

University of the Ryukyus Graduate School of Engineering and Science Regulations

April 1, 2019

enacted

Adopted by the Graduate School of Engineering and Science Committee
Degree Regulations for the University of the Ryukyus (April 1, 1985), revised

(Aim)

Article 1 These regulations, based on regulations set forth in the University of the Ryukyus Graduate School Regulations (hereafter referred to as “Graduate School Regulations”), as well as Article 29 Clause 4 of the University of the Ryukyus Organizational Regulations (hereby referred to as “Organizational Regulations”), stipulate necessary particulars relating to courses, credits, methods of completion and other required information pertaining to the University of the Ryukyus Graduate School of Engineering and Science (hereafter referred to as “the Graduate School”).

(Educational and Research Objectives of the Graduate School)

Article 2 The Graduate School has, as its objectives for education and research, the instruction and exploration of theories and application of knowledge pertaining to the fields of science and engineering, contribution to the deepening of academic knowledge and development of scientific technology, as well as the nurturing of individuals imbued with broad-minded perspectives and a high level of specialist and technical expertise.

(Courses and Curricula)

Article 3 The courses in the following list are on offer at the Graduate School.

Master’s Program

Engineering

Mechanical Engineering
Energy and Environment
Electrical and Systems Engineering
Electronic and Communication Engineering
Civil Engineering
Architecture and Building Engineering
Computer Science and Intelligent Systems

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

2 The following programs shall be offered within the course of Engineering.

Major

Programs

Engineering

Solid Mechanics and Materials Engineering
Thermal and Fluid Engineering
Intelligent Machine Systems
Electrical Energy and Systems Control Engineering
Electronic Systems and Devices
Civil Engineering
Architecture & Building Engineering
Computer Science and Intelligent Systems

(Educational and Research Objectives for Courses)

Article 3-2 The objectives concerning talent and human resource development, in addition to other educational and research purposes for the Graduate School's courses and curricula, are defined in the following table.

Table (Article 3-2) Purposes Concerning Human Resource Development, Education, and Research

	Course	Educational and Research Objectives
Master's Program	Engineering Course	To develop human resources capable of making positive contributions to global society with high levels of specialized knowledge, research and development competence, and the ability to reliably execute research-based tasks in the field of 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 Science 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	To develop technical experts and researchers who will lead the world in their respective fields through the administration of education and research replete with highly technical knowledge and state-of-the-art technology in the field of science and technology with a particular focus on the research of material, structural, and energy engineering.
	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.

2 Objectives for each engineering program related to the development of human resources, as well as other educational and research objectives, shall be as listed in the following table.

Course	Program	Educational and Research Objectives
Engineering	Solid Mechanics and Materials Engineering	To develop human resources possessing specialized knowledge and expertise in mechanical engineering-based fields including strength of materials, material processing and corrosion engineering, ranging from foundational to applied concepts, with the ability to put their expertise to practical use.
	Thermal and Fluid Engineering	To develop human resources possessing specialized knowledge and expertise in mechanical engineering-based fields, with a focus on thermal engineering, fluid engineering and energy systems engineering, ranging from foundational to applied concepts, with the ability to put their expertise to practical use.
	Intelligent Machine Systems	To develop human resources possessing specialized knowledge and expertise in mechanical engineering-based fields, with a focus on intelligent mathematical engineering and instrumentation and control engineering, ranging from foundational to applied concepts, with the ability to put their expertise to practical use.
	Electrical Energy and Systems Control Engineering	To develop human resources possessing high levels of specialized knowledge in subjects related to the field of electric power, such as power engineering, power conversion and electrical materials, as well as in instrumentation engineering, control engineering and systems engineering, with the ability to put their expertise to practical use.
	Electronic Systems and Devices	To develop human resources possessing high levels of specialized knowledge in subjects related to the field of electronic systems, such as integrated circuit design and communication engineering, as well as in materials- and device-related fields such as sensor technology and semiconductor technology, with the ability to put their expertise to practical use.
	Civil Engineering	To develop human resources possessing a broad perspective and specialized knowledge encompassing fields such as the creation of sustainable social infrastructure, the prevention and mitigation of climate change-related disasters and environmental preservation.
	Architecture & Building Engineering	To develop human resources possessing high levels of practical expertise in the field of architecture, with the ability to make a positive contribution to the construction of comfortable and culturally-expressive living environments and a safe and sustainable society.
	Computer Science and Intelligent Systems	To develop human resources possessing high levels of specialized knowledge in areas such as artificial intelligence, data science, computer science and networks, with the ability to put their expertise to practical use.

(Vice Dean of the Graduate School)

Article 4 The Graduate School shall be required to appoint a Vice Dean based on rules

set forth in Article 47 Clause 1 of the Organizational Regulations.

2 Either the Dean of the Faculty of Engineering or the Dean of the Faculty of Science who is not presently serving as the Dean of the Graduate School shall be appointed as the Vice Dean of the Graduate School.

(Chairs of Each Major Field)

Article 5 Each of the major fields in both the Master's and Doctoral Programs shall be headed by a Chair, who shall be selected from the professors of the faculty.

2 The term of the Chairship is one year. Reappointment however, shall not be impeded by previous assumptions of the Chairship.

(Supervisors)

Article 6 A supervisor shall be appointed to guide each student in his/her research and theses/dissertations (hereby referred to as "research supervision").

2 Either a qualified professor, associate professor, lecturer or assistant professor shall serve as a supervisor with regards to students enrolled in the Master's Program; a qualified professor or associate professor shall serve as a supervisor with regards to students enrolled in the Doctoral Program.

3 The supervisor shall conduct research supervision and offer appropriate advice concerning subjects and classes taken by his/her students.

4 If deemed necessary by the supervisor, a vice-supervisor may be appointed to assist in research supervision.

5 The supervisor shall select a vice-supervisor from instructors of the faculty who are qualified to provide research guidance.

6 The vice-supervisor shall provide research guidance to students in joint cooperation with the supervisor.

7 Supervisors may not be changed in principle. Under special circumstances however, permission may be granted for supervisors to be changed upon deliberation by the University of the Ryukyus Graduate School of Engineering and Science Graduate School Committee (hereby referred to as "the Graduate School Committee").

(Receiving Instruction at Other Graduate Schools)

Article 7 Should the supervisor deem it to be of educational benefit, students may receive necessary instruction at a different graduate school upon agreement with the host institution, based upon stipulations set forth in Article 17 of the Graduate School Regulations.

2 When deemed necessary by the supervisor, students may be instructed to take specific subjects offered at other Graduate Schools within the University.

3 When deemed necessary by the supervisor, students may be instructed to take specific subjects offered in another major within the Graduate School.

4 When deemed necessary by the supervisor, students of the Master's program may be instructed to take specific undergraduate subjects offered at other faculties and departments within the University.

5 The recognition of credits earned for classes taken under the regulations stipulated in Clauses 1 to 4 that count toward degree conferment must be approved through deliberation by the Graduate School Committee, and shall not exceed ten credits for students enrolled in the Master's Program, and four credits for students enrolled in the Doctoral Program. As a requirement for program completion, conferment of credits shall be limited to classes taken at Master's level for students enrolled in the Master's Program, and classes taken at Doctoral level for students enrolled in the Doctoral Program.

(Completion of Course Curricula over an Extended Period of Time)

Article 8 In light of reasons such as full-time employment, students may be granted permission to enroll in and complete their academic programs over a fixed period of time, which exceeds the standard period of study stipulated in Article 11 of the Graduate School Regulations, upon formal application to the Graduate School.

2 With regards to the preceding clause, the desired period of study for extended learning must not exceed the period of enrollment set forth in Article 12 of the Graduate School Regulations.

3 Stipulations pertaining to course completion over an extended period of time are set out in a separate document.

(Recognition of Credits Gained Prior to Enrolment)

Article 9 Should it be deemed by the Graduate School to be of educational merit, students may have credits (including those earned as auditing students) gained from enrolling in classes at a different graduate school (including graduate schools of other universities) prior to enrolment at the Graduate School acknowledged as credits for program completion, under Article 19 of the Graduate School Regulations.

2 Credits attained for classes of the Graduate School taken at undergraduate level prior to enrolment at the Graduate School may also be recognized as credits for program completion at the Graduate School.

(Subjects and Credits)

Article 10 Subjects offered at the Graduate School and their corresponding credits to be awarded are set out in a separate table.

(Methods of Education)

Article 11 Education at the Graduate School shall take the form of class instruction for subjects offered and research guidance.

2 When deemed to be of particular necessity from an educational viewpoint, education methods may assume appropriate forms such as class instruction and research guidance in the evenings and other stipulated times of the day, or over extended periods of time.

(Method of Program Completion)

Article 12 Methods of completing classes offered at the Graduate School are set out in a separate table.

(Method of Study)

Article 13 Students must obtain consent from the supervising instructors of all classes they intend to register for at the beginning of each academic semester. Students are required to inform the Dean of the Graduate School through submission of stipulated documents by the specified deadline.

(Research Theme)

Article 14 Students must, with the consent of their supervisor, decide upon and submit a designated form to the Dean of the Graduate School detailing their intended topic of research within a specified period of time after their enrolment at the Graduate School.

2 In the case of the above, the supervisor shall, upon consulting the student, clearly specify and present a annual schedule of research guidance to the student.

(Clear Specification of Grading and Evaluation Standards)

Article 15 Detailed information concerning course curricula and methods, as well as grading and evaluation standards, will be fully and clearly specified to students at the beginning of each semester.

(Receiving Instruction at other Graduate Schools and Institutes)

Article 16 Students may be allowed to receive instruction at graduate schools and/or research institutes of other universities based upon Article 25 of the Graduate School Regulations upon obtaining permission to do so from the Graduate School Committee.

(Acknowledgement of Credits)

Article 17 Verification of credits obtained from each class shall be conducted by the supervising instructor through assessment of examination performance and research reports.

2 Students unable to sit for scheduled examinations due to reasons pertaining to illness and other unavoidable circumstances may be allowed to take supplementary examinations.

3 Students who do not receive a passing grade on class examinations may, depending on circumstances, be permitted to re-take the examination(s) concerned.

4 Timings and scheduling of supplementary and re-examinations shall be determined separately by the Graduate School Committee.

(Grade Evaluation)

Article 18 Evaluation standards for examinations and research reports are assessed using five grading categories: A, B, C, D, and F. Grades A, B, C and D are considered passing grades, while grade F is regarded as a failure to meet the minimum passing grade.

2 Details of the grade evaluation criteria as set out in the preceding clause are shown in the following table.

Classification of Assessment	Grade Category	Corresponding Marks (out of full marks of 100)	Evaluation Criteria
Pass	A	90 marks or more	Student has fulfilled Course Aims and accomplished outstanding results.
	B	80 ~ 89 marks	Student has fulfilled Course Aims and accomplished very good results.
	C	70 ~ 79 marks	Student has fulfilled Course Aims.
	D	60 ~ 69 marks	Student has fulfilled Course Aims to the minimum required standard.
Fail	F	Less than 59 marks	Student has not fulfilled Course Aims.

(Theses/Dissertations, Final Examinations and Evaluation)

Article 19 Students shall be permitted to submit their research thesis/dissertation and sit for final examinations if they have obtained, from the list of subjects set forth in Article 10, 30 or more credits in the case of Master's Program students, or 12 or more credits in the case of Doctoral Program students, and have received the required level of instruction necessary to complete their research and write their thesis/dissertation within their specified period of enrolment at the Graduate School.

2 Subjects defined in Article 7 and Article 19 of the Graduate School Regulations, whereby registration has been approved by the supervisor, may be added toward the list of subjects defined in Article 10. As a requirement for program completion however, the abovementioned shall be limited to subjects taken at Master's level for students enrolled in the Master's Program, and subjects taken at Doctoral level for students enrolled in the Doctoral Program.

3 Comprehensive evaluation of theses/dissertations and approval of coursework completion shall take into consideration various elements including the following: clarity of problem propositions, persuasiveness of argument processes, uniqueness of research findings, depth of expression, and appropriateness of materials referenced. Corresponding results shall be assessed in either of two categories - "Pass" or "Fail".

4 The above notwithstanding, each major field may define its own criteria for evaluation based on its course objectives.

5 Students must, upon obtaining consent from their supervisor, submit their theses/dissertations to the Dean of the Graduate School by the specified deadline for submission.

6 Particulars relating to final examinations and screening of theses/dissertations shall be defined in the Detailed Regulations for Degree Conferral at the University of the Ryukyus Graduate School of Engineering and Science.

(Requirements for Program Completion)

Article 20 The completion requirements for Master's Programs at the Graduate School are as follows: a period of enrolment of more than two years, the earning of credits stipulated under Article 10, the receiving of necessary research instruction, upon which the student is required to submit a research thesis and obtain a passing grade for the final examinations. However, students who display exemplary research performance may be allowed to complete the program after one year of enrolled student status at the Graduate School.

2 The completion requirements for Doctoral Programs at the Graduate School are as follows: a period of enrolment of more than three years, the earning of credits stipulated under Article 10, the receiving of necessary research instruction, upon which the student is required to submit a research dissertation and obtain a passing grade for the final examinations. However, students who display exemplary research performance may be allowed to complete the program after one year of enrolled student status at the Graduate School.

(Conferral of Degrees)

Article 21 A Master's Degree shall be conferred upon students who have successfully

completed the Master's program.

2 A Doctoral Degree shall be conferred upon students who have successfully completed the Doctoral program.

3 In addition to the preceding clauses, particulars relating to the conferral of degrees shall be defined in the Detailed Regulations for Degree Conferral at the University of the Ryukyus Graduate School of Engineering and Science.

(Special Auditors)

Article 22 The Graduate School may permit students from graduate schools of other universities to take specified subjects in the Graduate School based upon mutual agreement with the student's home institution.

2 Students admitted under stipulations set forth in the preceding clause shall be accorded the status of Special Auditor.

(Special Researchers)

Article 22 The Graduate School may permit students from graduate schools of other universities to receive research instruction in the Graduate School based upon mutual agreement with the student's home institution.

2 Students admitted under stipulations set forth in the preceding clause shall be accorded the status of Special Researcher.

(Auditing Students)

Article 24 Those eligible to enrol in the Graduate School as auditing students 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.

(Researcher)

Article 25 Those eligible to enrol 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 26 The Graduate School Committee shall specify separately any necessary particulars relating to the Graduate School that are not stipulated in the regulations herein.

Supplementary Provision (June 23, 2010)

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

Supplementary Provision (June 20, 2012)

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

Supplementary Provision (March 7, 2018)

This regulation is to be enforced from April 1, 2018.

Supplementary Provision (November 28, 2018)

This regulation is to be enforced from November 28, 2018.

Supplementary Provision (April 23, 2019)

This regulation is to be enforced from April 23, 2019 and shall come into effect from April 1, 2019.

Supplementary Provision (February 17, 2021)

This regulation is to be enforced from April 1, 2021.