# Graduate School of Bioresources

# FOREIGN STUDENTS' GUIDELINES

For the Completion of the

# MASTER'S PROGRAM

and the

# DOCTORAL PROGRAM

(starting from April 2018)

MIE UNIVERSITY

# CONTENTS

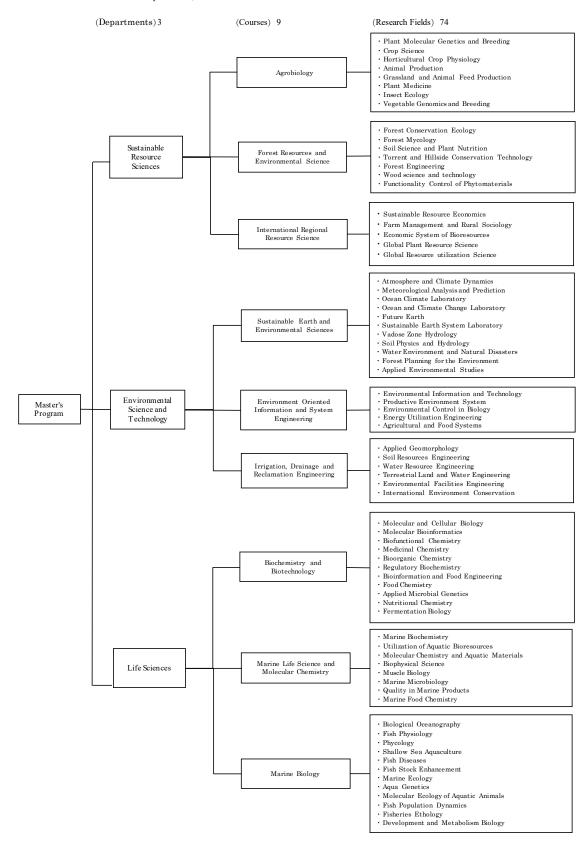
#### OVERVIEW OF THE MASTER'S PROGRAM

Ι.	Organization of the Master's Program	1
${\rm I\hspace{1em}I}.$	How to Enroll in Subjects	8
${\rm I\hspace{1em}I\hspace{1em}I}.$	Graduation Requirements and Degrees	9
IV.	Thesis Research Plan and Screening Criteria	9
V.	Subjects for Departments and Courses	12
OVI	ERVIEW OF THE DOCTORAL PROGRAM	
Ι.	Organization of the Doctoral Program	22
${\rm I\hspace{1em}I}.$	Features of Our Education and Research	27
Ⅲ.	How to Enroll in Subjects	29
IV.	Graduation Requirements and Degrees	30
V.	Thesis Research Plan and Screening Criteria	30
VI.	Subjects for Departments and Courses	33
RE	LATED PROVISIONS	
Ι.	Regulations of the Graduate School of Bioresources	37
${\rm I\hspace{1em}I}.$	Bylaws for Degree Examination in the Master's Course	
	at the Graduate School of Bioresources.	42
Ⅲ.	Bylaws for Degree Examination in the Doctoral Course	
	at the Graduate School of Bioresources	45
IV.	Arrangements for Degree Examination in the Doctoral Course	
	at the Graduate School of Bioresources	52
V.	Graduate School Grade Assessment Guidelines	56

# OVERVIEW OF THE MASTER'S PROGRAM

#### I . Organization of the Master's Program

This Graduate School Consists of 3 Departments, 9 Courses and 74 Research Fields.



#### **Outline of Departments and Courses**

#### **Department of Sustainable Resource Sciences**

In Department of Sustainable Resource Sciences, we aim to educate people who can develop technology and research for the cyclic use of bioresources through efficient, environmentally-friendly methods and design a new society, building a harmonious recycling society.

To that end, we carry out research and education on the sustainable use of bioresources through a study of biological life systems, the environment they live in and biodiversity. The department is made up of three courses: Agrobiology, which mainly conducts research and education on the use of bioresources such as food and useful materials, Forest Resources and Environmental Science, which mainly conducts research and education on methods for using forest resources and their diverse functions sustainably, and International Regional Resource Science, which conducts research and education on the use of bioresources from economic, management, social, and policy points of view. The details of the education and research provided by each course are as follows.

#### **Agrobiology Course**

Agriculture is a vital activity for humans and plays an important role in supplying safe and high-valued food to humans, protecting the global environment, and conserving bioresources for sustainable use. We aim to develop efficient and environmentally-friendly agricultural techniques. The techniques include those for protecting crops from insect pests and diseases. Moreover, to develop the above techniques, we try to discover possibly useful functions equipped in living beings at levels of genes, cells, organs, organisms, populations, communities, and ecosystems by using various approaches based on genetics, physiology, systematics, and ecology.

#### Forest Resources and Environmental Science Course

Covering 30% of the earth's surface, forests are a massive collection of biological life that accounts for 90% of all life on land. This is why forests both play a large role in sustaining the global environment and are important as a renewable resource. In addition, not only do they function to adjust the environment through land conservation, water resource cultivation, and climate mitigation, forests contribute a great deal to our lifestyles by, for example, providing us with green spaces to gain mental relaxation. In this course, we seek to understand the features of forests, with their multifaceted functions, and find methods for using these resources and diverse functions sustainably while maintaining harmony with the natural environment. We do this through lectures, seminars, and practical training in the university's forest. Topics covered include ecology, botany, microbiology, soil science, chemistry, physics, and information science.

#### **International Regional Resource Science Course**

We carry out research and education to use unique local assets appropriately in rural villages around Japan and the world, with the aim of creating sustainable socio-economic development. Specifically, we emphasize fieldwork, providing education and research on socio-economic fields with the aim of constructing a social system to achieve sustainable use of local resources. We also carry out education and research related to practical utilization technology for regional resources targeted at developing nations in particular, on a foundation of biology.

In Department of Environmental Science and Technology, we aim for the construction of a sustainable biological production system in which human activities and biological systems are in harmony while preserving and restoring, and understanding, the environment of the global biosphere which is made up of all the diverse ecologies on Mother Earth. To that end, we carry out research and education, rooted in basic science, in fields such as meteorology, environmental science, and ecology, covering the whole scale of sizes, from microflora to the earth itself, looking at global ecological systems with its complex interactions among the land, sea, and sky. This department is made up of three courses: Sustainable Earth and Environmental Sciences Course, which looks at the basic science fields of geoscience, hydrologic science, soil science, and plant physiological ecology, for future earth; Environment Oriented Information and System Engineering, which uses instrumentation, control and systems engineering of environmental information, with a core of information processing technology based on knowledge of bioecology, as its methods; and Irrigation, Drainage and Reclamation Engineering Course, which is designed for the protection of rural villages and farmland where humans are directly connected with the workings of nature as well as their sustainable use as sound, healthy places for material circulation. The details of the education and research provided by each course are as follows.

#### Sustainable Earth and Environmental Sciences Course

Deterioration of the earth's environment such as climate changes and abnormal weather is closely related to ecological environmental, and earth systems consisting of the atmosphere, oceans, soils, plants, hydrosphere, the ecosphere, and activities of humans and other animals. We conduct research on the basic structures, fluctuation processes, and symbiotic and interactive relationships for the environmental systems, such as the evolution of the earth, climate and terroir, hydrology, conservation of the global as well as local environments, the physiological ecology and ecological harmonization of flora and fauna, and human activities for biological resources, all with reference to observation, measurement, experimentation, investigation, remote sensing, and numerical analysis. We aim education and research for students to obtain new scientific knowledge and practical skills, and broaden the intellect for the creation of the next-generation culture and sustainable earth.

#### **Environment Oriented Information and System Engineering Course**

In order to allow humans to develop sustainably while coexisting with other organisms and preserving the environment, our course uses systems engineering as a method for education and research related to complex systems, the control of production systems, and the measurement of environmental information with a core of information processing technology, building on knowledge of bioecology. In other words, we offer research and education on symbiotic technology and plants that are related to environmental improvement. In addition, we carry out research and education on applied technology such as the production and processing of bioresources using low environmental load technologies through precise management.

#### Irrigation, Drainage and Reclamation Engineering Course

In our course, we provide education and research with the goal of creating a rich rural environment as a place for sound, healthy material circulation, preserving the rural regions where agriculture is practiced. Specifically, we carry out research and education on the appropriate and sustainable use of water, soil, and space in rural areas where the workings of nature and humans directly interact, planning and conservation for rural environments, development and management of rural areas and facilities, the effective use of regional resources, the theories and technologies required for preventing or mitigating natural disasters and recovering from them, explanations of topographical formation processes through long-term changes in the substratum, investigation and analysis of overland and subsurface flows, and explanations and forecasts for the flow of water, chemicals, heat, and gas in rural areas.

#### **Department of Life Sciences**

Department of Life Sciences aims to build the basic scientific theories related to the life sciences overall as well as a field of study related to the development, conservation, and management of marine bioresources, and to instruct the students through the practical education. Therefore, in this department, we carry out research and education in order to allow individual students to learn the research skills required for research in the life sciences, as well as to understand basic theory related to the life phenomena of bioresources at the ecosystem, community, population, individual, organ, cell, and molecular levels. The department is made up of three courses: Biochemistry and Biotechnology, which seeks to clarify the structure and functions of the systems and molecules of life phenomena through research strategies related to bioscience and biotechnology, and apply them to the development of functional molecules and foods, or to environmental technologies; Marine Biotechnology, which aims to explain the marine biological functions of marine life on a chemical level and contribute to the effective use of marine bioresources, and Marine Biology, which seeks to understand life in the hydrosphere, including fresh water areas, and the workings of these life forms on a range of scales, from molecular to ecological. The details of the education and research provided by each course are as follows.

#### **Biochemistry and Biotechnology Course**

Our goal is the effective use of bioresources over a wide area that includes foods, health, drugs, lifestyle, and the environment. Using the strategy of bioscience and biotechnology, we look at the diverse systems of life phenomena, whether animal, plant, or microorganism, as well as their molecular structures and functions of the materials that these organisms produce. Our aim is to establish theories and skills for applying these results to the development of new functional molecules and foods, and environmental technologies. To that end, we carry out specialist research and education from the perspectives of chemistry, biochemistry, molecular biology, and bioengineering, with a focus on research into structures and functions of new functional materials, the genetic expression mechanisms of animals and microorganisms, bio-information sensing and processing technologies, and the development of technologies for using unutilized bioresources.

#### Marine Life Science and Molecular Chemistry Course

Along with providing explanations for the marine biological functions on a chemical level, we also aim to effectively utilize marine bioresources such as seafood, algae, marine microorganisms, etc., and to integrate biological information through analysis and isolation of their components. In addition, we use these as materials to create functional food resources, cosmetics, etc. through biochemical and genetic engineering techniques. In our course, we provide research and education on biochemistry, molecular biology, and the analytical techniques. Furthermore, we carry out research and education so that students can learn and master abilities to handle these techniques into practice.

#### **Marine Biology Course**

In our course, we research marine life on a range of scales, from cellular and individual to biotic communities and ecosystems. Our research fields cover all marine environments, including freshwater, but with an emphasis on the oceans. The subject of research consists of different biology with plankton, algae, crustaceans, shellfish, finfish, and marine mammals. We conduct research and education on understanding the workings of each of these life forms at the genetic, cellular, individual, and community levels, as well as on methods for preserving ecosystems and biodiversity and on the sustainable use of marine life. We also aim to enrich human life through the appropriate management of marine life as resources, and effective increase and farming methods for them.

## II. How to Enroll in Subjects

#### 1 Course name

The names of each department and course are shown in V.

#### 2 Credit standards

Lectures (incl. advanced courses, advanced lectures, etc.)	15 hours	1 credit
Seminars	30 hours	1 credit
Labs (practical training, including internships)	45 hours	1 credit
Advanced research	45 hours	1 credit

#### 3 How to enroll

(1) A minimum of 30 credits needs to be obtained from a combination of compulsory subjects (as specified by the department or course the student is a member of) and required elective subjects from those currently offered.

Advanced research	10 credits	(Compulsory)
Lectures and seminars	At least 20 credits	(Combination of compulsory and required electives)
Total	At least 30 credits	

- (2) However, subjects in other departments or graduate schools that the instructor in charge has deemed necessary to take may be included in these 30 credits to a maximum of 10 credits.
- (3) "Internships" in the joint subjects for each department cannot be included in the graduation requirements.

#### III. Graduation Requirements and Degrees

#### 1 Graduation requirements

Students are required to spend at least two years in this graduate school (the Master's course) and obtain at least 30 credits from instruction by faculty members; in addition, they are required to study and complete research ethics e-leaning and to have undertaken the necessary research guidance and to pass the examination for their graduate thesis and final defense conducted by this graduate school. However, students with especially meritorious performance may be permitted to graduate after only one year.

#### 2 Types of degrees

The degree awarded shall be the degree of Master (Bioresources).

#### IV. Thesis Research Plan and Screening Criteria

#### 1 Thesis research plan

Instruction for the graduate thesis shall be given in accordance with the following plan, based on the Mie University Graduate School Regulations.

#### (1) Research theme for graduate thesis

Students shall discuss their research themes and direction with their supervising professor when entering the Graduate School.

#### (2) Graduate thesis

The thesis will be reviewed by an examination committee composed of the student's supervising professor (full professor) serving as chief examiner as well as at least two faculty members (professor, associate professor, lecturer) connected with the thesis serving as associate examiners. In addition, the examination committee shall require the student to submit to a written or oral defense of the thesis topic and other related subjects.

#### (3) Examination

The examination will take place on with the following schedule. (Note that the actual dates will differ by year, so check the listings on the Graduate School website.)

Examination procedure	Examination schedule for a student intending to graduate in March	Examination schedule for a student intending to graduate in September
- The supervising professor will instruct the student to submit the Application for Examination of Graduate Thesis.	Late November	Mid-May
- Submission of the Application for Examination of Graduate Thesis (to Student Affairs Office) - Submission of graduate thesis (to the chief examiner) - The Graduate School Faculty Committee makes the decision to establish the Graduate Thesis Examination Committee (chief examiner, associate examiners)	Late January to early February	Mid-July to late July
- Examination and final defense of the thesis	Mid-February	Mid-August
- The Graduate School Faculty Committee judges whether the student shall be graduated based on the examination of the thesis and the final defense results.	Early March	Early September
- Degree conferral ceremony	End of March	Mid-September

#### 2 Graduate thesis examination standards

The thesis will be assessed through the thesis examination and final defense (written or oral) on the following points, after which the decision on whether to pass it will be made through a comprehensive evaluation of these results.

#### **Examination points**

- (1) Has the student mastered sufficient basic and specialist knowledge for a Master's degree in the relevant field?
- (2) In the submitted thesis, have the background, position, and purpose of the research in the relevant field been clearly noted and are they appropriate for a graduate thesis?
- (3) Have appropriate research methods and/or experiment plans been prepared for the set research theme, and have valid analysis and considerations been made regarding the obtained results?
- (4) Are the contents of the thesis (main body, figures, tables, cited literature, etc.) both sufficient

and appropriate and is there a consistent logical structure throughout that leads to the conclusion?

- (5) From a theoretical or empirical point of view of the relevant research field, does the thesis have any novelty or value as a graduate thesis?
- (6) Does the mastery of foreign languages related to the comprehension of the literature required in order to carry out the research reach a sufficient level?

# V. Subjects for Departments and Courses

# 1. Department of Sustainable Resource Sciences

			Cre	dits
Course	Field of Research	Class	Mandatory	Optional mandatory
	Plant Molecular	Advanced Molecular Genetics and Breeding		2
	Genetics and Breeding	Seminar on Molecular Genetics and Breeding		2
	G G	Advanced Crop Science		2
	Crop Science	Seminar on Crop Science		2
•	Horticultural Crop	Advanced Horticulture Crop Physiology		2
	Physiology	Seminar on Horticulture Crop Physiology	2 2	2
•	A : 1D 1 ::	Advanced Animal Production		2
	Animal Production	Seminar on Animal Production		2
,	Grassland and Animal	Advanced Grassland and Feed Science		2
	Feed Production	Seminar on Grassland and Feed Science		2
A 1 · 1	DI . M. II .	Advanced Plant Pathology		2
Agrobiology	Plant Medicine	Seminar on Plant Pathology		2
,		Advanced Insect Ecology		2
	Insect Ecology	Seminar on Insect Ecology	2 2	2
	Vegetable Genomics	Vegetable Genomics Advanced Vegetable Genomics and Breeding		2
	and Breeding	Seminar on Vegetable Genomics and Breeding		2
		Thesis Research in Agricultural Biology I	4	
		Thesis Research in Agricultural Biology II	6	
	Common classes	Advanced Crop Ecology and Physiology		2
		Seminar on Crop Ecology and physiology		2
		Advanced Molecular Engineering		2
		Seminar on Agricultural Biology		2

# 1. Department of Sustainable Resource Sciences

Conseque	E' 11 CD 1	CI.	Credits	
Course	Field of Research	Class	Mandatory	Optional mandatory
	Forest Conservation	Advanced Forest Conservation Ecology		2
	Ecology	Seminar on Forest Conservation Ecology		2
	Fanast Massalagus	Advanced Forest Mycology		2
	Forest Mycology	Seminar on Forest Mycology		2
	Soil Science and Plant	Advanced Soil and Environmental Sciences		2
	Nutrition	Seminar on Soil Science and Plant Nutrition		Optional mandatory   2   2   2   2   2   2   2   2   2
	Torrent and Hillside Conservation	Advanced Technology of Torrent and Hillside Conservation		
	Technology	Seminar on Technology of Torrent and Hillside Conservation		
TD. 4	Forest Engineering	Advanced Environmental Forest Engineering		2
Forest Resources and		Seminar on Environmental Forest Engineering		2
Environmental Science	Wood science and	Advanced Wood and Timber Engineering		2
Science	technology	Seminar on Advanced Wood and Timber Engineering		2
	Functionality Control	Advanced Control Technology of Phytomaterials		2
	of Phytomaterials	Seminar on Control Technology of Phytomaterials		2 2 2 2
		Thesis Research in Forest Resources and Environment I	4	
	and Environment II	Thesis Research in Forest Resources and Environment II	6	
		Advanced Technology of Forest Management		2
		Seminar on Forest Management		2
		Advanced Forest Resources and Environmental Science		2

#### 1. Department of Sustainable Resource Sciences

	Field of Research		Cre	dits
Course		Class	Mandatory	Optional mandatory
	Sustainable Resource	Advanced Food and Agricultural Economics		2
	Economics	Seminar on Food and Agricultural Economics		2
		Advanced Sustainable Farm Management and		2
	Farm Management	Rural Sociology		2
	and Rural Sociology	Seminar on Advanced Sustainable Farm		2
		Management and Rural Sociology		2
International	Economic System of	Advanced Marine Bioresources Economics		2
Regional	Bioresources	Seminar on Marine Bioresources Economics		2
Resource	Global Plant Resource	Advanced Global Plant Resource Science		2
Science	Science	Seminar on Global Plant Resource Science		2
	Global Resource	Advanced Feed Resource Science		2
	Utilization Science	Seminar on Feed Resource Science		2
		Thesis Research in International Rural Resource I	4	
	Common classes	Thesis Research in International Rural Resource II	6	
		Special Lecture on International Rural Resource I		1
		Special Lecture on International Rural Resource II		1
		Advanced Sustainable Bioresource Sciences	2	
		Special Lecture on Sustainable Bioresource Sciences		2
		Introduction to Sustainable Bioresource Sciences I		2
Classes common in the Department		Introduction to Sustainable Bioresource Sciences II		2
		Internship		90h
		Long-Term Internship		135h

Regarding the Lecture of Research Ethics:

You need to attend the lecture on research ethics by e-learning system and so on during your study in the Faculty of Bioresources. This is a supplementary lecture to the main curriculum above.

			Cre	dits
Course	Field of Research	Class	Mandatory	Optional mandatory
	Atmosphere and	Advanced Atmosphere and Climate Dynamics		2
	Climate Dynamics	Seminar on Atmosphere and Climate Dynamics		2
	Meteorological Analysis and	Advanced Meteorological Analysis and Prediction		2
	Prediction	Seminar on Meteorological Analysis and Prediction		2
	Ocean Climate	Advanced Ocean Climate Laboratory		2
	Laboratory	Seminar on Ocean Climate Laboratory		2
	Ocean and Climate	Advanced atmospheric and oceanic fluid dynamics		2
	Change Laboratory Seminar on atmospheric and oceanic fluid dynamics		2	
	Future Earth	Advanced Future Earth		2
	ruture Bartin	Seminar on Future Earth		2
	Sustainable Earth	Advanced Sustainable Earth System  Laboratory		2
Sustainable	System Laboratory	Seminar on Sustainable Earth System  Laboratory		2
Earth and	Vadose Zone	Advanced Vadose Zone Hydrology		2
Environmen	Hydrology	Seminar on Vadose Zone Hydrology		2
tal Sciences	Soil Physics and	Advanced Soil Physics and Hydrology		2
	Hydrology	Seminar on Environmental Soil Physics		2
	Water Environment	Advanced Water Environment and Natural Disasters		2
	and Natural Disasters Seminar on Water Environment and Natural	Seminar on Water Environment and Natural Disasters		2
		Advanced Forest Planning for the Environment		2
	Environment Seminar on Forest Plannin	Seminar on Forest Planning for the Environment		2
	Applied	Advanced Environmental Analysis		2
	Environmental Studies	Seminar on Environmental Analysis		2
	Nature and	Advanced Nature and Coexistence		2
	Coexistence	Seminar on Nature and Coexistence		2
		Thesis Research in Sustainable Earth and Environmental Sciences I	4	
	Common classes	Thesis Research in Sustainable Earth and Environmental Sciences II	6	

•	Field of Research	Science and Technology	Cre	dits
Course		Class	Mandatory	Optional mandatory
	Environmental Information and	Advanced Theory of Environmental Information and Technology		2
	Technology	Seminar on Environmental Information and Technology		2
	Productive	Advanced Theory of Productive Environment System		2
	Environment System	Seminar on Productive Environment System		2
	Environmental Control	Advanced Theory of Environmental Control in Biology		2
Environment	in Biology	Seminar on Advanced Theory of Environmental Control in Biology		2
Oriented Information	Energy Utilization	Advanced Theory of Energy Utilization Engineering		2
and System Engineering	Engineering	Seminar on Energy Utilization Engineering		2
Engmeering	Agricultural and Food	Advanced Agricultural and Food Systems		2
	Systems	Seminar on Agricultural and Food Systems		2
		Thesis Research in Environment Oriented Information and System I	4	
		Thesis Research in Environment Oriented Information and System II	6	
	Common classes	Advanced Theory of Control Engineering		2
		Advanced Theory of Applied Systems Engineering		2
		Advanced Theory of Natural Energy Engineering		2

•		al Science and Technology	Cre	dits
Course	Field of Research	d of Research Class	Mandatory	Optional mandatory
	Applied	Advanced Applied Geomorphology		2
	Geomorphology	Seminar on Applied Geomorphology		2
	Soil Resources	Advanced Soil Resources Engineering		2
	Engineering	Seminar on Soil Resources Engineering		2
	Water Resource	Advanced Water Resource Engineering		2
	Engineering	Seminar on Water Resource Engineering		2
	Terrestrial Land and	Advanced Terrestrial Land and Water Engineering		2
	Water Engineering	Seminar on Terrestrial Land and Water Engineering		2
Irrigation, Drainage and	Environmental	Advanced Environmental Facilities Engineering		2
Reclamation	Facilities Engineering	Advanced Environmental Facilities Engineering  Seminar on Environmental Facilities Engineering		2
Engineering	International	Advanced International Environment Conservation		2
	Environment Conservation	Seminar on International Environment Conservation		2
		Thesis Research in Irrigation, Drainage and Reclamation Engineering I	4	
	Common classes	Thesis Research in Irrigation, Drainage and Reclamation Engineering II	6	
		Advanced Regional Environmental Engineering	-	2

			Cre	edits
Course	Field of Research	Class	Mandatory	Optional mandatory
		Advanced Environmental Science and Technology	2	
		Special Lecture on Environmental Science and Technology I		1
		Special Lecture on Environmental Science and Technology II		1
		Special Lecture on Environmental Science and Technology III		1
		Special Lecture on Environmental Science and Technology IV		1
Classes common i	in the Department	Special Lecture on Environmental Science and Technology V		1
		Special Lecture on Environmental Science and Technology VI		1
		Special Lecture on Environmental Science and Technology VII		1
		Special Lecture on Environmental Science and Technology VII		1
		Internship		90h
		Long-Term Internship		135h

Regarding the Lecture of Research Ethics:

You need to attend the lecture on research ethics by e-learning system and so on during your study in the Faculty of Bioresources. This is a supplementary lecture to the main curriculum above.

3. Department of Life Sciences

1	irtment of Life Science		Cre	edits
Course	Field of Research	Class	Mandatory	Optional mandatory
	Molecular and	Advanced Molecular and Cellular Biology		2
	Cellular Biology	Seminar on Molecular and Cellular Biology		2
	Molecular	Advanced Molecular Bioinformatics		2
	Bioinformatics	Seminar on Molecular Bioinformatics		2
	Biofunctional	Advanced Biofunctional Chemistry		2
	Chemistry Medicinal Chemistry	Seminar on Biofunctional Chemistry		2
	Diagram in Olympia	Advanced Bioorganic Chemistry		2
	Bioorganic Chemistry	Seminar on Bioorganic Chemistry		2
	Regulatory	Advanced Regulatory Biochemistry		2
	Biochemistry	Seminar on Regulatory Biochemistry		2
	Bioinformation and	Advanced Bioinformation and Food Engineering		2
Disabaniatan	Food Engineering	Seminar on Bioinformation and Food Engineering		2
Biochemistry and	Food Chemistry	Advanced Food Chemistry		2
Biotechnology		Seminar on Food Chemistry		2
	Applied Microbial Genetics  Advanced Microbial Genetics and Biotechno Seminar on Microbial Genetics  Nutritional  Advanced Nutritional Chemistry	Advanced Microbial Genetics and Biotechnology		2
		Seminar on Microbial Genetics		2
		Advanced Nutritional Chemistry		2
	Chemistry	Seminar on Nutritional Chemistry		2
	D D: 1	Advanced Microbiology in Food Production		2
	Fermentation Biology	Seminar on Fermentation Biology		2
		Thesis Research in Biochemistry and Biotechnology I	4	
	Common classes	Thesis Research in Biochemistry and Biotechnology II	6	
		Advanced Biochemistry and Biotechnology I	2	
		Advanced Biochemistry and Biotechnology II	2	

3. Department of Life Sciences

3. Depart	Field of Research		Credits	
Course		Class	Mandatory	Optional mandatory
	Marine Biochemistry	Advanced Biochemistry of Marine Resources		2
		Seminar on Biochemistry of Marine Resources		2
	Utilization of Aquatic Bioresources	Advanced Utilization for Aquatic Bioresources		2
	Molecular Chemistry and Aquatic Materials	Seminar on Utilization for Aquatic Bioresources		2
	Biophysical Science	Advanced Biopolymer Science		2
		Seminar on Biopolymer Science		2
	Muscle Biology	Advanced Structural Analysis of Biological Macromolecules		2
Marine Life Science and Molecular Chemistry		Seminar on Structural Analysis of Biological Macromolecules		2
	Marine Microbiology	Advanced Biochemistry of Marine Microbiology		2
		Seminar on Microbiology of Marine Resources		2
	Quality in Marine Products	Advanced Quality of Marine Products		2
		Seminar on Quality of Marine Products		2
	Marine Food Chemistry	Advanced Marine Food Chemistry		2
		Seminar on Marine Food Chemistry		2
	Common classes	Special Research of Marine Life Science and Molecular Chemistry I	4	
		Special Research of Marine Life Science and Molecular Chemistry II	6	
		Advanced Marine Life Science and Molecular Chemistry	2	

3. Department of Life Sciences

		ar.	Cre	edits	
Course	Course Field of Research Class		Mandatory	Optional mandatory	
	Biological	Advanced Biological Oceanography		2	
	Oceanography	Seminar on Biological Oceanography		2	
	D: 1 D1 : 1	Advanced Physiology of Aquatic Animals		2	
	Fish Physiology	Seminar on Physiology of Aquatic Animals		2	
	D1 1	Advanced Phycology		2	
	Phycology	Seminar on Phycology		2	
	Shallow Sea	Advanced Study in Shallow Sea Aquaculture		2	
	Aquaculture	Seminar on Shallow Sea Aquaculture		2	
	T. 1. D.	Advanced Study in Fish Diseases		2	
	Fish Diseases	Seminar on Fish Diseases		2	
	Fish Stock	Advanced Fish Culture		2	
	Enhancement	Seminar on Advanced Fish Culture		2	
	N D. I	Advanced Marine Ecology		2	
	Marine Ecology	Seminar on Marine Ecology		2	
		Advanced Fisheries Biology		2	
M	Aqua Genetics	Seminar on Fisheries Biology		2	
Marine		Advanced Molecular Ecology of Aquatic			
Biology	Molecular Ecology of	Animals		2	
	Aquatic Animals	Seminar on Molecular Ecology of Aquatic		_	
		Animals		$\frac{2}{2}$	
	Fish Population	Advanced Fish Population Dynamics		2	
	Dynamics	Seminar on Fish Population Dynamics		2	
	-	Advanced Fisheries Ethology		2	
	Fisheries Ethology	Seminar on Fisheries Ethology		2	
		Advanced fisheries Developmental and		2	
	Development and	Metabolism Biology			
	Metabolism Biology	Seminar on Fisheries Developmental and		2	
		Metabolism Biology			
		Thesis Research in Marine Biology I	4		
		Thesis Research in Marine Biology II	6		
	Common classes	Advanced Aquatic Biology		2	
		Seminar on Ichthyology		2	
		Advanced Marine Biology	2		
	1	Special Lecture on Life Science I		2	
Classes common in the Department		Special Lecture on Life Science II		2	
		Internship		90h	
		Long-Term Internship		135h	

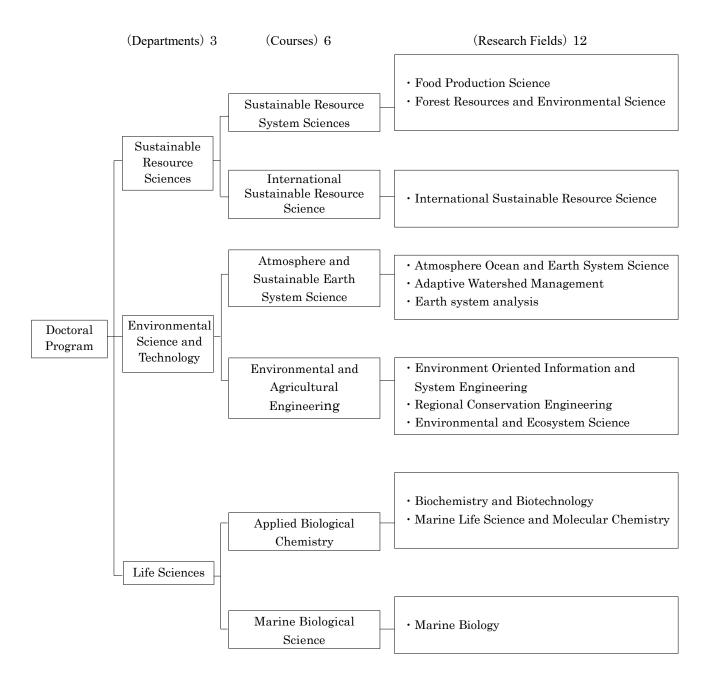
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# OVERVIEW OF THE DOCTORAL PROGRAM

#### I. Organization of the Doctoral Program

This Graduate School consists of 3 Departments, 6 Courses, and 12 Research Fields



#### **Outline of Departments and Courses**

#### **Department of Sustainable Resource Sciences**

Our lifestyles, which are based on the mass production, mass consumption, and mass disposal of foods and things we use that are made from oil energy, which have expanded greatly in the second half of the twentieth century, may be convenient and comfortable, but on the other hand, they are causing severe issue with global warming and food shortages. This department is composed of the following two courses, which provide a research and education system to foster both comprehensive and applied abilities. To do this, we use a foundation of instruction in the basics, especially food production, the effective use of bioresources, and the construction of social systems. Our aim is to tackle solutions to 21st-century food and environmental issues and bring about a recycling society.

#### **Sustainable Resource System Sciences Course**

As the world's population continues to increase, humanity will be required to use the planet's limited resources sustainably. Maintaining the sustainability of food production, in particular, will not be limited to supplying us with fresh, tasty food; it will play a major role in the conservation of the global environment and the reuse of bioresources. In addition, forests contain roughly 90% of terrestrial bioresources, so we need the sustainable use of bioresources such as wood and molecular materials produced from forests, as well as the conservation of the biodiversity and habitat of the life within them. In this course, we shall examine sustainable resource system sciences, which have developed from a basis in agrobiology and forest resources and environmental science, from a range of new perspectives. We shall seek out ways to solve global food issues, sustainably use bioresources that include the multifaceted functions of forests, and to help sustain forest ecologies that are formed through a rich, diverse range of life.

#### **International Sustainable Resource Science Course**

We carry out research and education to use unique local assets appropriately in rural villages around Japan and the world, with the aim of creating sustainable socio-economic development. Specifically, we emphasize fieldwork, providing education and research on socio-economic fields with the aim of constructing a social system to achieve sustainable use of local resources. We also carry out education and research related to practical utilization technology for regional resources targeted at developing nations in particular, on a foundation of biology.

This department aims to understand the earth and its biosphere, made up of all the different ecosystems around the planet and to construct a sustainable life production system which harmonizes human activities and ecosystems. To make this possible, we carry out research and education on comprehensive scientific methods that encompass agriculture, science, and engineering, rooted in meteorology, environmental science, and ecology, looking at global ecosystems with their complex interactions among the land, sea, and air. In addition, we provide the latest in research and education, with reference to fieldwork, in order to understand the systems of environmental change and climate change by comprehending these complex systems mathematically, so we can respond to the various issues faced by humanity and human society that are linked with these.

#### **Atmosphere and Sustainable Earth System Science Course**

Deterioration of the earth's environment such as climate changes and abnormal weather is closely related to ecological, environmental, and earth systems consisting of the atmosphere, oceans, soils, plants, the hydrosphere, the ecosphere, and activities of humans and other animals. We conduct research on the basic structures, fluctuation processes, and symbiotic and interactive relationships for the environmental systems, such as the evolution of the earth, climate and terroir, hydrology, conservation of the global as well as local environments, the physiological ecology and ecological harmonization of flora and fauna, and human activities for biological resources, all with reference to observation, measurement, experimentation, investigation, remote sensing, and numerical analysis. We conduct education and research to obtain new scientific knowledge and practical skills, and broaden the intellect for the creation of the next-generation culture and sustainable earth for internationally-oriented human resources

#### **Environmental and Agricultural Engineering Course**

In this course, aiming for the creation and conservation of a rich environment, we use advanced scientific and engineering methods to solve issues regarding the environment and agricultural and fishery industries, with the goal of contributing to regional development with a global perspective. Environment information science uses the measurement, control, and systems engineering of environmental information, with information processing technology at its core, and building on a foundation of knowledge related to bioecology. Regional Conservation Engineering is designed to create a rich, safe, secure regional environment for rural regions. Environmental and Ecosystem Science covers the material recycling system and food system of the ecosystems, including the natural environment and human society, as well as environmental conservation technology. In addition, we provide research and education to develop people who can contribute to the growth of sustainable societies that are rooted in the region.

#### **Department of Life Sciences**

Department of Life Sciences aims to build the basic scientific theories related to the life sciences overall as well as a field of study related to the development, conservation, and management of marine bioresources, and to instruct the students through the practical education. Therefore, in this department, we carry out research and education in order to allow individual students to learn the research skills required for research in the life sciences, as well as to understand basic theory related to the life phenomena of bioresources at the ecosystem, community, population, individual, organ, cell, and molecular levels. This department is composed of the two courses of Applied Biological Chemistry and Marine Biological Science. The education and research carried out by each are shown below.

#### **Applied Biological Chemistry Course**

In this course, we clarify the physiological functions and structures of molecules produced by terrestrial and marine life, including animals, plants, algae, microorganisms, and a wide range of other bioresources using the strategy of bioscience and biotechnology in order to effectively utilize their nutritional component or bioactive substances. Using these results, we aim to establish a new basic and applicable technological system for the development of new functional molecules or foods, or environmental technology. Furthermore, we carry out advanced research and education from the perspectives of chemistry, biochemistry, molecular biology, and bioengineering, with a focus on research into the gene expression mechanisms of animals and microorganisms, the physiological functions of plant and animal cells, bio-information sensing and processing technologies, improvements of food functionality, and the maintenance of health and quality of life, as well as the development of technologies for using unutilized bioresources.

#### **Marine Biological Science Course**

In this course, our research field is the hydrosphere, with a focus on the oceans but also including lakes and rivers and other freshwater areas. We also look at everything in them, from plankton to algae, crustaceans, shellfish, fish, and marine mammals. We aim to understand the workings of these diverse life forms at the genetic, cellular, individual, community, and ecosystem levels. The methods we use include genetic analysis, physiological ecological analysis, collective analysis, behavioral analysis, and using marine observation technologies. Moreover, we also carry out research and education on the conservation of marine and freshwater ecosystems and biodiversity, and on methods to sustainably reproduce and effectively utilize marine bioresources such as fish, shellfish, algae and so on. We also aim to enrich human life by the stable use of bioresources through the appropriate management of them as a resource, and effective increase and farming methods for them.

#### II. Features of Our Education and Research

#### 1 Education and research guidance

This graduate school is noted for education and research guidance that both polishes the students' academic specializations in their specific fields of study, and also cultivates a comprehensiveness that is underpinned by insight founded on wide-ranging, comprehensive science.

- (1) The abilities to carry out specialist research are developed through research into specific topics under the guidance of a research supervisor.
- (2) Relevant specialist knowledge is deepened through lectures on related specialist topics in the course the student belongs to.
- (3) Students learn research skills and experimental techniques in their fields through advanced experiments or seminars in a seminar format in courses directly related to their research topic.
- (4) By taking subjects held in other courses or departments oriented to learning interdisciplinary specialist knowledge related to bioresources and the development of thinking and the ability to expand on matters logically, and through taking advanced or general seminars, students are able to improve their overall abilities.
- (5) Comprehensive research and education are ensured through mastering cutting-edge science and technology in the field of bioresources over a wide range, through special advanced investigative research based around fieldwork and observational experiments in education and research facilities attached to the department.
- (6) We are working to improve our capacity to promote research and the expansion and revitalization of research fields through making use of advanced facilities and technology under the research and education guidance provided by affiliated professors and associate professors in our affiliated institutes, the Forestry and Forest Products Research Institute, the NARO Institute of Vegetable and Tea Science, and the National Research Institute of Aquaculture research institutions.

#### 2 Course subjects

#### (1) Project research and research guidance

In the doctoral course, the most useful way to improve specialist academic abilities and cultivate creative research abilities is specialist research conducted under the guidance of multiple faculty members on a specified research theme.

For that reason, the research guidance system uses one supervising professor, supplemented by two professors or associate professors, a total of three supervisors, to form multiple supervisor systems, and the supplemental faculty members can also be assigned from other departments or courses.

This allows for deep, detailed, and thorough research guidance on a one-to-one basis, as well as an education from a wider perspective.

#### (2) Advanced seminars

In carrying out research in specialist fields, taking advanced

seminars in fields that are directly connected is extremely important in fostering qualitative improvements in unique specializations while avoiding the adverse effects of a loss of perspective or narrowed vision due to overly specialized research.

This is why seminar-style classes worth four credits are required to be taken as the advanced seminars.

#### (3) Advanced experiments

In order to master a wide range of the latest scientific equipment and experimentation technology, regardless of experiments related to direct research issues in the student's specialization, students select and enroll in classes for experiments held using a wide range of affiliated research institutes.

#### (4) Specialist lectures

Each department and course holds classes in subjects in its specialization, but in order to deepen specialist academic knowledge, students are required to select between two and four credits from subjects (Class I) held in the course to which their supervising professor belongs.

In addition, in order to cultivate a wider perspective and the ability to expand and apply this, students are required to select between two and four credits from subjects (Class II) held in other courses within their department or in other departments.

#### (5) Advanced lectures

In the doctoral program of our Graduate School, in order to widen perspectives and increase comprehensive research abilities, subjects in broader fields or interdisciplinary fields, in addition to even more specialist subjects, are held as "advanced lectures," and students are required to select from two to four credits from these.

Advanced lectures include plant molecular and cellular biology, nutrition science for bioresources, sustainable global system theory, and advanced life science.

#### (6) Advanced investigative research

In order to gain the abilities to plan research and learn the methods and technologies for wide-ranging investigative research and set interdisciplinary research themes, students are required to take "Advanced investigative research" using the affiliated Field Science Center of Kii Kuroshio Life Area (Farm Station, Forest Station, Fishery Research Station) and the Seisui Maru training ship.

# III. How to Enroll in Subjects

#### 1 Course name

The names of each department and course are shown in VI.

#### 2 Credit standards

Lectures (specialist lectures, advanced	15 hours	1 credit
lectures)		
Seminars	30 hours	1 credit
Experimental/investigative research	45 hours	1 credit

#### 3 How to enroll

The course classifications and credits required for graduation are as follows.

Classification		Outline	Number of credits	
Thesis Research		Research guidance from multiple faculty members	No credits (compulsory)	
Special Seminar		Seminar-style classes in fields directly related to the research topic	4 credits (compulsory)	
Special Laboratory Works		Experiments in affiliated research institutes, etc.	1 credit (elective)	
Specialist Lectures	Class I	Subjects in the course the student is in	Between 2 and 4 credits (required electives)	
	Class	Subjects in other courses within the student's department or in other departments	Between 2 and 4 credits (required electives)	
Advanced Lectures		Subjects in wider or interdisciplinary academic fields	Between 2 and 4 credits (required electives)	
Special Survey Research		Investigative research in interdisciplinary fields using affiliated research facilities, etc.	1 credit (compulsory)	
Total			At least 14 credits	

#### IV. Graduation Requirements and Degrees

#### 1 Graduation requirements

#### (1) Through course completion (doctoral degree following the course of study)

Students are required to spend at least three years in this graduate school (the Doctoral course) and obtain at least 14 credits from instruction by faculty members; in addition, they are required to study and complete research ethics e-learning have undertaken the necessary research guidance and to pass the examination for their graduate thesis and final defense conducted by this graduate school. However, students with especially meritorious research performance may be permitted to graduate after only one year.

#### (2) Through thesis submission (doctoral degree from thesis alone)

In addition to the previous stipulation, the University regulations permit that the doctoral degree may be awarded to those who have passed the examination of the graduate thesis held by this graduate school and who has been deemed as possessing at least the equivalent academic ability as a person who has completed the course requirements for the doctoral degree at this graduate school.

#### 2 Types of degrees

The degree awarded shall be the degree of Doctor of Philosophy.

#### V. Thesis Research Plan and Screening Criteria

#### 1 Thesis research plan

Instruction for the graduate thesis shall be given in accordance with the following plan, based on the Mie University Graduate School Regulations.

#### (1) Research theme for graduate thesis

Students shall discuss their research themes and direction with their supervising professor.

#### (2) Graduate thesis

The thesis will be reviewed by an examination committee composed of the student's supervising professor (full professor) serving as chief examiner as well as at least two faculty members (professor) connected with the thesis serving as associate examiners.

However, when the supervising professor, etc. deems it necessary, full-time associate professors,

lecturers, or affiliated instructors in the Graduate School may be included in the examination committee as associate examiners. In addition, the examination committee shall require the student to submit to a written or oral defense of the thesis topic and other related subjects.

#### (3) Examination schedule and procedures

Refer to the Examination Schedule for Doctoral Theses and the Examination Procedure Guidelines on the Graduate School website for the schedule and procedures for examination.

#### 2 Graduate thesis examination standards

The thesis will be assessed through the thesis examination and final defense (written or oral) on the following points, after which the decision on whether to pass it will be made through a comprehensive evaluation of these results.

#### **Examination points**

- (1) Has the student mastered sufficient basic and specialist knowledge for a Doctoral degree in the relevant field?
- (2) In the submitted thesis, have the background, position, and purpose of the research in the relevant field been clearly noted and are they appropriate for a graduate thesis?
- (3) Have appropriate research methods and/or experiment plans be prepared for the set research theme, and have valid considerations been made regarding the obtained results?
- (4) Are the contents of the thesis (main body, figures, tables, cited literature, etc.) both sufficient and appropriate, and is there a consistent logical structure throughout that leads to the conclusion?
- (5) From a theoretical or empirical point of view of the relevant research field, does the thesis have any novelty or value as a graduate thesis?
- (6) Does the mastery of foreign languages related to the comprehension of the literature required in order to carry out the research reach a sufficient level?

#### 3 Publication through use of the graduate thesis website

With the promulgation of the ministerial ordinance partially amending the degree regulations (MEXT Ministerial Ordinance No. 5 of 2013) on March 11, 2013, and its enforcement as of April 1, 2013, the Mie University Degree Regulations have been amended as follows.

According to this, those who were granted degrees on or after April 1, 2013, are required to publish their doctoral theses in their entirety on the internet through registration in the Mie University Institutional Repository.

However, when unavoidable circumstances prevent the publication of the doctoral thesis, then, with the permission of the University President, a precis of the contents may be published on the internet in place of the whole. In either case, the entirety of the doctoral thesis shall be sent from Mie University to the National Diet Library, whereas a rule it shall be available for reading and copying.

Note that even when the publication of the precise only is permitted, when the unavoidable circumstances no longer apply, the entirety of the doctoral thesis must be published on the internet.

Reference (Articles 14 & 15, Mie University Degree Regulations)

Publication of the doctoral thesis abstract

Article 14

1. The University shall publish through the use of the website specified by the University an abstract of the contents of the thesis for award of the relevant doctoral degree (hereafter, "the doctoral thesis") and the results of the examination within three months of the day the relevant doctoral degree was awarded.

Publication of the doctoral thesis

Article 15

- 1. Those who have been awarded a doctoral degree shall publish the entirety of their doctoral thesis within one year from the date the relevant doctoral degree was awarded. However, this shall not apply to those have published their thesis before the award of the relevant doctoral degree.
- 2. Notwithstanding the provisions in the previous paragraph, those who have been awarded a doctoral degree may, when unavoidable circumstances dictate, and with the permission of the University President, publish a precis of said doctoral thesis instead of its entirety. In this event, the University President shall permit those requiring the entire thesis to read the said thesis.
- 3. The publication stipulated in Paragraph 2 above shall use the website specified by the University.

## VI. Subjects for Departments and Courses

#### 1. Department of Sustainable Resource Sciences

		Credits	
Course	Class	Mandatory	Optional mandatory
	· Analytical Science of Genetic Information		2
	· Crop Production Science		$\frac{1}{2}$
	• Physiology on Fruit Growth and Development		$_2$
	· Stress Physiology for Horticultural Crops		2
	· Animal Nutrition and Physiology		2
	· Applied Grass and Feed Science		2
2	Systematic and evolutionary mycology		2
Sustainable	• Functional ecology of insects		2
Resource System	· Comparative Vegetable Genomics		2
Sciences	· Forest Dynamics and Management		2
	· Forest Microbial Ecology		2
	· Plant Physiology		2
	Torrent and Hillside Dynamics and Conservation		2
	Forest Engineering and Information		2
	· Chemical Conversion of Phytomaterials		2
	· Material Science of Wood and Lignocellulosic Polymers		2
	· Economics and Sociology for Agriculture and Resources		2
International	· Resource Management and Sociology		2
Sustainable	· Theory of the Development Economics of Bioresources		2
Resource Science	· Ecophysiology of Economic Plants		2
	· Plant Biology		2
	• Special Lecture		
	Plant Molecular and Cellular Biology		2
	Nutrition Science for Bioresources		2
	Sustainable earth system		2
	Advanced Life Science		2
	Thesis Research		_
	• Special Seminar	4	
	• Special Laboratory Works		1
	· Special Survey Research	1	

Regarding the Lecture of Research Ethics:

You need to attend the lecture of research ethics by e-learning system and so on during your study in the Faculty of Bioresources. This is a supplementary lecture to the main curriculum above.

## 2. Department of Environmental Science and Technology

Course		Credits		
	Class	Mandatory	Optional	
			mandatory	
	· Ocean Circulation Theory		2	
	· Advanced Theory of Forest Environmental Policy		2	
Atmosphere and	• Bio-Environmental Conservation in Estuarine Coastal		2	
Sustainable Earth	Area			
	• Use of Field and Weather Informations for Agricultural		2	
System Science	Structures			
	· Applied Lecture on Nature and Coexistence		2	
	· Solid-earth Science		2	
	· Landscape Assessing and Managing		2	
	· Utilization of Biomass		2	
	· System Design Engineering		2	
	· Biomaterial Process Engineering		2	
Environmental and	· Applied Energy Engineering		2	
Agricultural	· Soil Resources Development and Conservation		2	
Engineering	· Bio-Environmental Soil		2	
	• Design and Planning of Facilities for Agricultural		2	
	Production			
	• International Environmental Conservation Engineering		2	
	· Biological and Food Process Engineering		2	
	· Soil Physics and Hydrology		2	
	· Special Lecture			
	Plant Molecular and Cellular Biology		2	
	Nutrition Science for Bioresources		2	
	Sustainable earth system		2	
	Advanced Life Science		2	
	· Thesis Research		_	
	· Special Seminar	4		
	· Special Laboratory Works		1	
	• Special Survey Research	1		

Regarding the Lecture of Research Ethics:

You need to attend the lecture of research ethics by e-learning system and so on during your study in the Faculty of Bioresources. This is a supplementary lecture to the main curriculum above.

## 3. Department of Life Sciences

Course		Credits		
	Class	N. 6 1 4	Optional	
		Mandatory	mandatory	
	• Molecular Life Sciences		2	
	· Physical Biochemistry		2	
	· Reaction Mechanism of Bioactive Compound		2	
	· Applied Natural Products Chemistry		2	
	Molecular Structure and Function		2	
	· Biochemical and Food Engineering	emical and Food Engineering		
	· Applied Carbohydrate Chemistry		2	
	· Microbial Biotechnology		2	
Applied Biological	· Applied Protein Chemistry and Engineering		2	
Chemistry	Microbiology in Food Production		2	
	• Functional Biochemistry of Marine Resources		2	
	· Analytics of Biofunctional Substances		2	
	· Modification of Food Consistency		2	
	• Functional Analysis of Biological Macromolecules		2	
	• Functional Marine Microbiology		2	
	· Applied Chemistry of Microorganisms and		2	
	Microbiological Chemistry			
	· Biofunctional Glycotechnology		2	
	• Physiological Function of Food		2	
	· Aquatic Primary Production		2	
	· Physiology and Behavior of Fish		2	
	· Sensory Biology of Aquatic Animals		2	
	• Fish Infectious Pathology		2	
	· Seaweed Ecology		2	
	· Seed Production Technology		2	
	· Reproductive Biology of Aquatic Animals		2	
Marine Biological	• Fish Stock Enhancement Ecology		2	
Science	· Aquatic Ecology		2	
	· Aquatic Zoology		2	
	• Molecular Ecology in Aquaculture		2	
	• Fish Population Dynamics		2	
	• Fishing Technology and Systems		2	
	• Fish Biology		2	
	• Developmental and Metabolism Biology of Aquatic		2	
	Organism			

Course	Class	Credits	
		Mandatory	Optional
			mandatory
	· Special Lecture		
	Plant Molecular and Cellular Biology		2
	Nutrition Science for Bioresources		2
	Sustainable earth system		2
	Advanced Life Science		2
	· Thesis Research		_
	· Special Seminar	4	
	· Special Laboratory Works		1
	· Special Survey Research	1	

Regarding the Lecture of Research Ethics:

You need to attend the lecture of research ethics by e-learning system and so on during your study in the Faculty of Bioresources. This is a supplementary lecture to the main curriculum above.

# RELATED PROVISIONS

## I. Regulations of the Graduate School of Bioresources

REGULATIONS OF THE GRADUATE SCHOOL OF BIORESOURCES, MIE UNIVERSITY (Enacted April 1, 2004)

#### Purpose

Article 1Matters related to the Graduate School of Bioresources, Mie University (hereafter, "the Graduate School") are, in addition to those stipulated in the Mie University Graduate School Regulations and the Mie University Degree Regulations, as stipulated in these Regulations.

#### Purpose of the Graduate School

Article 1-2The Graduate School is designed to cultivate advanced, high-level engineers and researchers with deep specialist knowledge, goal-achieving abilities, and interdisciplinary and creative perspectives through the development of research and education that considers harmony with nature as it tackles its main issues of the production and use of bioresources connected with food, housing, and clothing, as well as the conservation and restoration of the environment, and to actively return these academic and technological results back to community while establishing and developing bioresources science.

#### Purpose of the Master's Course

Article 1-31. The Master's Course is designed to educate students in advanced theory and techniques for fields related to bioresources science, such as food production, the conservation and restoration of the natural environment, humans living in harmony with nature, biomass energy, and the utilization of the life functions of bioresources, training specialist technicians with a rich academic knowledge and broad perspectives. In addition, with the aim of cultivating people with the basic abilities of researchers, the aims of each department are as stipulated in Paragraphs 2 to 4 below.

- 2. Sustainable Resource Sciences is designed to cultivate specialist technicians who can contribute to overall judgment, anticipatory insight, policy planning, and management through integrating natural science and social science information and knowledge, contributing to the construction of local symbiotic systems between nature and humanity, and effective, safe, secure recycling systems to allow human lives, culture, and lifestyles to be maintained sustainably.
- 3. Environmental Science and Technology is designed to cultivate advanced specialist technicians who can respond to environmental issues on all levels, from the global to the local, contributing to the development of bioresource production sites and the sustainable use of said bioresources with a view to appropriate coexistence between human activities and the natural environment, and the furtherance of advanced scientific principles and technology related to the conservation of the

#### natural environment.

4. Life Sciences is designed to cultivate specialist technicians with the ability to gain insight into the various issues regarding life sciences from a broad perspective as well as the practical abilities required to solve problems with the aim of investigating issues such as the development and management of bioresources, use of various biotic functions and functional biocomponents, and environmental response of organisms. It is also designed to contribute to the development of applied technologies and the quest for basic scientific theories related to the life sciences.

#### Purpose of the Doctoral Course

Article 1-41. The Doctoral Course is designed to cultivate researchers and technicians who will investigate theories and technologies of bioresource science, including the development of bioresources, the conservation and restoration of the biosphere and the environment, and the application of production functions, and have advanced, leading-edge specialist abilities, a deep academic knowledge, and a broad perspective. To that end, the aims of each department are as specified in Paragraphs 2 to 4 below.

- 2. Sustainable Resource Sciences is designed to cultivate specialist researchers and technicians with advanced specialist abilities and a broad academic knowledge through the basic and related information and knowledge of an interdisciplinary melding of the sciences and humanities related to sustainable resources, contributing to the construction of local symbiotic systems between nature and humanity, and effective, safe, secure recycling systems using bioresources.
- 3. Environmental Science and Technology is designed to cultivate specialist researchers and technicians with a broad perspective and rich creativity who can contribute to the creation of new technologies and advanced scientific theories, and contribute to the development of technology and the establishment of advanced and practical theories in order to preserve or restore the environment at a range of levels, aiming for harmony between human activities and the natural environment in regard to the production and use of bioresources.
- 4. Life Sciences is designed to cultivate advanced specialist researchers and technicians who can play an active role in bioscience fields such as the effective use of bioresources and their functions or the preservation of habitats, contributing to the development of cutting-edge techniques and the construction of advanced scientific theories on bioresource life phenomena such as the structure and function of biological organs, biomolecules, and genes as well as the physiological/ecological and molecular biological characteristics of bioresources.

### Selection of Students

Article 21. The selection of students for the Master's Course or the Doctoral Course is to be done comprehensively through academic testing, grade certificates, and so on.

2. The selection methods, timing, etc. for the previous paragraph will be determined by the Graduate School Faculty Committee.

#### **Supervising Professors**

Article 31. Supervising professors will be appointed to provide guidance for education, research, and thesis creation in the Graduate School.

2. The supervising professors shall be full professors responsible for the Graduate School. However, if needed, associate professors may also be appointed.

#### Subjects and Credits

Article 4The subjects and credits in each department in this Graduate School are specified in Attached Table 1 for the Master's Course and Attached Table 2 for the Doctoral Course.

#### **Enrollment Method**

Article 51. Students will follow the guidance of the supervising professor for subjects in each department and must obtain at least 30 credits in the Master's Course in accordance with the methods stipulated in Attached Table 1 or at least 14 credits in the Doctoral course in accordance with the methods stipulated in Attached Table 2.

- 2. When the supervising professor deems it necessary, students can be required to take classes in other departments or graduate schools.
- 3. Credits obtained through the regulation in the previous paragraph can be included in the required number of credits.
- 4. Special cases related to the taking of courses by students in the Master's Course are stipulated separately.

## Submission of Class Enrollment

Article 6Students must submit the subjects/classes they wish to enroll into the Graduate School Dean by the specified deadline.

## Certification of Credit Acquisition

Article 7 Certification of credits for each subject shall be done by the faculty member in charge of each subject through examination or research reports.

### Examinations

Article 8 Examinations will be carried out at the end of the semester in which the subject is offered, and will be either written or oral. However, examinations may be carried out at the appropriate time

for each subject.

#### Make-up Examinations

Article 9 When students are unable to take the regular examination for unavoidable reasons such as illnesses, etc., they may take a make-up examination upon request.

#### Grades

Article 10 Grades for each subject taken will be assessed using the letter AA, A, B, C, or D, with AA, A, B, and C being considered as passing grades.

#### Qualifications for Submission of the Graduate Thesis

Article 111. Students in the Master's Course and who have obtained or are expected to obtain the 30-course credits stipulated in Attached Table 1 may submit a graduate thesis by the specified date.

- 2. Students in the Doctoral Course and who have obtained or are expected to obtain the 14-course credits stipulated in Attached Table 2 may submit a graduate thesis by the specified date.
- 3. Notwithstanding the provisions in the previous paragraphs, those who apply for conferral of the degree in accordance with Article 45 of the Mie University Graduate School Regulations may submit a graduate thesis.
- 4. The qualifications, etc., for those in the previous paragraph, are stipulated separately.

#### Final Examination

Article 121. The final examination for the Master's Course and the Doctoral Course will be held for those who have submitted a graduate thesis having obtained the required credits and the required research guidance.

2. The final examination will be done in each department, focused on the graduate thesis, and be either written or oral.

## Readmission and Transference

Article 13 Selection of students seeking readmission or transference will be done by the Graduate School Faculty Committee in accordance with the Mie University Graduate School Regulations.

## **Additional Regulations**

Article 14 In addition to these Regulations, any necessary matters related to the Graduate School shall be determined by the Graduate School Faculty Committee.

## **Supplementary Provision**

- 1 These Regulations shall come into force from April 1, 2004.
- 2 The provisions then in force shall remain applicable for those entering the graduate school in or prior to 2003 in regard to the prescriptions in Article 4 and Article 5 of the Regulations.

Supplementary Provision (regulated April 1, 2005)

- 1 These Regulations shall come into force from April 1, 2005.
- 2 The provisions then in force shall remain applicable for those entering the graduate school in or prior to 2004 regardless of the prescriptions in Attached Table 1 of the Regulations post-revision.

Supplementary Provision (regulated March 27, 2006)

1 These Regulations shall come into force from April 1, 2006.

Supplementary Provision (regulated March 30, 2007)

- 1 These Regulations shall come into force from April 1, 2007.
- 2 The provisions then in force shall remain applicable for those entering the graduate school in or prior to 2006 regardless of the prescriptions in Article 10 of the Regulations post-revision.

Supplementary Provision (regulated April 1, 2008)

- 1 These Regulations shall come into force from April 1, 2008.
- 2 The provisions then in force shall remain applicable for those entering the graduate school in or prior to 2007 regardless of the prescriptions in Attached Table 1 of the Regulations post-revision.

# II. Bylaws for Degree Examination in the Master's Course at the Graduate School of Bioresources

Bylaws for degree examination in the Master's Course at the Graduate School of Bioresources at Mie University.

(Enacted December 12, 2007)

## Purpose

Article 1Matters related to the examinations for the degree in the Regulations for the Master's Course in the Graduate School of Bioresources at Mie University (hereafter, "the Master's Course Regulations") are, in addition to the Mie University Graduate School Regulations (hereafter, "the Graduate School Regulations"), the Mie University Degree Regulations and the Mie University Graduate School of Bioresources Regulations, regulated in these Bylaws.

## Qualification Requirements for Submission of the Graduate Thesis

Article 2Those who wish to undergo the examination for the graduate thesis (hereafter, "prospective graduates") are limited to those who have obtained the required number of credits or are definitely expected to do so, and who have also undergone the required research guidance.

## The period for Submission of the Graduate Thesis

Article 31. The graduate thesis is to be submitted while the student is enrolled at the University and shall be by the specified date in January of the second year for those who enrolled in April and by the specified deadline in July of the second year for those who enrolled in October. However, those who have remained in the University beyond the standard number of years or those who have shown meritorious grades as regulated in the provision in Paragraph 1, Article 36 of the Graduate School Regulations and are expected to graduate early (hereafter, "meritorious students") may submit at any point.

2. Those who are scheduled to take a leave of absence or who are taking a leave of absence are not able to submit a graduate thesis.

#### Meritorious Students

Article 41. Meritorious students refers to those who have been enrolled in their course for one or more years and are definitely expected to obtain the required credits, and who have meritorious grade results during their time at the University, and who also are acknowledged by the department heads committee as having achieved research results at or above the standard of the Master's degree.

2. Those who are expected to complete the graduation requirements for a Special Education Program

recognized by the Graduate School as being beneficial for education may be treated as meritorious students based on their research results, etc., during their enrollment as well as their performance in the Special Education Program subjects.

## Procedures for Submission of the Graduate Thesis

Article 5Prospective graduates shall submit the following documents to the Dean of the Graduate School following approval by their supervising professor.

- 1. Graduate Thesis Application (including the thesis contents list, thesis abstract). 1 copy
- 2. Graduate thesis (3 copies)

#### **Examination Committee**

Article 61. The Graduate School Faculty Committee shall establish an examination committee for each prospective graduate.

- 2. The examination committee will be organized as a committee with one chief examiner and two or more associate examiners.
- 3. The chief examiner shall be the supervising professor of the prospective graduate in question.
- 4. The associate examiners shall be assigned from the professors, associate professors, or lecturers responsible for the Master's Course related to the relevant graduate thesis, or faculty from affiliated graduate schools.
- 5. In addition to the regulations in the previous paragraph, it shall be possible to include faculty members from other graduate schools or research institutions or from other graduate schools within Mie University.
- 6. When examiners other than those from this Graduate School are included in accordance with the previous paragraph, qualifications shall be examined at the relevant department.

## Examination and Final Defense of the Thesis

Article 71. The examination committee will determine whether the thesis passes or fails following an examination of the submitted graduate thesis and a final defense.

- 2. The final defense shall require the student to submit to a written or oral defense of the thesis topic and other related subjects.
- 3. The examination criteria for the thesis examination and the final defense shall be as specified separately.
- 4. The examination committee must complete the thesis examination and final defense by the specified date, and the chief examiner must report the results of the thesis examination and final defense to the Graduate School Dean, accompanied by an outline of the examination of the thesis.

Public Presentation of the Thesis

Article 81. The Graduate School Dean shall cause the prospective graduates to make a public presentation (hereafter, "public presentation of the thesis") of their graduate thesis in the Graduate School.

2. The public presentation of the thesis shall be carried out by each department and shall be through an oral presentation as a rule.

Publication, Storage, and Binding of the Master's Thesis

Article 91. Prospective graduates must submit their Master's thesis along with their written agreement to its publication after the examination is completed to the Dean of Graduate School by the specified date.

- 2. The relevant Master's thesis will be kept in the University Library as a rule. However, if there are special reasons, it shall be kept by the supervising professor.
- 3. The binding costs for the copy of the Master's thesis to be stored in the University Library shall be borne by the relevant research and education field.

## **Graduation Approval**

Article 10The Graduate School Faculty Committee will determine the graduates following a graduation assessment, based on the report in Paragraph 4, Article 7.

#### Miscellaneous Provisions

Article 11Any necessary matters related to the degree examination that are not stipulated in these Bylaws shall be determined at a meeting of the Graduate School Faculty Committee.

## Supplementary Provision

These Bylaws shall come into force from April 1, 2005.

## Supplementary Provision

These Bylaws shall come into force from September 8, 2010.

## **Supplementary Provision**

These Bylaws shall come into force from February 13, 2013.

# III. Bylaws for Degree Examination in the Doctoral Course at the Graduate School of Bioresources

Bylaws for degree examination in the Doctoral Course at the Graduate School of Bioresources at Mie University.

(Enacted April 1, 2004)

Chapter 1General Provisions

Purpose

Article 1 Matters related to the examinations for the degree in the Regulations for the Doctoral Course in the Graduate School of Bioresources at Mie University (hereafter, "the Doctoral Course Regulations") are, in addition to the Mie University Graduate School Regulations (hereafter, "the Graduate School Regulations"), the Mie University Degree Regulations (hereafter, "the Regulations") and the Mie University Graduate School of Bioresources Regulations, regulated in these Bylaws.

Chapter 2 Degree Examination for Approval of Graduation from the Doctoral Course

Qualification Requirements for Submission of the Graduate Thesis

Article 2Those who wish to undergo the examination for the graduate thesis (hereafter, "prospective graduates") in order to be approved for graduation from the Doctoral Course in accordance with Paragraph 1, Article 5 of the Regulations are limited to those who have obtained the required number of credits or are definitely expected to do so, and who have also undergone the required research guidance.

The period for Submission of the Graduate Thesis

Article 3The graduate thesis is to be submitted while the student is enrolled at the University and shall be by the specified date in January of the third year for those who enrolled in April and by the specified deadline in July of the third year for those who enrolled in October.

However, those who have remained in the University beyond the standard number of years or those who have shown meritorious research results as regulated in the provision in Paragraph 2, Article 36 of the Graduate School Regulations may submit at any point.

Procedures for Submission of the Graduate Thesis

Article 4Prospective graduates shall submit the following documents to the Dean of the Graduate School following approval by their principal supervising professor.

(1) Request for Graduate Thesis Examination 1 copy

(2) Graduate thesis Number to be submitted (the number of examiners in the

examining committee)

(3) Thesis contents list
 (4) Thesis abstract
 (5) Curriculum vitae
 1 copy
 2 copy

(6) Academic publications, etc. (enough for additional increases after the preliminary

examination and for increases for the main examination)

## Acceptance of the Graduate Thesis

Article 5When there is a submission of a graduate thesis in accordance with the previous paragraph, the Dean of the Graduate School shall determine whether or not to accept it, following its referral to the Graduate School Faculty Committee, where the decision for acceptance or rejection shall be made following an explanation by the principal supervising professor.

#### Public Presentation of the Thesis

Article 61. The Graduate School Dean shall cause the prospective graduates to make a public presentation (hereafter, "public presentation of the thesis") of their graduate thesis in the Graduate School.

2. The public presentation of the thesis stipulated in the previous paragraph is stipulated separately.

## **Examination Committee**

Article 71. The Graduate School Faculty Committee shall establish an examination committee for each prospective graduate.

- 2. The examination committee will be organized as a committee with one chief examiner and two or more associate examiners.
- 3. The chief examiner and the associate examiners for the examination committee will be selected from among the members of the Graduate School Faculty Committee. In this event, in principle one of the associate examiners will be selected from the same department as the chief examiner.
- 4. In addition to the regulations in the previous paragraph, it shall be possible to include faculty members from outside the Graduate School Faculty Committee.
- 5. When an external examination committee member is to be included in the thesis examination committee, a review of their qualifications will be done by the departmental heads committee following approval by said department, and, if the qualifications are deemed appropriate, the proposed member shall be included and submission of the following documentation solicited.
- (1) Curriculum vitae (short form), research record, etc.

(2) If for someone in charge of a doctoral course in the Graduate School, the CV should clearly note this fact.

In this event, the research record may be omitted.

- (3) The research record should include about ten papers related to the graduate thesis topic, which are arranged by the chief examiner in a list.
- (4) There shall be no restrictions on age, as specialist fields may be required, but in principle, it is to be preferred to select an examiner who is not retired.

#### Examination and Final Defense of the Thesis

Article 81. The examination committee must complete the thesis examination and final defense while the prospective graduate is enrolled in the University and report the results in writing to the Graduate School Faculty Committee.

- 2. The final defense shall require the student to submit to a written or oral defense of the thesis topic and other related subjects.
- 3. The examination criteria for the thesis examination and the final defense shall be as specified separately.

#### **Graduation Approval**

Article 91. The Graduate School Faculty Committee will deliberate based on the report in Paragraph 1 of the preceding article and determine by vote whether the candidate shall pass or fail.

2. Those who were enrolled in the Doctoral Course for at least three years and have obtained the required credits, and who have left the University following the required research guidance, will be awarded the doctoral degree for completion of the course if they submit their thesis within one year of the date following the date of their departure from the University and pass the thesis examination and final defense within the same period.

## Conferral of the Degree, etc.

Article 10 The timing for conferral of the degree on those who have passed the graduate thesis examination and final defense, and been approved to graduate, is shown in the following items.

(1) Those who have passed within the standard enrollment period (save for those who passed in accordance with the provision in Paragraph 2 of Article 36 of the Graduate School Regulations):

At the end of the academic year (March for April enrollments, September for October enrollments)

(2) Others: March, July, September, or December (save for special cases)

## Chapter 3 Degree Examination Through Submission of the Graduate Thesis

Qualification Requirements for Submission of the Graduate Thesis

Article 111. Those who can apply for conferral of the degree by submitting a graduate thesis in accordance with the provisions of Paragraph 2, Article 5 of the Regulations (hereafter, "candidates") are those falling under one of the following.

- (1) Those who have been enrolled in the Doctoral Course for at least three years and have obtained the required number of credits.
- (2) Those who have graduated from a master's course at a graduate school and have at least four years of research history.
- (3) Those who have graduated as an undergraduate from a university and have at least seven years of research history.
- (4) Those who are deemed to have an equivalent research history to any of those above.
- 2. The research history in the previous paragraph is stipulated separately.

#### Procedures for Submission of the Graduate Thesis

Article 121. When a candidate applies for examination of their graduate thesis, the following documents need to be appended and submitted, along with the graduate thesis examination fee, to the University President via the Graduate School Dean following approval from the faculty member recommending the thesis (hereafter, "the recommending professor"). However, the graduate thesis examination fee will be waived for those who have been enrolled in the Doctoral Course for at least the specified length of time and obtained the required credits before leaving the University but who have applied for the degree within a year of leaving.

(1) Degree Application Form 1 copy

(2) Graduate thesis Number to be submitted (the number of examiners in the

examining committee)

(3) Thesis contents list
(4) Thesis abstract
(5) Curriculum vitae
1 copy
1 copy

(6) Academic publications, etc. (enough for additional increases after the preliminary examination and for increases for the main examination)

- (7) Graduation Certificate (or certificate of course completion or of the acquired credits) from the last school attended1 copy
- (8) Research history certificate 1 copy
- 2. The graduation thesis in the previous paragraph is to be submitted within the specified period.

#### Qualifications Examination Committee

Article 131. The qualifications examination for candidates submitting theses is done by the

department heads committee from a review of the CV, thesis contents list, research history certificate, final school graduation certificate, and so on.

- 2. A qualifications examination committee will be formed in the relevant department prior to the qualifications examination in the previous paragraph, consisting of at least three professors, and will report the examination results to the department heads committee following an examination prior to approval of the establishment of the preliminary examination committee.
- 3. Notwithstanding the provisions of Paragraph 1, this will be waived for those who have been accepted by the Japan Society for the Promotion of Science's Ronpaku (Dissertation Ph.D.) Program.

## Acceptance of the Graduate Thesis

Article 14When there is a submission of a graduate thesis in accordance with Article 12, the Dean of the Graduate School shall determine whether or not to accept it, following its referral to the Graduate School Faculty Committee, where the decision for acceptance or rejection shall be made following an explanation by the recommending professor regarding the contents, etc. of the graduation thesis.

#### Public Presentation of the Thesis

Article 15The Graduate School Dean shall cause the candidate to present the graduate thesis publicly.

#### **Examination Committee**

Article 161. The Graduate School Faculty Committee shall establish an examination committee for each candidate.

- 2. The examination committee will be organized as a committee with one chief examiner and two or more associate examiners.
- 3. The chief examiner and the associate examiners for the examination committee will be selected from among the members of the Graduate School Faculty Committee. In this event, in principle one of the associate examiners will be selected from the same department as the chief examiner.
- 4. In addition to the regulations in the previous paragraph, it shall be possible to include faculty members from outside the Graduate School Faculty Committee.
- 5. When an external examination committee member is to be included in the thesis examination committee, a review of their qualifications will be done by the departmental heads committee following approval by said department, and, if the qualifications are deemed appropriate, the proposed member shall be included and submission of the following documentation solicited.
- (1) Curriculum vitae (short form), research record, etc.
- (2) If for someone in charge of a doctoral course in the Graduate School, the CV should clearly note

this fact.

In this event, the research record may be omitted.

- (3) The research record should include about ten papers related to the graduate thesis topic, which are arranged by the chief examiner in a list.
- (4) There shall be no restrictions on age, as specialist fields may be required, but in principle, it is to be preferred to select an examiner who is not retired.

## Examination of the Thesis and Confirmation of Academic Ability

Article 171. The examination committee must complete the thesis examination and confirmation of academic ability within one year of the date the graduate thesis is received, and report the results in writing to the Graduate School Faculty Committee.

- 2. The confirmation of academic ability is a confirmation that the candidate possesses the academic knowledge and research ability, in regard to their field of research, of or above the level of those who were granted the degree through completion of the Doctoral Course.
- (1) An examination of the thesis topic and other related subjects will be carried out either in writing or orally. In this event, two foreign languages will be required in principle.
- (2) A foreign language examination committee (hereafter, "the examination committee") will be established in each department for each candidate.
- (3) The examination committee will be composed of, in principle, the department head, the department deputy head, and the chief examiner.
- (4) The examination committee will determine the types of foreign language and examination method, and report the results of the examination to the Graduate School Dean.
- 3. Notwithstanding the provisions in the previous paragraph, those falling under Paragraph 1 (1) in Article 11 shall take an examination that complies with the final defense as regulated in Paragraph 2 of Article 8 in place of the questioning when the graduate thesis is submitted within three years from the date of leaving the University.
- 4. The examination criteria for the thesis examination and the confirmation of academic ability shall be as specified separately.

## **Determining Conferral of Degree**

Article 181. The Graduate School Faculty Committee will deliberate based on the report in Paragraph 1 of the preceding article and determine by vote whether the candidate shall be awarded the degree.

#### The timing for Conferral of Degree

Article 19The timing for the conferral of the degree for those who have passed the examination of

their graduate thesis and had their academic ability confirmed shall be, save for special cases, March, July, September, or December.

Chapter 4 Miscellaneous Provisions

Supplemental Rules

Article 20The matters required for implementation of these Bylaws shall be separately stipulated.

**Supplementary Provision** 

These Bylaws shall come into force from April 1, 2004.

**Supplementary Provision** 

These Bylaws shall come into force from April 1, 2006.

**Supplementary Provision** 

These Bylaws shall come into force from July 11, 2007.

**Supplementary Provision** 

These Bylaws shall come into force from April 1, 2009.

**Supplementary Provision** 

These Bylaws shall come into force from April 1, 2015.

**Supplementary Provision** 

These Bylaws shall come into force from June 8, 2016.

## IV. Arrangements for Degree Examination in the Doctoral Course at the Graduate School of Bioresources

Graduate School of Bioresources, Mie University

Arrangements for Degree Examination in the Doctoral Course

(Enacted April 1, 2004)

## **Preliminary Examination**

Article 11. Those submitting a graduation thesis under the provisions of Article 4 and Article 12 of the bylaws for degree examination in the Doctoral course at the Graduate School of Bioresources at Mie University (hereafter, "the Bylaws") must undergo a preliminary examination of their thesis's suitability.

- 2. Those hoping to undergo the preliminary examination (hereafter, "the preliminary exam candidates") must submit the following documents to their principal supervising professor or recommend professor (hereafter, "principal supervising professor, etc.").
- (1) Preliminary Examination Application (Form 1, provided separately). No.: [Number of preliminary examination committee members] + 1
- (2) Thesis for preliminary examination (A4 size, portrait format, horizontal writing). No.: [Number of preliminary examination committee members]
- (3) Thesis Contents List (Form 2, provided separately). No.: [Number of preliminary examination committee members] + 1
- (4) These abstract (not more than 1,000 words) No.: [Number of preliminary examination committee members] + 1
- (5) Academic papers, etc. No.: [Number of preliminary examination committee members] + 1
- 3. Recommending professors according to the provisions of Article 12 of the Bylaws and in the preceding paragraph shall be professors responsible for education in the Doctoral Course.
- 4. The thesis for preliminary examination in Paragraph 2. (2) shall be the thesis for the conferral of the degree or the thesis draft.
- 5. The department head shall establish a preliminary examination committee (hereafter, "the committee") for each preliminary exam candidate following consultation with the principal supervising professor, etc.
- 6. The committee shall be made up of the principal supervising professor, etc. and two other professors for a total of at least three members. However, when the supervising professor, etc. deems it necessary, full-time associate professors or lecturers in the Graduate School, or affiliated instructors in affiliated graduate schools, may be included in the committee.

- 7. The committee shall have a chair, who shall be the principal supervising professor, etc.
- 8. The results from Paragraph 1 must be reported by the chair to the Graduate School Dean via the department head in the form of the preliminary examination report (Form 3, provided separately) and a summary of the results of the preliminary examination (Form 4, provided separately).
- 9. On receipt of the report in the previous paragraph, the Graduate School Dean shall, notwithstanding the provisions of Articles 5 and 14 of the Bylaws, assign this to the department heads committee where the decision to accept the thesis will be made and then the permission of the Graduate School Faculty Committee obtained.
- 10. Those who are scheduled to take a leave of absence or who are taking a leave of absence are not able to submit a graduate thesis or undergo the examination.

#### Students With Meritorious Research Achievements

Article 2Those who have meritorious research results in accordance with the provisions of Paragraph 2, Article 36 of the Mie University Graduate School Regulations are those who have especially meritorious grades during their enrollment and possess advanced research capabilities and a rich academic knowledge and fall under the following.

- (1) The contents of their graduate thesis must include papers which have been published (or accepted for publication) in major international Western academic journals. However, if the paper in question is a jointly authored paper, then the candidate must be the first author and the written agreements of the other authors for the paper to be the candidate's graduate thesis must be attached.
- (2) The student must have at least three published papers.
- (3) There must be a recommendation from the principal supervising professor.

## Graduate Thesis and Other Matters

Article 3The appropriateness as a graduate thesis done in order to certify completion of the course shall be that at least two academic papers which form its contents have been published or accepted for publication in peer-reviewed academic journals or academic journals of an equivalent standing. If the thesis has been submitted within three years from the time the candidate has completed the course requirements and gained the necessary credits then left the university, the acceptance certificate shall be recognized when submitted for the full examination as well.

- 2. The appropriateness as a graduate thesis done through submission of a thesis shall be that at least three academic papers which form its contents have been published or accepted for publication in peer-reviewed academic journals or academic journals of an equivalent standing. The acceptance certificate must be attached when applying for the preliminary examination.
- 2. If the paper in Paragraph 2 above is jointly authored, then the candidate must be the first author and the written agreements of the other authors must be attached as a rule. However, if a joint author

has died or cannot be located and the written agreement not provided, the matter shall be dealt with on the responsibility of the principal supervising professor.

- 4. When the papers in Paragraph 3 are joint papers with multiple persons being treated as the first author and the academic journals or equivalent publications that the paper is published in clearly indicate that, then for one only, it is possible to include this in the number of papers that need to have been published or accepted. However, it must be able to be confirmed that the other multiple authors are not incorporating that same paper as their main paper for application for the degree.
- 5. The decision on whether it applies to the academic journals as stipulated in Paragraphs 1 and 2 must be evaluated by the preliminary examination committee and the results reported to the department heads committee.
- 6. Notwithstanding Paragraph 2, when a person who left the Graduate School after obtaining the required number of credits submits a graduate thesis within three years, Paragraph 1 shall apply.
- 7. The graduate thesis abstract is to be in Japanese if the author is a Japanese national. (This applies even if the thesis itself is written in a foreign language.) International students may write this in English.
- 8. The thesis contents list must include the academic papers only for which the candidate was the first author in order of their publication, and papers being submitted or prepared to be submitted may not be included. (Oral presentations are not admissible.)
- 9. The binding costs for graduate theses to be stored in the University Library shall be, for course candidates, borne by the relevant research and education field, and for those using thesis submission alone, borne by the candidate.

#### Public Presentation of the Thesis

Article 41. The public presentation of the thesis as stipulated in Paragraph 2, Article 6, and Article 15 of the Bylaws must be done before the examination of the graduate thesis is completed.

2. The Graduate School Dean shall confer with the principal supervising professor, etc. with regard to the implementation of the public presentation of the thesis in the previous paragraph.

#### Research History

Article 5The research history as stipulated in Paragraph 2, Article 11 of the Bylaws should be those items listed below, and when the applicant is other than a full-time faculty member at this University, and who has been given sufficient guidance and advice by the recommending professor, it is preferable for them to be enrolled as a research student, etc.

- (1) The period while engaged in research as a full-time faculty member at a university or graduate school.
- (2) The period while engaged in research as a research student at a university or graduate school.

- (3) The period while enrolled as a graduate student.
- (4) The period while engaged in research as a researcher for a government ministry or agency, or private company, etc.
- (5) Other periods as approved by the department heads committee.

## Handling When the Full Examination is Incomplete

Article 6When the full examination process for those stipulated in Articles 4 and 12 of the Bylaws will not be completed in whole or part by the time scheduled for the conferment of the degree due to unexpected accidents, etc., and the relevant thesis examination committee deems it unavoidable, the matter shall be handled as follows.

- 1. Continue the examination for the unexamined portion in line with the next date of degree conferral. However, no changes will be permitted to the thesis in this event.
- 2. The periods until the completion of the ongoing examination are as follows.
- (1) Those as stipulated in Article 4 of the Bylaws:

While enrolled or within one year after they left the University having obtained the necessary credits.

(2) Those as stipulated in Article 12 of the Bylaws:

Within one year of the date on which the thesis was accepted for the full examination.

3. The results of the examination shall be, in principle, given as "Pass," "Fail," or "Examination Incomplete."

## Appendix

These arrangements shall be implemented from April 1, 2004.

## Appendix

These arrangements shall be implemented from April 1, 2006.

## Appendix

These arrangements shall come into force from December 6, 2006, and implemented from April 1, 2006.

## Appendix

These arrangements shall be implemented from January 10, 2007.

#### Appendix

These arrangements shall be implemented from February 13, 2013.

## V. Graduate School Grade Assessment Guidelines

Mie University Graduate School Grade Assessment Guidelines

## 1. The premise of the grade assessment guidelines

The Mie University Graduate School grade assessment guidelines are designed to ensure the standards and substantiation of graduate school education through the stipulation of grade assessment standards, assessment methods, etc. to use as guidelines.

## 2. Grade assessment, marks, assessment details standards

Grade assessment, marks, and assessment details standards are set as follows.

Judgment	Mark	Score	Judgment	Assessment standard	Listing in	Listing in
					grades report	grades
						transcript
Pass	95-100 points	10	AA	Has mastered the subject	Listed	Listed
	90-94	9		contents and achieved the		
				targets with merit.		
	80-89	8	A	Has learned the subject	Listed	Listed
				contents and adequately		
				achieved the targets.		
	70-79	7	В	Has learned the subject	Listed	Listed
				contents and generally		
				achieved the targets.		
	60-69	6	С	Has learned the subject	Listed	Listed
				contents and achieved the		
				required minimum targets.		
Fail	Under 60	5 or	D	Is not considered to have	Listed	Not listed
	points	lower		learned the subject contents		
				and has not achieved the		
				targets.		

NB: Subjects, where credit approval alone is done, will be shown as Pass, Fail, or Approved.

NB: The grade reports will, in principle, list the scores and the grade transcripts the judgments.

## 3. Assessment methods

Grade assessment will be done from selecting as many as possible from among attendance, participation in reports and presentations, study records, reports, exams, and other diverse elements, as suitable for the format, targets, and contents of the individual subjects.

## 4. Reflection of learning outcomes

Efforts will be made to reflect learning outcomes appropriately in grade assessment, such as the appropriate reflection of learning outcomes obtained through lectures or study preparation in order to attend lectures in report project settings and exam contents.

## 5. Ensuring awareness of grade assessment standards and methods

The standards and methods for grade assessment in individual subjects shall be clearly presented in the syllabus as well as explained with regard to the targets to achieve in each class. The relationship between the targets to achieve and the assessments, in particular, will be explained specifically based on the class contents.

#### 6. Assessment of the Graduate Thesis

In accordance with the Graduate Thesis Examination Standards stipulated elsewhere.

## 7. Accountability

Questions and inquiries from students regarding grade assessment shall be responded to appropriately.

## **Supplementary Provision**

These guidelines shall be implemented from April 1, 2007. However, the assessment categories shall apply to those who enter the graduate school from the 2007 academic year, and the previous four-category assessment shall apply to students who entered prior to that.

## The Sansui Hall



The Sansui Hall which was built in August 1936 is the oldest building in Kamihama Campus of Mie University. So, it has been registered as a cultural asset.

Once, this building was managed as an accommodation for visiting lecturers and other visitors, and it was supported by a donation from the graduates of Mie University (erstwhile Mie Higher Agricultural and Forestry School). It is, currently, being utilized for meetings and other beneficial purposes.

Administration Office Faculty of Bioresources, Mie University 1577 Kurimamachiya-cho, Tsu-shi, Mie 514-8507, Japan URL http://www.bio.mie-u.ac.jp/