionary Ecology of Reef Animals I	2	30	1,2	Fall	Reviews and discussions of reproductive strategies, life-history strategies, population dynamics and population genetics of coral reef organisms, with emphasis on colonial animals.
			Evolutionary Ecology of Reef Animals II	2	30	1,2	Spring	Reviews and discussions of reproductive strategies, life-history strategies, population dynamics and population genetics of coral reef organisms, with emphasis on colonial animals.
			Advanced Crustal Hydrosphere Geochemistry	2	30	1,2	Spring	Reviews of geochemical studies about fluids or gases beneath the seafloor.
			Systematic Zoology	2	30	1,2	Spring	Principles and practices of taxonomy, systematics, and phylogenetics of animals, with reference to contemporary discussions on relevant conceptual issues.

COURSE	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
MASTER'S COURSE		SPECIAL	Advanced Marine Biology	2	30	1,2	Fall	After the revision of basic marine biology concept, the class will discuss about littoral and pelagic ecosystems from major geographic regions (tropical, temperate and polar).
			Advanced Evolutionary Ecology	2	30	1,2	Spring	Evolutionary analysis of form and function, life-history, and sexual dimorphism in animals.
			Advanced Seminar of Evolutionary Reproductive Biology	2	30	1,2	Spring	Overview of reproductive biology in terms of evolutionary aspects and practice of analyses with laptop computer.
			Molecular Biochemistry of Plant Biodegradation	2	30	1,2	Fall	Reviews on the current topics in biodegradation of plants with special reference to the mechanisms by which lignocellulolytic enzymes are involved in breakdown of plant cell walls.
			Advanced Marine Zootaxonomy	2	30	1,2	Spring	Practices of zootaxonomy of marine invertebrates.
DOCTORAL COURSE	ELECTIVE	SPECIAL	Advanced Aquatic Chemistry	2	30	3-5	Spring	Chemical concepts of natural waters.
			Advanced Marine Environmental Chemistry	2	30	3-5	Fall	Chemical problems in marine environments.
			Advanced Environmental Chemistry	2	30	3-5	Spring	This course provides an overview of chemical reactions occurring in aquatic environment. In particular, this course deals with photochemical reactions caused by sunlight.
			Chemistry of Bioactive Marine Natural Products	2	30	3-5	Spring	Advanced chemistry (separation, structure, reaction, and synthesis) of bioactive substances such as toxins, and their bioactivity and application.
			Organic Structural Spectroscopy	2	30	3-5	Spring	Spectroscopic methods to analyze the structures of organic molecules will be reviewed.
			Carbonate Geochemistry	2	30	3-5	Spring	This course deals with carbonates in lithosphere and hydrosphere, especially natural mechanism of CO ₂ absorption from atmosphere in the global carbon cycles and its role of in coral reefs.
			Plant Cytogenetics	2	30	3-5	Spring	Cytology of plastids and mitochondria, and fundamental genetics of cell nucleus, plastids and mitochondria of plants and animals adding current topics.
			Oxygen Biology	2	30	3-5	Fall	Comprehensive review on biochemistry and biology of reactive oxygen (ROS) and nitrogen species (RNS)
			Microscopic Structures of Body Surfaces and Their Functions	2	30	3-5	Fall	Microscopic structures of the body surface of marine invertebrates and the approaches to reveal their properties and functions
			Plant Molecular Biology	2	30	3-5	Fall	Current topics in molecular genetics, genome science, genetic engineering, and bioimaging techniques, mainly focusing on plants
			Developmental Physiology	2	30	3-5	Spring	Molecular and cellular aspects of mammalian and insect developmental systems.
			Reproductive Physiology	2	30	3-5	Spring	Physiological and behavioral mechanisms of reproductive events in lower vertebrates. Special attention is paid to endocrine regulation of respective function.
			Cephalopod Behavior	2	30	3-5	Fall	Various aspects of behavioral characteristics in cephalopods. These include learning, memory, sociality, and reproductive behavior in octopus, squid and cuttlefish. This class tries to learn how intelligent these creatures (cephalopods) are.
			Applied Phycology	2	30	3-5	Fall	Discussion and presentation about recent and advanced phycological studies especially in applied phycology.

COURSE	SUBJECT		CREDITS	HOURS	YEARS	SEMESTERS	SUBJECT DESCRIPTION	
DOCTORAL COURSE	ELECTIVE	SPECIAL	Plant Molecular Phylogeny	2	30	3-5	Spring	Discussion of current topics in molecular phylogeny and evolution of vascular plants
			Advanced Ecology	2	30	3-5	Fall	Review of current topics on the maintenance and origin of biodiversity patterns based on taxonomic, functional and phylogenetic properties.
			Freshwater Biology	2	30	3-5	Spring	Life historical characteristics of freshwater fishes (primary freshwater fish, amphidromous fish, catadromous fish) in the Ryukyu Archipelago
			Fish and Shellfish Molecular Population Genetics	2	30	3-5	Fall	Genetic species identification of fish and shellfish, existence of cryptic species, exploration of genetic markers for stock identification, study method for aquatic organisms will be presented and discussed. How to write dissertation will be instructed.
			Advanced Biodiversity of Marine Invertebrates	2	30	3-5	Spring	Discussion of marine biodiversity, historical and modern problems in its estimation, and varying concepts of species and methodologies to detect and count them.
			Advanced Marine Ecology	2	30	3-5	Fall	Reviews and discussions of recent topics in ecology of coral reef organisms with emphasis on responses of the organisms to climate change.
			Coral Disease	2	30	3-5	Spring	Overview of coral diseases/syndromes for conservation of future coral reefs
			Species Biology	2	30	3-5	Fall	Discussion and presentation about the definition, identification and characteristics of "species".
			Ecology of Tropical Coasts	2	30	3-5	Fall	Review on current topics of tropical coastal ecology, including coral reefs and discussion on environmental issues.
			Advanced Seminar of Reproductive Biology	2	30	3-5	Fall	Seminar and laboratory work on reproductive biology.
			Evolutionary Biology of Tropical Organisms	2	30	3-5	Fall	Discussion about evolutionary mechanisms that create biodiversity in the tropics.

Requirements for course completion:

Master's Course: Students must obtain a total of 30 or more credits including 6 credits from Advanced Seminar and 12 credits from Thesis Research. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Master's thesis.

Credits for Advanced Seminar are earned over 2 years (3 credits received per year).

Credits for Thesis Research are earned over 2 years (6 credits received per year).

Doctoral Course: Students must obtain a total of 12 or more credits including 2 credits from Advanced Special Seminar and 2 credits from Advanced Special Exercise. In addition to receiving the necessary instruction, the student must also receive a passing grade on final examinations and Doctoral dissertation.

Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science

April 1, 1997
enacted

Chapter 1 General Regulations

(Aim)

Article 1 These regulations, based on the University of the Ryukyus Degree Regulations (hereafter referred to as the Regulations), set forth the necessary particulars regarding the conferral of degrees at the University of the Ryukyus Graduate School of Engineering and Science (hereafter referred to as the Graduate School).

Chapter 2 Conferral of Degrees for the Master's Program.

(Qualifying Requirements for the Submission of Theses)

Article 2 Under Article 3 of the regulations, students of the Master's Program, who have fulfilled the requirements for completion of the aforementioned Course, as set forth in Article 31 clause 1 of the University of the Ryukyus Graduate School Regulations (hereafter referred to as the University Regulations), may submit theses.

(Documents for Submission)

Article 3 Documents for submission under article 6 clause 2 of the regulations are as follows:

- | | |
|---|---------------------|
| (1) Thesis Review Request (Form 1-1) | 1 |
| (2) Thesis and Author's Publication List (Form 2-1) | 1 |
| (3) Abstract (Form 3) | 1 |
| (4) Text of Thesis | original and 1 copy |
| (5) Curriculum Vitae (Form 4) | 1 |

(Thesis Submission Period)

Article 4 The deadline for theses submission shall be February 10 (August 10 for those intending to graduate in September)

(Method of Review)

Article 5 The Dean of the Graduate School shall refer all received theses to the Master's Thesis Screening Committee for the purpose of review.

(Master's Thesis Screening Committee)

Article 5-2. The Master's Thesis Screening Committee (hereafter referred to as the Master's Reviewing Committee) shall be established as a committee of the Graduate School.

- 2 The Master's Reviewing Committee shall be comprised of three or more faculty members, including a chief examiner. All other members shall be vice-chief examiners.
- 3 The chief examiner shall coordinate the review of the concerned thesis and the final examination.

(Reviewing Members)

Article 6 For every thesis, each major shall select three candidates from its faculty members that are responsible for research guidance as Reviewing Committee members (hereafter referred to as Reviewing Member Candidates), one of them being the chief examiner, and brief the Dean of the Graduate School. However, if necessary, a full-time instructor of the Graduate School may be selected as a Reviewing Member Candidate.

- 2 Article 5-2 notwithstanding, if deemed necessary for the review of a Master's thesis, instructors from other graduate school, institution, or research institute may be added to the list of Reviewing Member Candidates as external reviewing members. However, they cannot be chief examiner.
- 3 The Dean of the Graduate School shall make a decision on the members after consultation with the Graduate School Committee.

(Final Examinations)

Article 7 The Master's Reviewing Committee shall administer a final examination in an oral or a written format related specifically to the topic of the concerned thesis.

- 2 Theses may be presented at an oral thesis presentation (hereafter referred to as the presentation) in place of the final examination of the preceding clause.
- 3 The presentation of the preceding clause shall be open to the public and the time and place of each major's presentation shall be announced to the Dean of the Graduate School no later than one week prior.
- 4 The Chair of the major or the Supervisor shall host the presentation. Following the presentation of a thesis by the submitting student, a question and answer session shall be held for those attending the presentation.

(Report)

Article 8 The Master's Reviewing Committee shall report the results of the thesis screening and the final examination to the Dean of the Graduate School by way of form 5-1.

(Decision of the Graduate Course Committee)

Article 9 Based on deliberation of the Master's Reviewing Committee, the Graduate School Committee shall make the decision as to whether or not to confer a degree.

Chapter 3 Conferral of Degrees for the Second Term Doctoral Course

(Requirements for the Submission of Theses)

Article 10 Under Article 4 of the regulations, students of the Second Term Doctoral Course, who have fulfilled the requirements for completion of the aforementioned Course, as set forth in Article 31 clause 2 of the University Regulations, may submit theses.

(Preliminary Review)

Article 11 Based upon the preceding article, those students wishing to submit thesis for reviewing must first submit their thesis for preliminary review.

2 Those students wishing to submit for preliminary review shall submit documents as specified separately to the Dean of the Graduate School no later than 2 months prior to the beginning of preliminary review begins.

(Doctoral Dissertation Preliminary Reviewing Committee)

Article 12 The Graduate School Committee shall establish a Doctoral Dissertation Preliminary Reviewing Committee (hereafter referred to as the Preliminary Reviewing Committee).

2 The Preliminary Reviewing Committee shall be comprised of three or more faculty members, including a chief examiner. All other members shall be vice-chief examiners.

3 The chief examiner shall coordinate the review of the concerned thesis and the final examination.

4 The preliminary Reviewing Committee shall complete the screening process within 1 month. Upon completion the chief examiner shall make a report to the Dean of the Graduate School.

5 Those students who are not awarded a passing grade at the outcome of preliminary review may, upon improvement of the content of their thesis, resubmit their thesis for preliminary review.

(Reviewing Members)

Article 12-2. For every thesis, each major shall select three candidates from its faculty members that are responsible for research guidance as Reviewing Committee members (hereafter referred to as Reviewing Member Candidates), one of them being the chief examiner, and brief the Dean of the Graduate School. However, if necessary, a full-time instructor of the Graduate School may be selected as a Reviewing Member Candidate.

2 Article 12-2 notwithstanding, if deemed necessary for the review of a Doctoral thesis, instructors from other graduate school, institution, or research institute may be added to the list of Reviewing Member Candidates as external reviewing members. However, they cannot be chief examiner.

3 The Dean of the Graduate School shall make a decision on the members after consultation with the Graduate School Committee.

(Dissertation Submission Period)

Article 13 Submission period for dissertations shall be between April 1 and December 20; and for those who are planning to complete the degree requirements by September, the degree submission deadline is June 20.

(Documents for Submission)

Article 14 Those students who receive a passing grade at the outcome of the preliminary review must submit the following documents to the Dean of the Graduate School:

- | | |
|---|-----------------------|
| (1) Dissertation Review Request (Form 1-2) | 1 |
| (2) Dissertation and Author's Publication List (Form 2-2) | 1 |
| (3) Abstract (Form 3) | 1 |
| (4) Text of Dissertation | original and 2 copies |
| (5) Curriculum Vitae (Form 4) | 1 |

(Method of Review)

Article 15 The Dean of the Graduate School shall brief the President of the University when the dissertation and accompanying documents are received.

(Establishment of the Reviewing Committee)

Article 16 The Graduate School Committee shall, under Article 12 of the regulations for each referred dissertation, establish the Doctoral Dissertation Reviewing Committee (hereafter referred to as the Doctoral Reviewing Committee) and request the committee to carry out dissertation review and final examinations.

- 2 The Doctoral Reviewing Committee shall be comprised of three or more faculty members, including a chief examiner. All other members shall be vice-chief examiners.
- 3 The chief reviewer shall make report for dissertation review and final examination .

(Reviewing Members)

Article 17 For every thesis, each major shall select three candidates from its faculty members that are responsible for research guidance as Reviewing Committee members (hereafter referred to as Reviewing Member Candidates), one of them being the chief examiner, and brief the Dean of the Graduate School. However, if necessary, a full-time instructor of the Graduate School may be selected as a Reviewing Member Candidate.

- 2 Article 16-2 notwithstanding, if deemed necessary for the review of a Doctoral thesis, instructors from other graduate school, institution, or research institute may be added to the list of Reviewing Member Candidates as external reviewing members. However, they cannot be chief examiner.
- 3 The Dean of the Graduate School shall make a decision on the members after consultation with the Graduate School Committee.

(Final Examinations)

Article 18 Following the Dissertation Review, the Doctoral Reviewing Committee shall administer a final examination in an oral or a written format relating specifically to the topic of the concerned dissertation.

- 2 Dissertations may be presented at an oral presentation (hereafter referred to as the presentation) in place of the final examination of the preceding clause.
- 3 The presentation of the preceding clause shall be open to the public and the time and place of each major's presentation shall be announced to the Dean of the Graduate School no later than one week prior.
- 4 The chair of the major or the Supervisor shall host the presentation. Following the presentation of a dissertation by the submitting student, a question and answer session shall be held for those attending the presentation.

(Report)

Article 19 The Doctoral Reviewing Committee shall report the results of the Dissertation Review and the final examination to the Dean of the Graduate School by means of form 5-2.

(Documents for Submission)

Article 20 Those students who receive a passing grade at the Doctoral Reviewing Committee must submit the following documents to the Graduate School Committee.

- (1) Text of Dissertation original
- (2) Statement of Reason (Form 6) 1

(Decision of the Graduate School Committee)

Article 21 Based on deliberation of the Doctoral Reviewing Committee, the Graduate School Committee shall make the decision as to whether or not to confer a degree.

(Documents for Submission)

Article 22 Those students for whom degree conferral is decided must submit the following documents to the Dean of the Graduate School.

- (1) Electronic Data of Dissertation (CD-R, etc.) 1
- (2) University of the Ryukyus' Repository Registration 1
- (3) Letter of Acceptance (Form 7) necessary number
- (4) Consent Letters from Publishers

2 If the dissertation in its entirety cannot be published using the academic repository, the student shall submit to the Graduate School Dean documents listed in the preceding clause and the following:

- (1) Text of Dissertation 2 copies
- (2) University Repository Registration Application (Submission of the Abstract of the Dissertation) 1

3 In the event the "reasons beyond his or her control" that prevented the publishing of the dissertation in its entirety have ceased to exist, the dissertation in its entirety shall be published by submitting the University of the Ryukyus' Repository Registration (submission of the complete doctoral dissertation).

(Date of Degree Certification)

Article 23 The date of degree certification following completion of the course shall be as follows:

- (1) Those students for whom degree conferral is decided within the specified standard time limit for studies, shall have the present academic year affixed to

their certification.

- (2) Students not falling into this category shall have the date of conferral as decided by the President of the University affixed.

(Handling of Students Having Withdrawn from the University)

Article 24 Those student having withdrawn from the Graduate School, who do not return to the University, under Article 17 of the regulations, and do not complete the specified course shall not be awarded a degree.

Chapter 4 Doctoral Degree Conferral by Dissertation Submission

(Required Qualifications for Dissertation Submission)

Article 25 Under Article 5 of the regulations, the following people are eligible to apply for degree conferral without having passed through the course.

- (1) Those students who withdrew from the university after having, spent three or more years in the Graduate School Doctoral Program, obtained the specified credits, and received the necessary research instruction.
- (2) Those students with three or more years or research experience following the completion of the Master's Program.
- (3) Those with five or more years of research experience following their graduation from the University.
- (4) Those with nine or more years of research experience.

(Preliminary Review)

Article 26 Based on the regulations of the preceding article, those people applying for Dissertation Review must, prior to submitting their dissertation, undergo preliminary review.

- 2 Those people intending to submit for preliminary review must submit the documents, as specified separately, to the Dean of the Graduate School.

(Documents for Submission)

Article 27 Upon consent of the advising professor, a member of the Graduate School Committee, as set forth in Article 7 clause 1, the following documents must be submitted to the Dean of the Graduate School:

- (1) Dissertation Review Request (Form 1-3) 1
- (2) Dissertation and Author's Publication List (Form 2-2) 1

(3) Abstract (Form 3)	1
(4) Text of Dissertation	original and two copies
(5) Published Papers	
(6) Curriculum Vitae (Form 4)	1
(7) Graduation Certificate of Last School Attended	1
(8) Research Record	1
(9) Other Necessary Documents	1

(Reviewing Administration Fee)

Article 28 The documents specified in the preceding article must be accompanied by the administration fee of ¥57,000.

2 Notwithstanding the preceding clause, students who have withdrawn from the university after having completed three or more years in the Doctoral Program, and having obtained all the specified credits, shall be exempt from the administration fee should they submit their dissertation within one year of withdrawal.

(Dissertation Submission Period)

Article 29 Dissertations may be submitted at any time.

(application)

Article 30 Article 12, Article 12-2 and Article 15 through 23 of the regulations apply to the review for degree conferral for submitted dissertations. In this case, "final examination" in Articles 16, 18, and 19 shall be read "confirmation of scholastic ability", and "form 5-2" in Article 19 shall be read "form 5-3".

Chapter 5 Miscellaneous Provisions

(Miscellaneous Provisions)

Article 31 In addition to these regulations, the Graduate School Committee shall specify separately any necessary particulars relating to degree conferral.

/ /
(yy / mm / dd)

To Dean of the Graduate School of
Engineering and Science,

Graduate School of Engineering and Science

Major

Name

Supervisor

Signature

Thesis Review Request

In order to be awarded a Master's Degree (Engineering / Science), as set forth in Article 6 Clause 1 of the University of the Ryukyus Degree Regulations, I hereby submit the following documents.

Thesis and Author's Publication List (Form 2-1)	1 copy
Abstract (Form 3)	1 copy
Text of Thesis	original
	1 copy
Curriculum Vitae (Form 4)	1 copy

/ /
(yy / mm / dd)

To President of the University
of the Ryukyus

Graduate School of Engineering and Science

Major

Name

Supervisor

Signature

Dissertation Review Request

In order to be awarded a Doctoral Degree (Engineering / Science / Philosophy), as set forth in Article 6 Clause 2 of the University of the Ryukyus Degree Regulations, I hereby submit the following documents.

Dissertation and Author's Publication List (Form 2-2)	1 copy
Abstract (Form 3)	1 copy
Text of Dissertation	original
	2 copies
Curriculum Vitae (Form 4)	1 copy

/ /
(yy / mm / dd)

To President of the University
of the Ryukyus

Name

Advising Professor

Signature

Dissertation Review Request

In order to be awarded a Doctoral Degree (Engineering / Science / Philosophy), as set forth in Article 7 of the University of the Ryukyus Degree Regulations, I hereby submit the following documents .

Dissertation and Author's Publication List (Form 2-2)	1 copy
Abstract (Form 3)	1 copy
Text of Dissertation	original 2 copies
Published Papers	1 copy
Curriculum Vitae (Form 4)	1 copy
Graduation Certificate of Last School Attended	1 copy
Research Experience	
Others ()	

/ /
(yy / mm / dd)

To Dean of the Graduate School of
Engineering and Science

Graduate School of Engineering and Science

Major

Name

Supervisor

Signature

Request for Preliminary Review

In order to be awarded a Doctoral Degree (Engineering / Science / Philosophy), as set forth in Article 11 Clause 1 of Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science, I hereby submit the following documents.

Dissertation and Author's Publication List (Form 2-2)	3 copies
Abstract (Form 3)	3 copies
Dissertation Draft	3 copies

/ /
(yy / mm / dd)

To Dean of the Graduate School of
Engineering and Science

Name

Advising Professor

Signature

Request for Preliminary Review

In order to be awarded a Degree (Engineering / Science / Philosophy), as set forth in Article 26 Clause 1 of Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science, I hereby submit the following documents.

Dissertation and Author's Publication List (Form 2-2)	3 copies
Abstract (Form 3)	3 copies
Dissertation Draft	3 copies

Form 3

Abstract

Title

Name _____

Form 4

Curriculum Vitae

Name		Date of birth (yy / mm / dd) / /	M / F
Nationality			
Address	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Tel () - () - ()		
Please list Academic Record / Vocational Record / Research Record and Awards separately			
Particulars	Date yy/mm	Summary	

Please continue overleaf

Form 6

Statement of Reason

(Unavoidable reason for not presenting the whole dissertation)

/ /
(yy / mm / dd)

To Dean of the Graduate School of
Engineering and Science

Name : _____
signature

Applicable Number (unavoidable reason for not presenting the full text of the dissertation on the university repository system): 1 · 2 · 3 · 4

(Reason: in detail)

【Unavoidable Reasons】

- 1 It is impossible to present the dissertation on the internet because it includes a three-dimensional shape.
- 2 For copyright or personal privacy protection reasons, it is unlikely to present the dissertation on the internet for more than one year after the day of degree conferment.
- 3 Due to publication in academic journals which ban publication and/or multiple publications or patent application, presenting the dissertation on the internet may result in one's obvious disadvantage for more than one year after the day of degree conferment.
- 4 Cases of some other reasons, for example unable to get consent from co-authors or resulting in one's obvious disadvantage.

Form 7

Letter of Acceptance

____ / ____ / ____
(yy / mm / dd)

To Dean of the Graduate School of
Engineering and Science

Name : _____
signature

Dissertation Title :

I hereby allow _____ to deposit the above dissertation publicly on the internet. This dissertation includes portions or all of the following article/articles listed below.

Title of article (related to the dissertation)

1 .

2 .

3 .

Note: This acceptance letter must be written by the corresponding author of the article/articles mentioned above (If there are several corresponding authors, this form must be completed by each author).

Agreement Regarding the University of the Ryukyus Graduate School of Engineering and Science Doctoral Program

September 28, 2000

Graduate School of Engineering
and Science Committee Resolution

- 1 This agreement sets forth the necessary particulars for the conferral of degrees under Article 31 of the detailed regulations for the handling of degree conferred in the University of the Ryukyus Graduate School of Engineering and Science. (hereafter referred to as “the detailed regulations”).
- 2 In order to apply for dissertation review in the Doctoral Program, it is required that, at the time of application, at least two papers have been published or accepted for publication on refereed academic journals recognized by a major or a course in the Master’s Program. The applicant must have lead authorship on at least one of the papers. Also, at least one of the papers must be in English. If the applicant has none, English papers published in proceedings and similar publications shall also be considered. Published papers that merit consideration are limited to those that have never been used for the degree applications of other co-authors.
- 3 For applicants through submission of doctoral dissertations, it is required that, at the time of application, at least four papers have been published or accepted for publication on refereed academic journals recognized by a major or a course in the Master’s Program. The applicant must have lead authorship on at least two of the papers. Also, at least one of the papers must be in English. Published papers that merit consideration are limited to those that have never been used for the degree applications of other co-authors.
4. Those who fall under Article 25 (1) of the detailed regulations will be treated as a doctor if they apply for the degree and pass the examination within one year after leaving school. Requirement 2 above applies to those who apply for the degree between one and three years after leaving school.
5. For applicants through submission of doctoral dissertations, the foreign language achievement test referred to in Article 30 of the detailed regulations requires a written test of English. Academic aptitude shall be evaluated by Major Dean and

Chief Evaluator (or Deputy Chief Evaluator), and the result shall be presented, upon deliberation of the major committee, to the Head of the Graduate School of Engineering and Science.

6. Those that were denied degree conferment by the committee in accordance with Article 21 of the detailed regulations may re-apply. However, the application shall undergo preliminary review.
7. In addition to these agreements, upon deliberation of the Graduate School Committee, each course shall specify any necessary particulars relating to degree conferral.

Agreement Regarding the Conferral of Degrees in the Marine and Environmental Sciences Major

October 18, 2000

Graduate School of Engineering
and Science Committee approved

- 1 This agreement specifies the necessary particulars for the conferral of degrees in the Marine and Environmental Sciences Major based on clause 7 of the the Agreement Regarding the University of the Ryukyus Graduate School of Engineering and Science Doctoral Program.
- 2 Requirements for the submission of dissertations in the Doctoral Program.
 - (1) Dissertations shall be works compiled independently that are based upon work appearing in an academic journal with an established referee system, or work that is of the level to appear in such a journal.
 - (2) Reference papers shall be works that provide a wide base for the compilation of the dissertation and which have been published or accepted for publishing by an academic journal with an established referee system.
 - (3) Number of reference papers, the necessity of a first author, and other necessary standards shall, upon deliberation of the Committee of the Major, be decided by each academic field (Physics, Earth Science, Chemistry, and Biology)
 - (4) Each academic field shall carry out approval of the academic journals with established referee systems.
- 3 The Doctoral Dissertation Reviewing Committee shall report the results of the review to a meeting of the major.

Agreement on the Handling of Names on the Doctorate Diploma at the Graduate School of Engineering and Science

January 29, 2014

Decision by the Graduate School of Engineering and Science Committee

1. The name to be displayed on the doctoral diploma shall be, in principle, the full name as it appears in the family register; if the student has applied to use his/her former family name, this shall be permitted also. However, if the student wishes to have both his/her current and former family names, the student shall complete and submit to the Graduate School Dean a Diploma Family Name Request Form (Form 1) (hereinafter the "Form").
2. The Graduate School Dean shall state the student's former family name in parenthesis provided that the student has been granted conferral of a degree and has submitted the Form.
3. Documents other than the doctoral diploma such as the Certificate of Degree Conferred shall be issued with the family name as it appears in the family register; if the student has requested to use his/her former family name, the document shall be issued with the former family name.
4. If those who had their doctoral diplomas made to display only their former family name or their current and former family name request an explanation concerning the consistency of names on the diploma and other various documents, a copy of certificate entitled Concerning the Name on the Doctoral Diploma (Form 2) shall be issued, and the University shall not bear any responsibility beyond the issuance of this certificate.

Supplementary Provision

This Agreement shall be enforced from March 31, 2014, and its application shall begin from October 1, 2013.

Diploma Family Name Request Form

Date: _____

To Dean of the Graduate School of Engineering and Science

*To be completed by a student of the University only	Student No.	
	Graduate School	
	Major	
Name	Signature	

I hereby request that my current and former family names to be displayed on my doctoral diploma as stated below, and submit this form with my family register attached.

Name	Furigana		Furigana	
	New Family Name		First Name	
	Furigana			
	Former Family Name			

(Example)

Name	Furigana	• • • •	Furigana	• • • •
	Current Family Name	○ ○	First Name	□ □
	Furigana	• • • •		
	Former Family Name	▲ ▲		

*If the student requests both his/her current and former family names to be displayed, it shall be rendered as the following: ○○ (▲▲) □□

Note:

1. The Certificate of Degree Conferral (Certificate of Completion) shall be issued with the student's university-registered family name (family name as it appears on the family register). If an outside organization requests to confirm the consistency of a student's family register name and his/her former family name, the University can issue a document to state that the institution grants the use of the former family name or both current and former family names. The University shall not bear any responsibility beyond the issuance of this document.
2. If the request is granted, ensure that all documents related to diploma review request to be submitted to the University shall state both the applicant's current and former family names.
3. When a doctoral diploma is issued, confirm that the name is stated correctly.

Concerning the Name on the Doctoral Diploma

The Graduate School of Engineering and Science granted the applicant's request to display not the full name as it appears on the family register, but both the current and former family names on the doctoral diploma.

Former family name:

Current family name:

Full name on doctoral diploma:

Date: _____

Dean, Graduate School of Engineering and Science
University of the Ryukyus

○ ○ ○ ○

Agreement Regarding the Enrollment Period of the Doctoral Program of the University of the Ryukyus Graduate School of Engineering and Science

October 18, 2000

Graduate School of Engineering
and Science Committee Resolution

The following is agreed with regard to the Enrollment period under Article 31 (2) provisional clause 1 of the University of the Ryukyus Graduate School Regulations.

- 1 Upon obtaining the specified credits and the necessary research instruction, those students with outstanding performance may be permitted to complete the Program in less than the specified three year period (hereafter referred to as “early completion”).
- 2 The classification of "outstanding performance" in the preceding clause shall be those who fulfil the following;
 - (1) Those commended as outstanding academically (note 1), obtaining the specified credits and the necessary research instruction, and having fulfilled the requirements as set forth under clause 2 of the agreement regarding conferral of degrees in the Doctoral Program of the University of the Ryukyus Graduate School of Engineering and Science (hereafter referred to as the agreement for degree conferral). However, at least one of the published papers must be in English with lead authorship.
 - (2) Those that have earned the specified number of credits and received the necessary research instruction, and have at least twice as many paper publications in academic journals as the number set forth under clause 2 of the requirements regarding conferral of degrees, with lead authorship on at least two of them. Published papers that merit consideration are limited to those that never been used for the degree applications of other co-authors, and at least one of them must be in English.
- 3 Those hoping for early completion must, after submitting an application to their Supervisor and the chair of the major, attach the aforementioned application form to the documents necessary for preliminary review and apply to the Dean of the Graduate School.

- 4 After deliberation of the Major, the Doctoral Dissertation Preliminary Reviewing Committee shall confirm the performance of applicants for outstanding research commendation.
- 5 In the case that early completion is deemed appropriate by the Doctoral Dissertation Preliminary Reviewing Committee during preliminary review, an explanation as to the reason for the decision shall be attached to the preliminary review report.
- 6 The Dean of the Graduate School shall be responsible for ensuring that the words “early completion” appear on the documents of Program completion prepared by the Graduate Course Committee.

(note 1) Outstanding academic commendations shall be in the form of awards of commendation from National or International Symposiums. Regional symposiums and local public entity commendations are not acceptable.

Application for Early Completion

/ /

To Dean of the Graduate School of Engineering and Science

Doctoral Course _____

Name _____

Student Number _____ Year _____

Date of Birth (dd/mm/yy) _____ / _____ / _____

Based upon my initial research results I hereby apply to reduce the specified period of Enrollment and complete my programme of studies on / /

Head of Doctoral Course	Supervisor
Name _____ Signature	Name _____ Signature

Agreement Regarding the Enrollment Period of the Master's Program (Engineering course) of the University of the Ryukyus Graduate School of Engineering and Science

March 5, 2008

(Aim)

Article 1 This agreement sets forth the necessary items for shortening the enrollment period required for completing the Master's Program for students with outstanding performance (hereafter referred to as "early completion") under Article 31 of the University of the Ryukyus Graduate School Regulations (hereafter referred to as "the regulations").

(Qualification of Early Completion)

Article 2 The classification of "outstanding performance" based on Article 31 of the regulations include those who have achieved research level for thesis papers equal to or above levels necessary to be certified as having completed the Program of 2 years as the standard course length.

(Possible period of time for being shortened)

Article 3 The standard course length for 2 years may be reduced by half a year or 1 year.

(Qualifying Requirements for Early Completion)

Article 4 For early completion, the completion requirements under Article 31 are necessary.

2 Regarding the earning of 30 or more credits, which is one of the completion requirements under Article 31 of the regulations, a total of 6 credits or part of the credits for Master's thesis III, IV & Special Seminars III, IV offered for 2nd year students in each major, may be replaced with at least one original paper published or to be published in a judged academic journal recognized by each major.

3 After deliberation by each major, the head of the major shall decide detailed or additional qualifying requirements in the preceding clauses.

4 In the case of determining detailed or additional qualifying requirements in the preceding clause, the head of each major must announce to students in the major in appropriate ways.

(Application)

Article 5 Those hoping for early completion, after obtaining consent from their supervisors, shall apply by submitting the application form for early completion (appendix form) along with the necessary documents stated in Article 3 of Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science and those documents required by their majors, to the head of each major by the prescribed date.

(Acknowledgement of early completion)

Article 6 Recognition of early completion shall be conducted under Articles 5 through 9 of the Detailed Degree Conferral Regulations for the University of the Ryukyus Graduate School of Engineering and Science, in the same manner as regular Master course completion.

(Miscellaneous regulations)

Article 7 Any items necessary for early completion other than those set forth in these regulations shall be specified separately.

Supplementary regulations

- 1 The revised version shall be enacted on April 1, 2008.
- 2 The revised version shall be available at the Master's Program (Engineering course) of the University of the Ryukyus Graduate School of Engineering and Science.

Application for Early Completion

/ /

To Head of Graduate (Master) Course

Master's Course _____

Name _____

Student Number _____ Year _____

Date of Birth (dd/mm/yy) _____ / _____ / _____

With attachment of an original paper, I hereby apply for early completion under the Agreement Regarding the Enrollment Period of the Master's Program (Engineering course) of the University of the Ryukyus Graduate School of Engineering and Science.

Supervisor
Name

Signature

Implementation Requirements for the Long-term Academic Stay Program for the University of the Ryukyus Graduate School of Engineering and Science

Accepted by the Graduate School of Engineering and Science Committee on:
January 27, 2010

(Aim)

Article 1. This document, based on Article 26-3 of the University of the Ryukyus Graduate School Regulations as well as the Implementation Guideline for the Long-term Academic Stay Program for the University of the Ryukyus Graduate School, defines requirements to implement the long-term academic stay program at the University of the Ryukyus Graduate School of Engineering and Science (hereafter referred to as the Graduate School).

(Purpose)

Article 2. The purpose of the program is to enable students that have difficulty graduating in standard years of enrollment due to employment, among other reasons, to stay enrolled beyond the standard years of enrollment for a prescribed period in order to complete their educational curriculum and receive their degrees on a schedule.

(Maximum Duration of Stay)

Article 3. The maximum duration of stay under the long-term academic stay program is as follows:

- (1) Three or four years for a Master's student
 - (2) Four, five, or six years for a Doctoral student
2. Under the long-term academic stay program, the period of stay shall be counted by year.
 3. The period of a leave of absence from school shall not be counted as part of a period of stay under the long-term academic stay program. However, the standard years of enrollment cannot be exceeded.

(Eligibility)

Article 4. One of the following must be applicable for a student to be eligible for the program. However, a student in his final year of study is not eligible.

- (1) A student has difficulty graduating in standard years of enrollment due to employment.

(2) A student has difficulty graduating in standard years of enrollment due to childbirth, childcare, or long-term nursing care.

(3) A student deemed by the Graduate School Committee to have difficulty graduating in standard years of enrollment due to unavoidable circumstances.

(Application Procedure)

Article 5. A student who wishes to extend his stay under the program shall first consult his supervising instructor to discuss whether the program is truly necessary, and if so, a study plan, and obtain the instructor's acceptance.

2. A student who wishes to apply to the program shall submit the following to the Office of Academic Affairs.

(1) Application form (Form 1)

(2) Study (long-term research guidance) plan (Form 2)

(3) Employment certificate or a documentary proof of employment (if employed)

(4) Petition form (for those with childcare or domestic care duties)

3. The application period shall be, in principle, as follows:

(1) Registration period for new students

(2) February 1 to the end of February for returning students who enrolled in April
August 1 to the end of August for returning students who enrolled in October.

(Eligibility Review)

Article 6. Eligibility review shall be conducted by the applicant's major taking into account the application form and other documents stated in Article 5-2.

2. Chairman of the major shall submit the eligibility review in written form along with the application and other documents to the Dean of the Graduate School.

3. Specific standard and other particulars required for the review shall be separately defined by the Dean of the Graduate School.

(Notice to Student)

Article 7. The Dean of the Graduate School shall post the name of the successful applicant on the bulletin board and notify the student in writing. The Dean shall also notify the unsuccessful applicant and inform the reason for the decision.

(Tuition)

Article 8. Tuition of a student in the long-term academy stay program shall be governed by Article 2-2 of the University of the Ryukyus Tuition Regulations.

(Shortening the Duration of Program)

Article 9. If a student in the program no longer has reason to stay in the program, and is expected to complete his study within standard years of enrollment, the duration of the program may be shortened by submitting a specified form (Form 3).

2. The duration of the program shall be shortened by the unit of one year. If granted, the tuition of the student shall be governed by Article 2-2 of the University of the Ryukyus Tuition Regulations.

(Report)

Article 10. Once a student a student is accepted into the long-term academic stay program, the Dean of the Graduate School shall report in writing information concerning the student to the Department of Finance.

Supplementary Provision

This document is enforced from January 27, 2010, and applied from April 1, 2010.

Supplementary Provision

This document is enforced from April 24, 2013.

Form 1

Long-term Academic Stay Application Form

To: Dean of the Graduate School of Engineering and Science

Date:

Major:

Name:

Signature:

I hereby submit my application to enter into the long-term academic stay program.

ID (Student) Number		
Date of Enrollment	Expected Date of Completion	Expected Years of Study
Current Address	TEL:	
Work Address	Company Name (Job Type)	
	TEL:	
Reason for Application Necessity:		
Long-term Study Plan:		
Comment by Instructor		
Name of Instructor:		Signature:

*This is not applicable for Monbukagakusho Scholarship students.

Form 2

The University of the Ryukyus Graduate School Long-term Academic Stay Program
(Long-term Academic Research Guidance) Plan

To: Dean of the Graduate School of Engineering and Science

Date:

Name of Instructor (must be written by the instructor):

Signature:

I hereby submit the planned long-term academic stay program for the following student:

Name of Applicant:	Graduate School:
Student ID Number:	Major:
Original Period of Enrollment From to	Expected Period of Enrollment under the Program: From to
Research Guidance Plan (be specific)	

Note: The instructor, upon receiving an application form from a student, shall present a specific long-term study (research guidance) plan on this form, provide his comment on the Application Form, and submit them to the Administrative Office of the Graduate School.

Form 3

Application to Shorten the Duration of Long-term Academic Stay Program

To: Dean of the Graduate School of Engineering and Science

Date:

Majoring in _____ at the Graduate School of Engineering and Science

Name:

Signature:

I hereby submit my request to shorten the duration of my long-term academic stay program.

Student ID Number	
Month and Year of Enrollment	
Originally Scheduled Month and Year of Completion	
Originally Scheduled Period of Stay under the Program	
Scheduled Month and Year of Completion after Shortening	
Scheduled Period of Stay after Shortening	
Reason (why the program is no longer necessary)	
Comment by Instructor	
Name of Instructor: _____ Signature: _____	

University of the Ryukyus Graduate School of Engineering and Science Student Award
Regulations

February 22, 2007
enacted

(Aim)

Article 1 This policy set forth necessary particulars relating to the Graduate School of Engineering and Science Dean's Award, in accordance with Article 37 of the University of the Ryukyus Graduate School Regulations.

(Award)

Article 2 The award shall be presented to an individual who meets any one of the following requirements:

- (1) A person who demonstrated outstanding achievement in academic research or with his/her technical ability.
- (2) A person who made great contribution to bring honor and prestige to this graduate school through academic research or with his/her technical ability.
- (3) One who is deemed to have achievements equivalent of those specified in the preceding clause.

(Nomination)

Article 3 A candidates shall be a student in the Master's or Doctoral program; nomination shall be made by the Chair to the Dean in the form of a letter of recommendation.

2 All nominations shall be deliberated and confirmed in a meeting of the Chair Committee.

(Deliberation)

Article 4 In principle, a candidate to be recommended is selected in a meeting of the Chair Committee.

(Decision)

Article 5 The Dean of the Graduate School shall forward the selection result submitted by the Chair Committee to the Graduate School Committee, and a winner is decided by the said Committee upon further deliberation.

(Timing of award presentation)

Article 6 In principle, the award ceremony shall take place on the day of commencement.

(Method)

Article 7 The Dean of the graduate school shall present the winner with a Dean's Award.

2 The Award may be complemented by a commemorative gift.

(Supplementary Regulations)

Article 8 Other particulars not stipulated in this regulations including particulars in regard to award presentation shall be defined by the Dean of the Graduate School separately.

(Agreement)

1. Award ceremony implementation should apply correspondingly to the University of the Ryukyus Implementation Guidelines for Student Award Ceremony.
2. In principle, the Chair of each of the major field in both Master's and Doctoral Programs should nominate one student from his/her program, however, the recipient-to-be of the President's Award shall not be nominated.
3. The cost of the award ceremony implementation and commemorative gift shall be incurred by the Faculty that the Dean of the Graduate School is affiliated with.

Graduate School of Engineering and Science

Guidelines for Writing and Submission of Master's and Doctoral Thesis

1. Paper

White, good quality paper, A4 size (210 x 297mm) should be used in portrait form.

2. Front Cover and Spine

Either hard or soft cover can be used. The color of covers is not specified; however, depending on a department, a cover color may be specified. Please ask your supervisor about the cover color. Covers should be printed according to the stipulations of these guidelines (see Sample Front Cover and Spine supplied with these guidelines).

3. Thesis contents

- (1) Text is to be written horizontally from left to right.
- (2) Page numbers should be centered at the bottom of each page. Page numbers are not needed on a front cover and spine. Roman numerals (i,ii,iii...) should be used for preliminary pages (i.e. pages for the Committee Member's signature, Abstract, Authors' Publication List, Acknowledgements and Table of Contents). The rest of the pages should be numbered in Arabic numerals (1,2,3...).
- (3) Figures and Tables used in the thesis should be included.
- (4) The contents should be typed and presented in the most readable form. Text should be single/1.5 lines spaced.
- (5) Font style should be in Times New Roman, 10.5 - 12 points for the English version thesis.
- (6) Printing can be done either single or double-sided.
- (7) Page margins should be set at 2.5 cm (1 inch) for the left, right, top and bottom margins.

4. Arrangement of the contents

- (1) Title page (according to the sample)
- (2) Page for committee members' signatures (according to the sample)
- (3) Abstract
- (4) Author's publication list (Papers must not be used for any other degree applications)
- (5) Acknowledgements [before or after (8) References]
- (6) Table of contents
- (7) Main body text (including Figures and Tables)
- (8) References [or after each chapter]
- (9) Others (Appendix, etc.)

5. Illustrations

All illustrations (charts/figures/photos, etc.) should be digitized and visible with a resolution of at least 300 dpi. Captions for figures/graphs are to be placed below while for charts/tables should either be in the text or end of each chapter, all of which are to be clearly legible.

6. Submission

As stipulated in Article 12 of the Regulations of the Graduate School of Engineering and Science, University of the Ryukyus, students must have their thesis submitted in files to the Faculty Office by the appointed date. Fine quality copies are required for both original and duplicate. Photos should be copies of photo print or printed by color copiers of high quality. Each copy must be bound independently in a moderate or fine quality binding and must be submitted to the Faculty Office by the appointed date, before the Graduation Ceremony.

【Submission Documents ・ Deadlines】

※Consult your supervisor as these dates are subject to change at any time.

(1) Master Course

①Thesis Review

Thesis Review Documents	Thesis Review Request ・ Thesis and Author's Publication List ・ Abstract ・ Thesis ・ Curriculum Vitae	
Submission Deadline	Sept. Graduation	March Graduation
	Aug. 10	Feb. 10

※If the deadlines falls on Saturday, Sunday or Holiday, it will be shifted to the last preceding non-holiday week day.

②Graduate Course Committee

Submitting Documents	Thesis (original ・ 1 copy)	
Submission Deadline	Sept. Graduation	March Graduation
	Sept. 9	Mar. 15

※If the deadlines falls on Saturday, Sunday or Holiday, it will be shifted to the last preceding non-holiday week day.

(2) Doctoral Course

①Preliminary Review

Submitting Documents	Request for Preliminary Review ・ Dissertation and Author's Publication List ・ Abstract ・ Dissertation	
Submission Deadline	Sept. Graduation	March Graduation
	Apr. 20	Oct. 20

※If the deadlines falls on Saturday, Sunday or Holiday, it will be shifted to the last preceding non-holiday week day.

②Dissertation Review

Submitting Documents	Dissertation Review Request ・ Dissertation and Author's Publication List ・ Abstract ・ Dissertation ・ Curriculum Vitae	
Submission Deadline	Sept. Graduation	March Graduation
	Jun. 20	Dec. 20

※If the deadlines falls on Saturday, Sunday or Holiday, it will be shifted to the last preceding non-holiday week day.

③Graduate Course Committee

Submitting Documents	1 Dissertation (either a standard fine quality binding or a moderate binding accepted) Statement of Reason	
Submission Deadline	Sept. Graduation	March Graduation

	End of Aug.	End of Feb.
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※If the deadlines falls on Saturday, Sunday or Holiday, it will be shifted to the last preceding non-holiday week day.

②Repository

Submitting Documents	1 Electronic data of a dissertation (ex. CD-R) 2 University of the Ryukyus' Repository Registration 3 Letter of Acceptance 4 Consent letters from publishers* 5 Dissertation (2 bound copies)* 6 University Repository Registration Application* (Submission of the abstract of the doctoral dissertation)	
	Sept. Graduation	March Graduation
Submission Deadline	Early Sept.	Early Mar.

*4 Consent letter: Letters from publishers which published relating articles used in the dissertation to permit presenting the full text of the dissertation.

Dissertation submitter, under the supervision of an advisor, must take the necessary procedures for copyright and personal privacy protection.

*Submission of 5 Dissertation and 6 Application is required for those who cannot present the full text of the dissertation on the university repository immediately.

When the unavoidable reason for being unable to present the full text of the dissertation no longer exists, the dissertation submitter should present his/her entire dissertation on the internet by submitting a University Repository Registration Application (Submission of the full text of the doctoral dissertation).

7. Binding and number of copies

Moderate binding for both original and duplicates are accepted. A fine quality binding for the original thesis is recommended.

〈Standard Fine Quality Binding〉

A standard fine quality binding preferably with back title costs about 6,000 - 8,000 JPY and takes 2 weeks to prepare at the Students' Co-op. An additional expense is charged for data processing.

Size: A4, Quality: paper cloth, hardcover, Title: gold-colored letters, Font style: Times New Roman (bold)

〈Moderate Binding〉

A moderate binding preferably with back title costs 1,000 - 1,500 JPY and takes 1 week to prepare at the Students' Co-op. An additional expense is charged for data processing.

Size: A4, Quality: embossed paper, thick cover, Font style: Times New Roman (bold)

8. Additional information

Students are advised to read the above guidelines in conjunction with the "Detailed Degree Conferral Regulations for the Graduate School of Engineering and Science, University of the Ryukyus" described in the Handbook of Graduate Programs for International Students.

(Sample Front Cover)

**Master's Thesis of Engineering (Science)/
Doctoral Dissertation of Engineering (Science/Philosophy)**
(Times, 16 points, Bold)

Title of Master's Thesis /Doctoral Dissertation
(Times, 18 points, Bold)

March (September) 20xx

(Times, 14 points)

by

(Times, 14 points)

Taro Senbaru

(Times, 16 points, Bold)

Area of Study (Option)

Major (Course)

Graduate School of Engineering and Science

University of the Ryukyus

(Times, 16 points, Bold)

(Sample Title page)

**Master's Thesis of Engineering (Science)/
Doctoral Dissertation of Engineering (Science/Philosophy)
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**Title of Master's Thesis /Doctoral Dissertation
(Times, 18 points, Bold)**

March (September) 20xx
(Times, 14 points)
by
(Times, 14 points)

**Taro Senbaru
(Times, 16 points, Bold)**

**Area of Study (Option)
Major (Course)
Graduate School of Engineering and Science
University of the Ryukyus
(Times, 16 points, Bold)**

**Supervisor: Prof. Taro Okinawa
(Times, 14 points, Bold)**

A4 paper

(Sample **Reviewing Committee Member's signature**)

We, the undersigned, hereby, declare that we have read this thesis and we have attended the thesis defense and evaluation meeting. Therefore, we certify that, to the best of our knowledge this thesis is satisfactory to the scope and quality as a thesis for the degree of Master/Doctor of Engineering (Science/Philosophy) in Area of Study (Option) under Major (Course), Graduate School of Engineering and Science, University of the Ryukyus.

THESIS/DISSERTATION REVIEW & EVALUATION COMMITTEE MEMBERS

Signature

(Chairman) Printed Name

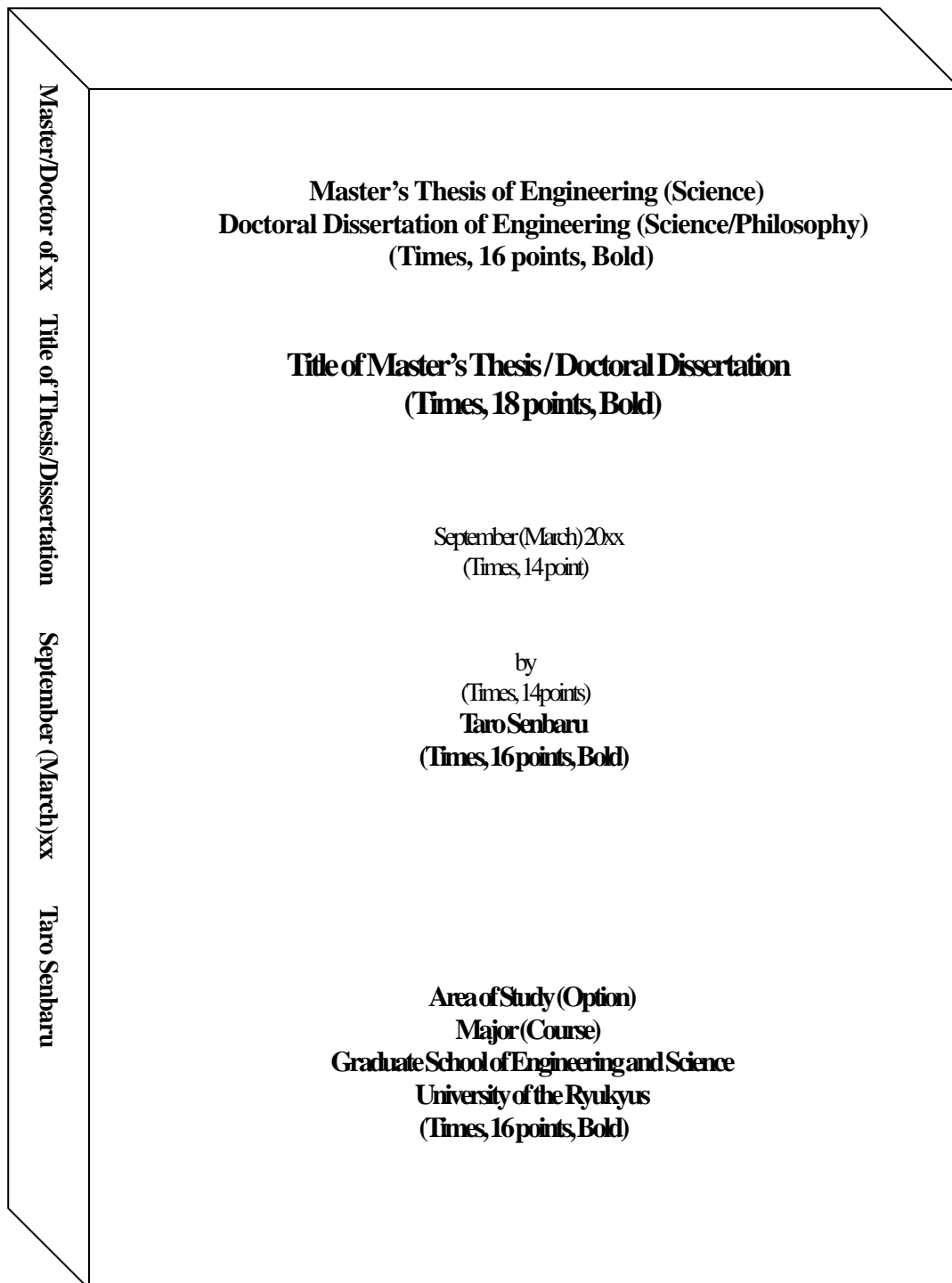
Signature

(Committee) Printed Name

Signature

(Committee) Printed Name

(Sample of Front cover and Spine)



A4 Paper