

Graduate School of Science and Engineering

I Three Policies

< Master's Degree Program >

Diploma Policy

The Graduate School of Science and Engineering (Master's Degree Program) offers the three majors, Engineering Science Major, Environmental and Urban Engineering Major and Chemistry, Materials and Bioengineering Major. Under the majors there are nine disciplines of Mathematics, Pure and Applied Physics, Mechanical Engineering, Electrical, Electronic and Information Engineering, Architecture, Civil, Environmental and Applied System Engineering, Chemical, Energy and Environmental Engineering, Chemistry, Materials and Bioengineering and Life Science and Biotechnology. Under the concepts of "system design," "urban design" and "manufacturing," each major program aims to cultivate the abilities to understand the essence of phenomena behind advanced knowledge or new technology, to approach technical problems from both of hardware and software, and to demonstrate the functions of substances in a variety of systems and devices and foster talented human resources with abilities to elucidate advanced research issues of technological social systems from the perspective of science and engineering, and to lead industries of next generation in the international stages. The Graduate School awards the degree of master (Science) to those students in the fields of "Mathematics" and "Pure and Applied Physics" and the degree of master (Engineering) to those in other fields, who have completed the prescribed curriculum by receiving research guidance in the respective field and have acquired the following knowledge and skills, abilities to think, judge and express themselves, as well as proactive attitude:

1. Knowledge and skills

Students have acquired a high-level of knowledge and skills of the respective specialized field of science and engineering required for playing an active role as researchers or highly-qualified professionals and can make full use of them with the ability of logical and deductive thinking and value creativity.

2. Abilities of Thinking, Judgement, and Expression

(1) Students have ability to think autonomously from a global perspective and to transmit their views by using English skills which are indispensable for collecting global academic information.

(2) Students can contribute to the society by demonstrating high-levels of the power of "Think and Act" to solve issues while keeping smooth communication with others.

3. Proactive Attitudes

Students can take responsibility for their own learning and display proactively problems with problem-identifying and problem-solving abilities.

Curriculum Policy

The Graduate School of Science and Engineering (Master's Degree Program) configures its curriculum based on the following points with a view of enabling students to acquire knowledge and skills, abilities to think, judge, and express themselves as well as proactive attitude according to the Diploma Policy of the Graduate School:

1. Educational Contents:

(1) As for lecture and seminar subjects, the Graduate School systematically configures the common subjects in the Graduate School, the common subjects in the major program, and the specialized subjects designated by the respective field in order for students to acquire high qualified knowledge and skills efficiently.

(2) As for practice subjects, the Graduate School arranges seminars under academic advisors and provides elaborate research guidance for enabling individual students to acquire high-levels of research ability

(3) The Graduate School offers dispatch-based practice which allows acquisition of credits by dispatching the students to the domestic or overseas research institutions in order to encourage students to conduct broad range of global research activities.

(4) The Graduate School offers opportunities to develop research ethics and security-oriented attitudes required

for research activities.

2. Evaluation of Learning Achievements:

- (1) The levels of acquisition of knowledge and skills will be evaluated through integrating the results of tests at the end of or during the semester, and screening the master's thesis or specified research task.
- (2) The abilities of consideration and logical thinking, presentation skills, and research attitude will be evaluated through oral presentations in seminars and screening of the master's thesis or the specified research task.
- (3) The proactive learning attitudes will be measured by tallying up various student assessment including the state of presentation in academic meetings, and by oral examination at research presentation.

Admission policy

The Graduate School of Science and Engineering (Master's Degree Program) widely accepts through a variety of entrance examinations those who have the following knowledge and skills, abilities of thinking, judgement, and expression, and proactive attitudes as the graduate school students according to the Diploma Policy and Curriculum Policy of the Graduate School:

1. To have the expertise of their specialized fields on the foundation of the basic academic abilities of science and engineering in the undergraduate courses.
2. To be able to think autonomously from a global perspective, to smoothly communicate with others, and to contribute to society with their capabilities of "Think and Act" on the foundation of their learning results at the undergraduate courses.
3. To have strong willingness to study proactively their specialized academic fields.

< Ph. D. Degree Program >

Diploma Policy

The Graduate School of Science and Engineering (Ph.D. Degree Program) offers the nine disciplines of Mathematics, Pure and Applied Physics, Mechanical Engineering, Electrical and Electronic Engineering, Architecture, Civil, Environmental and Applied System Engineering, Chemical, Energy and Environmental Engineering, Chemistry, Materials and Bioengineering, and Life Science and Biotechnology under Integrated Science and Engineering Major. The Graduate School of Science and Engineering awards the degree of doctor (Science) to those students in the fields of "Mathematics" and "Pure and Applied Physics" and the degree of doctor (Engineering) to those in other fields, who have completed the prescribed curriculum by receiving research and thesis preparation guidance in each academic field and have acquired the following knowledge and skills, dispositions and abilities as well as attitude:

1. Students have acquired outstanding knowledge and skills of the respective field of science and engineering required for playing an active role as researchers or highly-qualified professionals in an autonomous manner, and can make full use of them with the ability of logical and deductive thinking and value creativity.
2. Students have the sufficient ability to improve and use English skills which are indispensable for collecting global academic information and transmitting their opinions, and can think from a global perspective and transmit research results both domestically and internationally.
3. Students can contribute to the society by demonstrating the outstanding power of "Think and Act" and leadership while keeping smooth communication with others.
4. Students can take responsibility for their own learning, and address unsolved issues by themselves with problem-identifying and problem-solution abilities based on high professional ethics.

Curriculum Policy

The Graduate School of Science and Engineering (Ph.D. Degree Program) configures its curriculum based on the following points with a view of enabling students to acquire knowledge and skills, qualities and abilities as well as attitudes according to the Diploma Policy:

1. Educational contents:

- (1) The Graduate School aims to enable the students to acquire outstanding knowledge and skills through conducting advanced research under the academic advisors.
 - (2) The Graduate School arranges to enable the students to acquire the most advanced knowledge and skills in each specialized field by providing seminars conducted by academic advisors.
 - (3) The Graduate School provides guidance for publication of research results such as academic thesis and presentation at academic meetings.
2. Evaluation of Learning Achievements:
- (1) The levels of acquisition of knowledge and skills will be evaluated through integrating the screening of doctor's thesis or specified research task and the state of their publication.
 - (2) The abilities of consideration and logical thinking, and dispositions and capabilities summarized in the University's "Think and Act" academic philosophy will be evaluated by screening academic thesis or doctor's thesis, and checking research presentations or public inquiry of the theses.
 - (3) The proactive learning attitudes will be measured according to the state of presentation at the academic meetings and publication of academic reports, and through oral examination.

Admission policy

The Graduate School of Science and Engineering (Ph.D. Degree Program) widely accepts through a variety of entrance examinations those who have the following knowledge and skills, abilities of thinking, judgement, and expression, and proactive attitudes as the graduate school students according to the Diploma Policy and the Curriculum Policy of the Graduate School:

1. To have the expertise of their specialized fields during their undergraduate courses and master's degree programs.
2. To be able to think autonomously from a global perspective, to smoothly communicate with others, and to contribute to society with their capabilities of "Think and Act" based on results of learning during their undergraduate courses and master's degree programs.
3. To have strong willingness to study proactively their specialized academic fields.

II Curriculum

1 Structure of the graduate school

The following courses are offered by the Graduate School of Science and Engineering.

- (1) Master's Program, Engineering Science major
Discipline of Mathematics; discipline of Pure and Applied Physics; discipline of Mechanical Engineering; discipline of Electrical, Electronic and Information Engineering
- (2) Master's Program, Environmental and Urban Engineering major
Discipline of Architecture; discipline of Civil, Environmental and Applied Systems Engineering; discipline of Chemical, Energy and Environmental Engineering
- (3) Master's Program, Chemistry, Materials and Bioengineering major
Discipline of Chemistry and Materials Engineering; discipline of Life Science and Biotechnology
- (4) Ph.D. Program, Integrated Science and Engineering major
Discipline of Mathematics; discipline of Pure and Applied Physics; discipline of Mechanical Engineering; discipline of Electrical, Electronic and Information Engineering; discipline of Architecture; discipline of Civil, Environmental and Applied Systems Engineering; discipline of Chemical, Energy and Environmental Engineering; discipline of Chemistry and Materials Engineering; discipline of Life Science and Biotechnology

2 Organization of courses

Courses in the Graduate School of Science and Engineering which may be taken to earn credits are classified as follows.

Refer to the List of Courses for details of each course.

Course	Classification	Description
Master's Program	Group A Subjects	Common subjects in the graduate school
	Group K Subjects	Basic subjects in the International Science and Engineering Course
	Group B Subjects	Common subjects in the major
	Group C Subjects	Major subjects required by each discipline (including Seminar) Major subjects in the International Science and Engineering Course (including Seminar)
Ph.D. Program	-	Seminar and on-site technology training

3 Credits required for completion

(1) Master's Program

Students who have been enrolled in the Master's Program for 2 years <4 semesters> or more, and for within 4 years <8 semesters>, and who have earned 30 credits or more, completed the required amount of directed study, and passed the Master's thesis evaluation and examination, will be awarded the Master of Science and the Master of Engineering.

[Details of the 30 credits required for completion]

Engineering Science major

- (a) In the Mathematics discipline, students must earn a total of 30 credits or more, including 2 credits from Groups A and B, 22 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).
Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 4 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).
- (b) In the Pure and Applied Physics discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 12 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor). No more than 6 credits from Group A shall be counted toward the credits required for completion.
Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 2 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).
- (c) In the Mechanical Engineering discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 2 credits from Group B, and 22 credits from Group C (including a total of 8 credits for Seminar I, II, III and IV of their research fields and 2 credits of Advanced Applied Mathematics).
Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 2 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).
- (d) In the Electrical, Electronic and Information Engineering discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 2 credits from Group B, and 20 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor). No more than a total of 6 credits from Group A and B shall be counted toward the credits required for completion. Moreover, no more than a total of 6 credits earned for Electrical, Electronic and Information Engineering PBL- A, B, Advanced Internship I, II, III, and Overseas Technology Training I, II, III in Group C shall be counted toward the credits

required for completion.

Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 2 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).

- (e) The required number of credits shall be earned from the major of affiliation for Group B, and from the discipline of affiliation for Group C.

Environmental and Urban Engineering major

- (a) In the Architecture discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 2 credits from Group B, and 24 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor). No more than 2 credits for Internship on Architectural Design I, II, and III shall be counted toward the credits required for completion. Moreover, credits for Advanced Internship I, II, III, and Overseas Technology Training I, II, III shall not be counted toward the credits required for completion. Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 4 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).

- (b) In the Civil, Environmental and Applied Systems Engineering discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 4 credits from Group B, and 20 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor, 2 credits of Science and Technology English, and 6 credits of Required Elective Subjects in the departments to which the faculty advisor belongs). No more than 4 credits for Advanced Internship I, II, III, and Overseas Technology Training I, II, III shall be counted toward the credits required for completion.

Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 2 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).

- (c) In the Chemical, Energy and Environmental Engineering discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 4 credits from Group B, and 20 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor). Credits of Advanced Internship I, II, III, and Overseas Technology Training I, II, III shall not be counted toward the credits required for completion.

Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 4 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).

- (d) The required number of credits shall be earned from the major of affiliation for Group B, and from the discipline of affiliation for Group C.

Chemistry, Materials and Bioengineering major

- (a) In the Chemistry and Materials Engineering discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 4 credits from Group B, and a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor. No more than 4 credits from Group A and 8 credits from Group B shall be counted toward the credits required for completion.

Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 4 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).

- (b) In the Life Science and Biotechnology discipline, students must earn a total of 30 credits or more, including 2 credits from Group A, 2 credits from Group B, and 20 credits from Group C (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor). Students in the International Science and Engineering Course must earn a total of 30 credits or more, including 4 credits from Group K, 12 credits from Group C [International Science and Engineering Course in their discipline] (including a total of 8 credits of Seminar I, II, III and IV given by the faculty advisor).
- (c) The required number of credits shall be earned from the major of affiliation for Group B, and from the discipline of affiliation for Group C.

(2) Ph.D. Program

Students who have been enrolled in the Ph.D. Program for 3 years <6 semesters> or more, and for within 6 years <12 semesters>, and who have earned 8 credits or more, completed the required amount of directed study, and passed the doctoral thesis evaluation and examination, will be awarded the Doctor of Science and the Doctor of Engineering.

[Details of the 8 credits required for completion]

Students must earn a total of 8 credits of Seminar V, VI, VII, and VIII in their research field.

Students in the International Science and Engineering Course must earn 8 credits (subjects offered in the International Science and Engineering Course) in their discipline (Seminars V, VI, VII, and VIII in the research field).

III Matters requiring special attention with respect to taking/completing subjects

1 Taking courses

(1) Course registration

Students must register within the specified registration period for courses they intend to take in that academic year by referring to graduate school handbook, syllabus, class schedules and other materials, after seeking the guidance and obtaining the approval of the faculty advisor in advance.

As a general rule, making changes and/or additions to courses is not acceptable after deadline has passed for course registration. However, changes may be permitted under certain conditions during a specified period (details will be provided via the Information System). The list of subjects offered in the International Science and Engineering Course will also be posted in the Information System.

(2) Course load [Master's Program]

The maximum number of credits that can be earned in 1 academic year is 30. The upper limit of credits earned shall be 16 for students entering in the fall semester in their first year of enrollment and in the spring semester when all of the credits required for completion are due to be earned.

Credits received for Advanced Internship I, II, III, Overseas Technology Training I, II, III and Internship on Architectural Design I, II, III are not counted toward the course load.

(3) Seminar [Master's Program]

Seminar III and IV may not be taken unless Seminar I and II have been completed. This rule does not apply if enrollment is approved by the Graduate School Committee.

(4) Graduate school common subjects

For the description of graduate school common subjects, please refer to "Taking Graduate School Common Subjects" (listed above). A maximum of 2 credits from the Category of Foundational Subjects, may be counted toward the Group A credits required for completion.

Please note that the credits earned from "Category of Japanese Culture/Society-Related Subjects" and/or "Category of Cross-Disciplinary Subjects (excluding subjects offered by the Graduate School

of Science and Engineering)” cannot be included in the credits required for completion. However, in the case that these subjects are taken, they will not be included in the course load.

(5) Group K subjects

Students other than those who have taken the International Science and Engineering Course may take these subjects only when the faculty advisor considers them necessary for research reasons.

(6) Group C subjects

[1] Specialized subjects specified by each discipline (excluding major subjects in the International Science and Engineering Course)

Students who have taken the International Science and Engineering Course may take these subjects only when the faculty advisor considers them necessary for research reasons and the course instructor permits them to attend.

[2] Major subjects in the International Science and Engineering Course

Students other than those who have taken the International Science and Engineering Course may take these subjects only when the faculty advisor considers them necessary for research reasons and the course instructor permits them to attend.

(7) Additional subjects

Students may take subjects in another major, graduate school, faculty, or institution as additional subjects separate from the courses offered by the major and graduate school of affiliation, if the faculty advisor considers it necessary for research reasons. The maximum number of credits that can be earned for additional subjects is 20 credits throughout the entire period of enrollment.

Except in the case of (8) below, these credits will not be counted toward the course load.

Some subjects, however, may not be taken; this will depend on the particular situation.

(8) Allotment of additional subjects [Master’s Program]

Up to 10 credits (15 credits* if approved by the graduate school) earned for additional subjects during the Master’s Program may be counted toward the credits required for completion, with the approval of the faculty advisor. However, these may not be counted toward the credits of Seminar.

Any additional subject taken as an allotted subject is counted toward the course load.

(9) Taking faculty subjects

Students will be permitted to take faculty courses [1] when acquiring qualifications for a Teacher’s License, [2] when acquiring qualifications required for various licenses or to meeting the completion requirements, or [3] when the faculty advisor considers it necessary for research reasons. Students must obtain the approval of the faculty advisor before taking the required subjects. As for [1] and [2] faculty subjects, students may earn up to 32 credits in 1 academic year. Faculty subjects [3] will be treated as additional subjects, as described in (7). A maximum of 20 credits may be earned throughout the entire period of enrollment.

Students may not be able to register for a particular subject; this will depend on the host faculty.

2 Transferring credits with other institutions

(1) Transferring credits among 4 major university graduate schools in Kansai

Pursuant to the Agreement on Transferring Postgraduate Credits Among Four Major University Graduate Schools in Kansai, courses offered by the graduate schools of Kwansei Gakuin University, Doshisha University, and Ritsumeikan University may be taken as additional subjects. Refer to “Transferring credits among 4 major university graduate schools in Kansai” on Page 30 for details.

(2) Transferring credits to and from Osaka University and Kyoto University

Kansai University has an academic exchange agreement with Osaka University and Kyoto University for the mutual acceptance of special auditing students. It permits students to attend courses and transfer credits between institutions. Students interested in signing up for courses at the graduate schools of Osaka University or Kyoto University for educational reasons must complete the required procedures after obtaining the permission of the faculty advisor. Details will be provided via the Information System.

3 Requirements for submitting a Master's thesis/doctoral thesis

There are requirements that govern the submission of a Master's thesis/Doctoral thesis; review these requirements thoroughly and formulate a study plan before registering for a course. For detailed information, see the "procedures for applying for a Master's degree and the criteria for evaluating a Master's thesis" or the "procedures for applying for a Doctoral degree and the criteria for evaluating Doctoral thesis" below.

4 Transferring credits earned prior to admission to the University

A maximum of 10 credits (15 credits* if approved by the graduate school) earned in another graduate school prior to entering this Graduate School (including credits earned as a credited auditor) may be accepted. Also, for subjects studied at this school as a foreign research student, a maximum of 6 out of the credits indicated above may be accepted. Details will be provided to students entering the University.

*The credits allotted for additional subjects and the credits acquired prior to admission may be counted toward the credits required for completion up to 20 credits in total.

5 Early Completion Program [Master's Program in the Engineering Science major, discipline of Mechanical Engineering]

This program offers an opportunity to complete the Master's Program in 3 semesters (1.5 years) to students who have demonstrated particularly excellent academic performance in graduate school, among those who entered the Master's Programs after early graduation from their faculties (in 3.5 years). This pathway offers a coordinated integrated educational program that links the faculty to the graduate school Master's Program in order to turn out highly qualified human resources (advanced professional engineers) who will meet the needs of the society. Students are strongly encouraged to continue on to Ph.D. Program after completing the Master's Program.

Details of the program will be provided via the Information System.

<Discipline of Mechanical Engineering>

(1) Eligible students

Students who graduated early from the Kansai University Faculty of Engineering Science, Department of Mechanical Engineering and are currently enrolled in the Kansai University Graduate School of Science and Engineering, Engineering Science major, discipline of Mechanical Engineering, and who wish to complete early

(2) Application period

Specified time during the second semester

(3) Conditions for applying for the Early Completion Program

Students must meet all of the following conditions to be eligible for the Early Completion Program.

- a They must have been currently enrolled for 1 semester without any change in their registered status after entering the Engineering Science major, discipline of Mechanical Engineering
- b They must have been assessed as capable of completing early at the midterm evaluation conducted during the first semester (Note 1)
- c They must have excellent grades at the end of the first semester (Note 2), and have earned 20

credits or more (including Seminar) of the credits required for completion (Note 3)

(4) Conditions for acceptance into the Early Completion Program

Students must meet all of the following conditions in order to complete early.

- a They must have excellent grades at the end of the second semester in subjects applicable to the credits required for completion (Note 2)
- b They must have been attending continuously for 3 semesters at the end of the third semester and have earned all of the credits required for completion
- c They must have passed the Master's thesis evaluation and examination

(5) Measures taken, and other matters relating to courses

- a Students who are eligible for the Early Completion Program are allowed to take Seminar III and IV simultaneously during the third semester.
- b Permission to participate in the Early Completion Program will be withdrawn if any change is made to the registration status of a student who is eligible for the Early Completion Program, in which case such student will not be acknowledged to have completed the program unless he/she attends the school for a total of 4 semesters or more and passes the Master's thesis evaluation and examination.
- c Permission to participate in the Early Completion Program will be withdrawn if a student who is applicable notifies the Dean of Graduate School of Science and Engineering of an intention to decline the application of the Early Completion Program (Note 4) through his/her faculty advisor before the end of the second semester, in which case such student will neither be allowed to take Seminar III and IV simultaneously in the third semester nor to submit the Master's thesis in the third semester.

Similarly, permission to participate in the Early Completion Program will be withdrawn if a student announces an intention to decline the application of the Early Completion Program (Note 4) before the end of the third semester, in which case such student will not be allowed to submit the Master's thesis in the third semester.

- d A guidance will be held at the time of entrance into the Master's Program to provide summarized information on the Early Completion Program in graduate school.

Note 1: The guideline for the midterm evaluation is provided separately.

Note 2: The grade evaluation criteria is provided separately.

Note 3: As the course load in the first semester is 16, students will not be able to meet the conditions for the Early Completion Program, if they do not earn at least 4 credits, out of the 10 credits earned from the Graduate School of Science and Engineering subjects during the spring semester of the faculty fourth year.

Note 4: Details for declining the Early Completion Program are provided separately.

6 Early Completion Program [Master's Program in the Environmental and Urban Engineering major, discipline of Civil, Environmental and Applied Systems Engineering]

This program offers an opportunity to complete the Master's Program in 3 semesters (1.5 years) to students who have demonstrated particularly excellent academic performance in graduate school, among those who entered the Master's Programs after early graduation from their faculties (in 3.5 years). This pathway offers a coordinated integrated educational program that links the faculty to the graduate school Master's Program in order to turn out highly qualified human resources (advanced professional engineers) who will meet the needs of the society.

Details of the program will be provided via the Information System.

<Discipline of Civil, Environmental and Applied Systems Engineering>

(1) Eligible students

Students who graduated early from the Kansai University Faculty of Environmental and Urban Engineering, Department of Civil, Environmental and Applied Systems Engineering and are currently

enrolled in the Kansai University Graduate School of Science and Engineering, Environmental and Urban Engineering major, discipline of Civil, Environmental and Applied Systems Engineering, and who wish to complete early

- (2) Application period
Specified time during the second semester
- (3) Conditions for applying for the Early Completion Program
Students must meet all of the following conditions to be eligible for the Early Completion Program.
 - a They must have been currently for 1 semester without any change in their registered status after entering the Environmental and Urban Engineering major, discipline of Civil, Environmental and Applied Systems Engineering
 - b They must have been assessed as capable of completing early at the midterm evaluation conducted during the first semester (Note 1)
 - c They must have earned 20 credits or more (including Seminar) of the credits required for completion at the end of the first semester with excellent grades (Note 2) (Note 3)
- (4) Conditions for acceptance into the Early Completion Program
Students must meet all of the following conditions in order to complete early.
 - a They must have excellent grades at the end of the second semester in subjects applicable to the credits required for completion (Note 2)
 - b They must have been attending continuously for 3 semesters at the end of the third semester and have earned all of the credits required for completion
 - c They must have passed the Master's thesis evaluation and examination
- (5) Measures taken, and other matters relating to courses
 - a Students who are eligible for the Early Completion Program are allowed to take Seminar III and IV simultaneously during the third semester.
 - b Permission to participate in the Early Completion Program will be withdrawn if any change is made to the registration status of a student who is eligible for the Early Completion Program, in which case such student will not be acknowledged to have completed the program unless he/she attends the school for a total of 4 semesters or more and passes the Master's thesis evaluation and examination.
 - c Permission to participate in the Early Completion Program will be withdrawn if a student who is applicable notifies the Dean of the Graduate School of Science and Engineering of an intention to decline the application of the Early Completion Program (Note 4) through his/her faculty advisor before the end of the second semester, in which case such student will neither be allowed to take Seminar III and IV simultaneously in the third semester nor to submit the Master's thesis in the third semester.
Similarly, permission to participate in the Early Completion Program will be withdrawn if a student announces an intention to decline the application of the Early Completion Program (Note 4) before the end of the third semester, in which case such student will not be allowed to submit the Master's thesis in the third semester.
 - d A guidance will be held at the time of entrance into the Master's Program to provide summarized information on the Early Completion Program in graduate school.

Note 1: The guideline for the midterm evaluation is provided separately.

Note 2: The grade evaluation criteria is provided separately.

Note 3: As the course load in the first semester is 14, students will not be able to meet the conditions for the Early Completion Program, if they do not earn at least 6 credits, out of the 10 credits earned from the Graduate School of Science and Engineering subjects during the spring semester of the faculty fourth year.

Note 4: Details for declining the Early Completion Program are provided separately.

Schedule for the Early Completion Program (plan)

[First semester]	
After entering in the fall semester	Guidance by the director of relevant discipline
In early February	Midterm evaluation schedule and other information will be officially communicated via the Information System
In late February	Midterm evaluation
In late March, from the Graduate School Committee	Midterm evaluations and the assessment of applications for early completion
[Second and third semesters]	
* Hereafter, the schedule for submitting the Master's thesis is the same as that of ordinary M2 students	
In mid-September, from the Graduate School Committee	Academic Performance Assessment for the Early Completion Program
In mid-February	Submission of thesis
From mid- to late February	Final examination
In late February, from the Graduate School Committee	Completion assessment
In early March	Announcement of degree holders
In late March	Ceremony to award diplomas (Master's degrees/Doctoral degrees)

List of Courses

a. Master's Program, Engineering Science major

Classification	Course Number	Course Title	Allotted academic year	Number of credits	
Group A	Common subjects in the Graduate School	ENS5	Engineering Ethics	1	2
		ENS5	Management of Technology	1	2
		ENS5	Intellectual Property	1	2
		ENS5	Philosophy of Science and Technology	1	2
		ENS5	Marketing	1	2
		ENS5	Current Issues on Energy and Environment	1	2
		ENS5	Economy and Industry	1	2
		ENS5	Technology and Venture	1	2
		ENS5	Safety Science and Management	1	2
		ENS5	Humanities Basic Knowledge for Engineers	1	2
		ENS5	Specific Lecture	1	2
ENS5	Sponsored Lecture	1	2		
Group K	Basic subjects in the International Science and Engineering Course	ENS5	Japanology	1	2
		ENS5	Writing Seminar in Japanese	1	2
		ENS5	International Science and Engineering Course	1	2
Group B	Common subjects in the Major	ENS5	Introduction to Modern Mathematics	1	2
		ENS5	Advanced Algorithm Engineering	1	2
		ENS5	Advanced Course in Modern and Applied Physics	1	2
		ENS5	Applied Imaging Metrology	1	2
		ENS5	Advanced Computational Intelligence	1	2
		ENS5	Advanced Resources Recycling Engineering	1	2
		ENS5	Science of Phase Equilibrium	1	2
		ENS5	X-ray Diffraction	1	2
		ENS5	Special Lecture A	1	2
		ENS5	Special Lecture B	1	2
		ENS5	Special Lecture C	1	2
Group C	Discipline of Mathematics	ENS5	Seminar I (Mathematics)	1	2
		ENS5	Seminar II (Mathematics)	1	2
		ENS6	Seminar III (Mathematics)	2	2
		ENS6	Seminar IV (Mathematics)	2	2
		ENS5	Differential Geometry	1	2
		ENS5	Information Geometry	1	2
		ENS5	Advanced Theory of Complex Analysis	1	2
		ENS5	Advanced Theory of Geometric Analysis	1	2
		ENS5	Algebraic Number Theory	1	2
		ENS5	Arithmetic Geometry	1	2
		ENS5	Representation Theory of Groups and Rings	1	2
		ENS5	Advanced Theory of Stochastic Processes	1	2
		ENS5	Advanced Theory of Stochastic Analysis	1	2
		ENS5	Introduction to Mathematical Statistics	1	2
		ENS5	Introduction to Markov Processes	1	2
		ENS5	Insurance Mathematics	1	2
		ENS5	Probability Models	1	2
		ENS5	Nonlinear Mathematics	1	2
		ENS5	Integrable Systems	1	2
		ENS5	Homological Algebra	1	2
		ENS5	Module Theory over Commutative Rings	1	2
ENS5	Hamiltonian Dynamical Systems	1	2		
ENS5	Introduction to Real Quantifier Elimination	1	2		

Classification	Course Number	Course Title	Allotted academic year	Number of credits	
Group C	Discipline of Mathematics	ENS5	Advanced Internship I	1	2
		ENS5	Advanced Internship II	1	2
		ENS5	Advanced Internship III	1	2
		ENS5	Overseas Technology Training I	1	2
		ENS5	Overseas Technology Training II	1	2
		ENS5	Overseas Technology Training III	1	2
		[International Science and Engineering Course in Mathematics]			
		ENS5	International Science and Engineering Course	1 • 2	2
	Discipline of Pure and Applied Physics	ENS5	Seminar I (Pure and Applied Physics)	1	2
		ENS5	Seminar II (Pure and Applied Physics)	1	2
		ENS6	Seminar III (Pure and Applied Physics)	2	2
		ENS6	Seminar IV (Pure and Applied Physics)	2	2
		ENS5	Introduction to Theory of Magnetism	1	2
		ENS5	Advanced Course in Quantum Physics	1	2
		ENS5	Advanced Course in Quantum Many-Body Physics	1	2
		ENS5	Advanced Course in Solid State Physics	1	2
		ENS5	Advanced Course in Quantum Materials	1	2
		ENS5	Advanced Course in Fluid Physics	1	2
		ENS5	Bio-fluid Dynamics	1	2
		ENS5	Nonlinear Mathematical Sciences	1	2
		ENS5	Light Waves and Special Relativity	1	2
		ENS5	Photon Radiation Physics and Technology	1	2
		ENS5	Advanced Course in Theoretical Materials Science	1	2
		ENS5	Computational Materials Science	1	2
		ENS5	Advanced Electrical and Optical Function-Material	1	2
		ENS5	Nanophysics Technology	1	2
		ENS5	Nano Functional Devices	1	2
		ENS5	Fluid and Elastic Mechanics	1	2
		ENS5	Advanced Measurement Systems	1	2
		ENS5	Advanced Nano-bio Devices	1	2
		ENS5	Advanced Electromagnetics	1	2
		ENS5	Advanced Physical Analysis of Electronic Materials	1	2
		ENS5	Advanced Probabilistic Information Processing	1	2
		ENS5	Advanced Course in Ultrasonic Physics	1	2
		ENS5	Advanced Course in Analysis of Mathematical Science	1	2
		ENS5	Advanced English for Pure and Applied Physics	1	2
		ENS5	Advanced Internship I	1	2
		ENS5	Advanced Internship II	1	2
		ENS5	Advanced Internship III	1	2
		ENS5	Overseas Technology Training I	1	2
		ENS5	Overseas Technology Training II	1	2
		ENS5	Overseas Technology Training III	1	2
		[International Science and Engineering Course in Pure and Applied Physics]			
		ENS5	International Science and Engineering Course	1 • 2	2
	Discipline of Mechanical Engineering	ENS5	Seminar I (Mechanical Engineering)	1	2
		ENS5	Seminar II (Mechanical Engineering)	1	2
		ENS6	Seminar III (Mechanical Engineering)	2	2
ENS6		Seminar IV (Mechanical Engineering)	2	2	
ENS5		Nanophysics Technology	1	2	
ENS5		Nano Functional Devices	1	2	
ENS5		Advanced Nano-bio Devices	1	2	
ENS5		Advanced Bio-Fluid Mechanics	1	2	
ENS5		Advanced Biomechanics & Fluids Engineering (Applied)	1	2	

Classification	Course Number	Course Title	Allotted academic year	Number of credits	
Group C	Discipline of Mechanical Engineering	ENS5	Fluid and Elastic Mechanics	1	2
		ENS5	Advanced Fluid and Elastic Mechanics	1	2
		ENS5	Advanced Materials Evaluation	1	2
		ENS5	Advanced Materials Processes	1	2
		ENS5	Advanced Computational Mechanics of Materials	1	2
		ENS5	Advanced Applied Mathematical Analysis	1	2
		ENS5	Nano-mechatronics	1	2
		ENS5	Infomechanics	1	2
		ENS5	Engineering Tribology	1	2
		ENS5	Control Engineering for Information Devices	1	2
		ENS5	Nanotechnology on Surface Control and Analysis	1	2
		ENS5	Advanced Thermal Energy System	1	2
		ENS5	Advanced Power and Energy System	1	2
		ENS5	Advanced Two-phase Flow	1	2
		ENS5	Advanced Heat Transfer Engineering	1	2
		ENS5	Advanced Intelligent Production Machinery	1	2
		ENS5	Advanced Non-Traditional Machining	1	2
		ENS5	Advanced Nano/Micro-Machining	1	2
		ENS5	Advanced Applied Mathematics	1	2
		ENS5	Vibration Control Engineering	1	2
		ENS5	Mechatronics Systems	1	2
		ENS5	Finite Element Method and Advanced Vibration Engineering	1	2
		ENS5	Advanced Measurement Systems	1	2
		ENS5	Advanced Solid State Physics	1	2
		ENS5	Robotics	1	2
		ENS5	Advanced Micro Systems Engineering	1	2
		ENS5	Advanced Lectures on Nanodevice Fabrication	1	2
		ENS5	Advanced Image Information Engineering	1	2
		ENS5	Advanced Theory and Practice of PIV	1	2
		ENS5	Advanced Thermal Fluid Analysis	1	2
		ENS5	Advanced Human Factors Engineering	1	2
		ENS5	Advanced Cognitive Engineering	1	2
		ENS5	Advanced Biosignal Engineering	1	2
		ENS5	Advanced Human Interface	1	2
		ENS5	Bio-fluid Dynamics	1	2
		ENS5	Materials Strength	1	2
		ENS5	Science and Technology English	1	2
		ENS5	Advanced Course in Theoretical Materials Science	1	2
		ENS5	Advanced Course in Solid State Physics	1	2
		ENS5	Advanced Internship I	1	2
		ENS5	Advanced Internship II	1	2
		ENS5	Advanced Internship III	1	2
		ENS5	Overseas Technology Training I	1	2
ENS5	Overseas Technology Training II	1	2		
ENS5	Overseas Technology Training III	1	2		
[International Science and Engineering Course in Mechanical Engineering]					
ENS5	International Science and Engineering Course		1 • 2	2	

Classification	Course Number	Course Title	Allotted academic year	Number of credits
Group C	Discipline of Electrical, Electronic and Information Engineering	ENS5 Seminar I (Electrical, Electronic and Information Engineering)	1	2
		ENS5 Seminar II (Electrical, Electronic and Information Engineering)	1	2
		ENS6 Seminar III (Electrical, Electronic and Information Engineering)	2	2
		ENS6 Seminar IV (Electrical, Electronic and Information Engineering)	2	2
		ENS5 Advanced Power Engineering	1	2
		ENS5 Software System	1	2
		ENS5 Advanced High-voltage Engineering	1	2
		ENS5 Advanced Electronic Control System	1	2
		ENS5 Advanced System Optimization	1	2
		ENS5 Advanced Computer Communications	1	2
		ENS5 Advanced Solid State Physics	1	2
		ENS5 Advanced Electrical and Optical Function-Material	1	2
		ENS5 Advanced System Dynamics	1	2
		ENS5 Advanced Information Optics	1	2
		ENS5 Advanced Electromagnetics	1	2
		ENS5 Advanced Applied Electrical Engineering	1	2
		ENS5 Advanced Electrical Machinery	1	2
		ENS5 Advanced Power Electronics	1	2
		ENS5 Advanced Course in Quantum Physics	1	2
		ENS5 Advanced Semiconductor Devices	1	2
		ENS5 Advanced Intelligent Systems Engineering	1	2
		ENS5 Advanced Information Networks	1	2
		ENS5 Advanced Next Generation Internet Technology	1	2
		ENS5 Advanced Applied Engineering for Solar-pumped Lasers	1	2
		ENS5 Advanced Wireless Communications	1	2
		ENS5 Advanced Physical Analysis of Electronic Materials	1	2
		ENS5 Advanced Transport Theories for Insulators, Semiconductors and Metals	1	2
		ENS5 Advanced Image Processing	1	2
		ENS5 Advanced Pattern Recognition	1	2
		ENS5 Advanced Human Interface	1	2
		ENS5 Advanced Speech and Audio	1	2
		ENS5 Advanced Signal Processing	1	2
		ENS5 Advanced Optical and Electromagnetic Wave Engineering	1	2
		ENS5 Advanced Internet Engineering	1	2
		ENS5 Advanced Epitaxial Growth Technology	1	2
		ENS5 Advanced Semiconductor Materials for Optical Devices	1	2
		ENS5 Advanced Data Engineering	1	2
		ENS5 Advanced Digital System	1	2
		ENS5 Advanced Probabilistic Information Processing	1	2
		ENS5 Science and Technology English	1	2
		ENS5 Electrical, Electronic and Information Engineering PBL-A	1	2
		ENS5 Electrical, Electronic and Information Engineering PBL-B	1	2
		ENS5 Advanced Internship I	1	2
		ENS5 Advanced Internship II	1	2
		ENS5 Advanced Internship III	1	2
		ENS5 Overseas Technology Training I	1	2
ENS5 Overseas Technology Training II	1	2		
ENS5 Overseas Technology Training III	1	2		
[International Science and Engineering Course in Electrical, Electronic and Information Engineering]				
ENS5	International Science and Engineering Course		1 • 2	2

b. Master's Program, Environmental and Urban Engineering major

Classification		Course Number	Course Title	Allotted academic year	Number of credits
Group A	Common Subjects in the Graduate School	EUE5	Engineering Ethics	1	2
		EUE5	Management of Technology	1	2
		EUE5	Intellectual Property	1	2
		EUE5	Philosophy of Science and Technology	1	2
		EUE5	Marketing	1	2
		EUE5	Current Issues on Energy and Environment	1	2
		EUE5	Economy and Industry	1	2
		EUE5	Technology and Venture	1	2
		EUE5	Safety Science and Management	1	2
		EUE5	Humanities Basic Knowledge for Engineers	1	2
		EUE5	Specific Lecture	1	2
		EUE5	Sponsored Lecture	1	2
Group K	Basic Subjects in the International Science and Engineering Course	EUE5	Japanology	1	2
		EUE5	Writing Seminar in Japanese	1	2
		EUE5	International Science and Engineering Course	1	2
Group B	Common Subjects in the Major	EUE5	Safety Technology	1	2
		EUE5	Advanced Environmental Analyses	1	2
		EUE5	Advanced Urban Environmentology	1	2
		EUE5	Advanced Course in Architectural and Environmental Physics	1	2
		EUE5	Advanced Course in Architectural and Environmental Psychology	1	2
		EUE5	Advanced Urban Information System Engineering	1	2
		EUE5	Re-Designing of City & Region Adv.	1	2
		EUE5	Advanced Lecture on Public Policy	1	2
		EUE5	Advanced Underground Space Engineering	1	2
		EUE5	Advanced Reliability-Based Design	1	2
		EUE5	Advanced Planning Management	1	2
		EUE5	X-ray Diffraction	1	2
		EUE5	Advanced Organic Resources Conversion Engineering	1	2
		EUE5	Science and Technology of Fine Particle Dispersion	1	2
		EUE5	Science of Phase Equilibrium	1	2
		EUE5	Science of Self-assembly and Self-organization	1	2
		EUE5	Advanced Elasto-Plastic Theory	1	2
		EUE5	Process Design for Environmental Preservation	1	2
EUE5	Regional Revitalization	1	2		

Classification	Course Number	Course Title	Allotted academic year	Number of credits		
Group C	Discipline of Architecture	EUE5 Seminar I (Architecture)	1	2		
		EUE5 Seminar II (Architecture)	1	2		
		EUE6 Seminar III (Architecture)	2	2		
		EUE6 Seminar IV (Architecture)	2	2		
		EUE5 Regional Revitalization Seminar I	1	2		
		EUE5 Regional Revitalization Seminar II	1	2		
		EUE6 Regional Revitalization Seminar III	2	2		
		EUE6 Regional Revitalization Seminar IV	2	2		
		EUE5 Advanced Urban Design	1	2		
		EUE5 Advanced Course in Urban Residential Environment and Design	1	2		
		EUE5 Advanced Course in Architectural and Visual Environment	1	2		
		EUE5 Advanced Course in Architectural and Acoustic Environment	1	2		
		EUE5 Advanced Course in Architectural and Thermal Environment	1	2		
		EUE5 Advanced Course in Architectural and Air Environment	1	2		
		EUE5 Advanced Architectural and Urban Environmental Design	1	2		
		EUE5 Exercise in Architectural and Urban Design	1	2		
		EUE5 Building Foundation Engineering	1	2		
		EUE5 Advanced Mechanics for Building Materials	1	2		
		EUE5 Advanced Aseismic Engineering	1	2		
		EUE5 Advanced Analysis of Building Structures	1	2		
		EUE5 Advanced Mechanics of Building Structures	1	2		
		EUE5 Advanced Course in Architectural Heritage	1	2		
		EUE5 Advanced Conservation Engineering of Architecture	1	2		
		EUE5 Advanced Theory of Structural Design of Buildings	1	2		
		EUE5 Advanced Course in Architectural History	1	2		
		EUE5 Advanced Theory of Architectural Design	1	2		
		EUE5 Prevention Engineering of Earthquake Disaster	1	2		
		EUE5 Earthquake Disaster Engineering	1	2		
		EUE5 Advanced Course on the Architectural Design	1	2		
		EUE5 Architectural Planning	1	2		
		EUE5 Simulation of Physical Environment for Architecture	1	2		
		EUE5 Internship on Architectural Design I	1	2		
		EUE5 Internship on Architectural Design II	1	2		
		EUE5 Internship on Architectural Design III	1	2		
		EUE5 Advanced Internship I	1	2		
		EUE5 Advanced Internship II	1	2		
		EUE5 Advanced Internship III	1	2		
		EUE5 Overseas Technology Training I	1	2		
		EUE5 Overseas Technology Training II	1	2		
		EUE5 Overseas Technology Training III	1	2		
		[International Science and Engineering Course in Architecture]				
		EUE5	International Science and Engineering Course		1 • 2	2

Classification	Course Number	Course Title	Allotted academic year	Number of credits		
Group C	Discipline of Civil, Environmental and Applied Systems Engineering	Seminar	EUE5	Seminar I (Civil, Environmental and Applied Systems Engineering)	1	2
			EUE5	Seminar II (Civil, Environmental and Applied Systems Engineering)	1	2
			EUE6	Seminar III (Civil, Environmental and Applied Systems Engineering)	2	2
			EUE6	Seminar IV (Civil, Environmental and Applied Systems Engineering)	2	2
			EUE5	Regional Revitalization Seminar I	1	2
			EUE5	Regional Revitalization Seminar II	1	2
			EUE6	Regional Revitalization Seminar III	2	2
			EUE6	Regional Revitalization Seminar IV	2	2
			EUE5	Science and Technology English	1	2
		Global Environment	EUE5	Advanced Rock Engineering	1	2
			EUE5	Advanced Geotechnical Earthquake Engineering	1	2
			EUE5	Advanced River Hydraulics	1	2
			EUE5	Advanced Coastal Engineering	1	2
			EUE5	Advanced Environmental Engineering for Sustainability Management	1	2
			EUE5	Advanced Environmental Resources Circulating Engineering	1	2
			EUE5	Urban and Landscape Design	1	2
		Design Construction	EUE5	Advanced Structural Engineering	1	2
			EUE5	Advanced Steel Structure	1	2
			EUE5	Advanced Reinforced Concrete Structures	1	2
			EUE5	Advanced Concrete Engineering	1	2
			EUE5	Advanced Constructional Management	1	2
			EUE5	Advanced Stock Infrastructure Management	1	2
		Planning Management	EUE5	Advanced Regional and Urban Planning	1	2
			EUE5	Advanced Traffic Engineering (PBL)	1	2
			EUE5	Infrastructure Planning	1	2
			EUE5	Advanced Management of Infrastructure Projects	1	2
			EUE5	Advanced Operations Research	1	2
			EUE5	Advanced Decision Making Engineering	1	2
			EUE5	Advanced Optimization Theory and Algorithms	1	2
		Information System Engineering	EUE5	Advanced Mathematical Optimization	1	2
			EUE5	Advanced Simulation Technology	1	2
			EUE5	Advanced Simulation Modeling	1	2
			EUE5	Advanced Object-Oriented Software Development	1	2
			EUE5	Advanced Software Engineering	1	2
			EUE5	Advanced Distributed Information Processing	1	2
			EUE5	Optimal Design Engineering	1	2
			EUE5	Advanced Information Networks	1	2
			EUE5	Advanced Information Media Engineering	1	2
			EUE5	Advanced Internship I	1	2
		Overseas Technology Training	EUE5	Advanced Internship II	1	2
			EUE5	Advanced Internship III	1	2
			EUE5	Overseas Technology Training I	1	2
			EUE5	Overseas Technology Training II	1	2
			EUE5	Overseas Technology Training III	1	2
			[International Science and Engineering Course in Civil, Environmental and Applied Systems Engineering]			
		EUE5	International Science and Engineering Course	1 • 2	2	

Classification	Course Number	Course Title	Allotted academic year	Number of credits		
Group C	Discipline of Chemical, Energy and Environmental Engineering	EUE5 Seminar I (Chemical, Energy and Environmental Engineering)	1	2		
		EUE5 Seminar II (Chemical, Energy and Environmental Engineering)	1	2		
		EUE6 Seminar III (Chemical, Energy and Environmental Engineering)	2	2		
		EUE6 Seminar IV (Chemical, Energy and Environmental Engineering)	2	2		
		EUE5 Chemical, Energy and Environmental Engineering PBL I	1	2		
		EUE5 Chemical, Energy and Environmental Engineering PBL II	1	2		
		EUE5 Theory and Practice in Analyses I	1	2		
		EUE5 Theory and Practice in Analyses II	1	2		
		EUE5 Advanced Energy Materials Engineering	1	2		
		EUE5 Surface and Interface Engineering	1	2		
		EUE5 Advanced Separation Engineering	1	2		
		EUE5 Advanced Surface Chemistry	1	2		
		EUE5 Advanced Transport Phenomena	1	2		
		EUE5 Green Process Engineering	1	2		
		EUE5 Advanced Environmental Chemistry and Engineering	1	2		
		EUE5 Catalyst Engineering	1	2		
		EUE5 Advanced Functional Materials Engineering	1	2		
		EUE5 Advanced Nanoparticles Technology I	1	2		
		EUE5 Advanced Nanoparticles Technology II	1	2		
		EUE5 Advanced Chemical Reaction Engineering	1	2		
		EUE5 Applied Mineral Engineering	1	2		
		EUE5 Advanced Internship I	1	2		
		EUE5 Advanced Internship II	1	2		
		EUE5 Advanced Internship III	1	2		
		EUE5 Overseas Technology Training I	1	2		
		EUE5 Overseas Technology Training II	1	2		
		EUE5 Overseas Technology Training III	1	2		
		[International Science and Engineering Course in Chemical, Energy and Environmental Engineering]				
		EUE5	International Science and Engineering Course		1 • 2	2

c. Master's Program, Chemistry, Materials and Bioengineering major

Classification	Course Number	Course Title	Allotted academic year	Number of credits	
Group A	Common Subjects in the Graduate School	CMB5	Engineering Ethics	1	2
		CMB5	Management of Technology	1	2
		CMB5	Intellectual Property	1	2
		CMB5	Philosophy of Science and Technology	1	2
		CMB5	Marketing	1	2
		CMB5	Current Issues on Energy and Environment	1	2
		CMB5	Economy and Industry	1	2
		CMB5	Technology and Venture	1	2
		CMB5	Safety Science and Management	1	2
		CMB5	Humanities Basic Knowledge for Engineers	1	2
		CMB5	Specific Lecture	1	2
Group K	Basic Subjects in the International Science and Engineering Course	CMB5	Japanology	1	2
		CMB5	Writing Seminar in Japanese	1	2
		CMB5	International Science and Engineering Course	1	2
Group B	Common Subjects in the Major	CMB5	Safety Technology	1	2
		CMB5	X-ray Diffraction	1	2
		CMB5	Material Process Engineering	1	2
		CMB5	Material Energy Technology	1	2
		CMB5	Advanced Industrial Organic Chemistry	1	2
		CMB5	Polymer Science	1	2
		CMB5	Science for Material Interface	1	2
		CMB5	Bio-related Chemistry	1	2
		CMB5	Biomaterials Science	1	2
		CMB5	Advanced Life Science	1	2
Group C	Discipline of Chemistry and Materials Engineering	CMB5	Advanced Biotechnology	1	2
		CMB5	Seminar I (Chemistry and Materials Engineering)	1	2
		CMB5	Seminar II (Chemistry and Materials Engineering)	1	2
		CMB6	Seminar III (Chemistry and Materials Engineering)	2	2
		CMB6	Seminar IV (Chemistry and Materials Engineering)	2	2
		CMB5	Advanced Material Science of Iron and Steel	1	2
		CMB5	Advanced Metallic Material Design	1	2
		CMB5	Advanced Metallic Materials for Biomedical and Healthcare Applications	1	2
		CMB5	Advanced Process Metallurgy	1	2
		CMB5	Advanced Metal Liquid State	1	2
		CMB5	Advanced Material Functions	1	2
		CMB5	Advanced Solidification Process Engineering	1	2
		CMB5	Advanced Processing of Molten Metals	1	2
		CMB5	Advanced Composite Processing Engineering	1	2
		CMB5	Advanced Surface Engineering	1	2
		CMB5	Advanced Crystal and Electronic Structure	1	2
		CMB5	Advanced Ceramic Materials	1	2
		CMB5	Advanced Inorganic Solid State Chemistry	1	2
		CMB5	Advanced Energy Electrochemistry	1	2
		CMB5	Advanced Photochemistry	1	2
		CMB5	Advanced Surface and Interface Chemistry	1	2
		CMB5	Advanced Mass Spectrometry	1	2
		CMB5	Advanced Organic Synthesis	1	2
		CMB5	Advanced Catalytic Organic Chemistry	1	2
		CMB5	Advanced Structural Organic Chemistry	1	2
CMB5	Advanced Organic Reaction	1	2		

Classification	Course Number	Course Title	Allotted academic year	Number of credits	
Group C	Discipline of Chemistry and Materials Engineering	CMB5	Advanced Chemistry of Organic Semiconductor Molecule	1	2
		CMB5	Advanced Material Chemistry of Polymers	1	2
		CMB5	Advanced Synthetic Polymer Chemistry	1	2
		CMB5	Advanced Polymer Design and Creation	1	2
		CMB5	Advanced Biomaterials Chemistry	1	2
		CMB5	Advanced Bionanotechnology	1	2
		CMB5	Advanced Bioinspired Chemistry	1	2
		CMB5	Advanced Tissue Engineering	1	2
		CMB5	Advanced Glycoconjugate Chemistry	1	2
		CMB5	Advanced Chemistry of Molecular Recognition	1	2
		CMB5	Advanced Biocoordination Chemistry	1	2
		CMB5	Science and Technology English	1	2
		CMB5	Special Course of Lecture	1	2
		CMB5	Advanced Internship I	1	2
		CMB5	Advanced Internship II	1	2
		CMB5	Advanced Internship III	1	2
		CMB5	Overseas Technology Training I	1	2
		CMB5	Overseas Technology Training II	1	2
		CMB5	Overseas Technology Training III	1	2
		[International Science and Engineering Course in Chemistry and Materials Engineering]			
	CMB5	International Science and Engineering Course		1 • 2	2
	Discipline of Life Science and Biotechnology	CMB5	Seminar I (Biotechnology)	1	2
		CMB5	Seminar II (Biotechnology)	1	2
		CMB6	Seminar III (Biotechnology)	2	2
		CMB6	Seminar IV (Biotechnology)	2	2
		CMB5	Advanced Molecular Cell Biology	1	2
		CMB5	Advanced Medicinal Chemistry	1	2
		CMB5	Advanced Pharmacological Action of Medicines	1	2
		CMB5	Advanced Molecular Microbiology	1	2
		CMB5	Advanced Microbial Control Science	1	2
		CMB5	Advanced Microbial Resource Science	1	2
		CMB5	Advanced Nutritional Chemistry	1	2
		CMB5	Advanced Food Chemistry	1	2
		CMB5	Advanced Food Preservation	1	2
		CMB5	Advanced Enzyme Chemistry	1	2
		CMB5	Advanced Bioprocess Systems Engineering	1	2
		CMB5	Advanced Environmental Microbiology	1	2
		CMB5	Advanced Food Microbiology	1	2
		CMB5	Advanced Plant Cell Biology	1	2
		CMB5	Advanced Microbial Immunology	1	2
		CMB5	Advanced Environmental Sciences and Technology	1	2
		CMB5	Advanced Bioinformatics	1	2
CMB5		Advanced English for Life Science and Biotechnology	1	2	
CMB5		Advanced Internship I	1	2	
CMB5		Advanced Internship II	1	2	
CMB5		Advanced Internship III	1	2	
CMB5		Overseas Technology Training I	1	2	
CMB5		Overseas Technology Training II	1	2	
CMB5		Overseas Technology Training III	1	2	
[International Science and Engineering Course in Life Science and Biotechnology]					
CMB5		International Science and Engineering Course		1 • 2	2

d. Ph.D. Program, Integrated Science and Engineering major

Discipline	Course Number	Course Title	Allotted academic year	Number of credits
Mathematics	ISE7	Seminar V (Mathematics)	1	2
	ISE7	Seminar VI (Mathematics)	1	2
	ISE8	Seminar VII (Mathematics)	2	2
	ISE8	Seminar VIII (Mathematics)	2	2
Pure and Applied Physics	ISE7	Seminar V (Pure and Applied Physics)	1	2
	ISE7	Seminar VI (Pure and Applied Physics)	1	2
	ISE8	Seminar VII (Pure and Applied Physics)	2	2
	ISE8	Seminar VIII (Pure and Applied Physics)	2	2
Mechanical Engineering	ISE7	Seminar V (Mechanical Engineering)	1	2
	ISE7	Seminar VI (Mechanical Engineering)	1	2
	ISE8	Seminar VII (Mechanical Engineering)	2	2
	ISE8	Seminar VIII (Mechanical Engineering)	2	2
Electrical, Electronic and Information Engineering	ISE7	Seminar V (Electrical, Electronic and Information Engineering)	1	2
	ISE7	Seminar VI (Electrical, Electronic and Information Engineering)	1	2
	ISE8	Seminar VII (Electrical, Electronic and Information Engineering)	2	2
	ISE8	Seminar VIII (Electrical, Electronic and Information Engineering)	2	2
Architecture	ISE7	Seminar V (Architecture)	1	2
	ISE7	Seminar VI (Architecture)	1	2
	ISE8	Seminar VII (Architecture)	2	2
	ISE8	Seminar VIII (Architecture)	2	2
	ISE7	Regional Revitalization Seminar V	1	2
	ISE7	Regional Revitalization Seminar VI	1	2
	ISE8	Regional Revitalization Seminar VII	2	2
	ISE8	Regional Revitalization Seminar VIII	2	2
Civil, Environmental and Applied Systems Engineering	ISE7	Seminar V (Civil, Environmental and Applied Systems Engineering)	1	2
	ISE7	Seminar VI (Civil, Environmental and Applied Systems Engineering)	1	2
	ISE8	Seminar VII (Civil, Environmental and Applied Systems Engineering)	2	2
	ISE8	Seminar VIII (Civil, Environmental and Applied Systems Engineering)	2	2
	ISE7	Regional Revitalization Seminar V	1	2
	ISE7	Regional Revitalization Seminar VI	1	2
	ISE8	Regional Revitalization Seminar VII	2	2
	ISE8	Regional Revitalization Seminar VIII	2	2
Chemical, Energy and Environmental Engineering	ISE7	Seminar V (Chemical, Energy and Environmental Engineering)	1	2
	ISE7	Seminar VI (Chemical, Energy and Environmental Engineering)	1	2
	ISE8	Seminar VII (Chemical, Energy and Environmental Engineering)	2	2
	ISE8	Seminar VIII (Chemical, Energy and Environmental Engineering)	2	2
Chemistry and Materials Engineering	ISE7	Seminar V (Chemistry and Materials Engineering)	1	2
	ISE7	Seminar VI (Chemistry and Materials Engineering)	1	2
	ISE8	Seminar VII (Chemistry and Materials Engineering)	2	2
	ISE8	Seminar VIII (Chemistry and Materials Engineering)	2	2
Life Science and Biotechnology	ISE7	Seminar V (Biotechnology)	1	2
	ISE7	Seminar VI (Biotechnology)	1	2
	ISE8	Seminar VII (Biotechnology)	2	2
	ISE8	Seminar VIII (Biotechnology)	2	2

Discipline	Course Number	Course Title	Allotted academic year	Number of credits
	ISE7	Advanced Internship IV	1	2
	ISE7	Advanced Internship V	1	2
	ISE7	Advanced Internship VI	1	2
	ISE7	Overseas Technology Training IV	1	2
	ISE7	Overseas Technology Training V	1	2
	ISE7	Overseas Technology Training VI	1	2

* Students in the International Science and Engineering Course must earn 8 credits (subjects offered in the International Science and Engineering Course) in their discipline (Seminars V, VI, VII, and VIII in the research field) in lieu of the courses above.

[Course number]

At Kansai University, each course is numbered to show the features and allotted academic year. A course number consists of 3 alphabet letters and 1 numeral that represents the allotted academic year.

(Example)

E	N	S	5
Major			Allotted academic year code

Major ENS : Engineering Science
 EUE : Environmental and Urban Engineering
 CMB : Chemistry, Materials and Bioengineering
 ISE : Integrated Science and Engineering

Allotted academic year code

5 : Master's program, first year
 6 : Master's program, second year
 7 : Ph.D. program, first year
 8 : Ph.D. program, second year
 9 : Ph.D. program, third year

IV Directed study in a Master's Program

1 Flow of directed study

In a Master's program, students receive guidance from their faculty advisors and sub-advisors* for 2 years to complete their Master's thesis. The flow of the directed study is as follows:

Year	Timing	Details
First year	April (September)	Faculty advisors and sub-advisors* provide individual counseling. Students prepare and submit their first-year research plan to the Dean. Students take seminars provided by their faculty advisors, and determine, based on advice of their faculty advisors and sub-advisors*, the course subjects to take in line with their research themes.
	September to October (March to April)	Students report the progress of their research in accordance with their individual research themes, and have their faculty advisors check the progress.
	January to February (September to October)	Students have interviews with their faculty advisors and sub-advisors* for their research in the second year, and then submit the first-year research findings report to the Dean.
Second year	April (September)	Following the first year, students take seminars provided by their faculty advisors, receive guidance from their faculty advisors and sub-advisors* based on their research guidance plans, and submit their second-year research plan to the Dean.
	September to October (March to April)	Students report the progress of their research in accordance with their individual research themes, and have their faculty advisors check the progress.
	February (July)	Submission of Master's theses
	February (July to September)	Students take the final examination, including oral examination, given by the Evaluation Committee members (1 chief examiner and 2 or more sub-chief examiners). Based on the results, the Graduate School Committee determines the students' passing or failing of the examination.
	March (September)	Awarding of degree

* Sub-advisors are limited to the discipline under the multiple advisor system.

*1 The timing in parentheses () in the Timing column indicates the timing for students entering in September.

*2 For students in the Early Completion Program, the first-year research finding report and second-year research plan are replaced with the mid-term evaluation report and grade evaluation.

V Procedures for applying for a Master's degree, Master's thesis evaluation system and method, and evaluation criteria

1 Master's degree

A student who has been enrolled in the Master's Course or Master's Program for a specified period, earned credits required by the relevant graduate school, completed the required amount of directed study, and then passed the evaluation and examination of the Master's thesis or result of study on a particular theme, accordance with the purpose of his or her course, is deemed to have completed the course and will be awarded the Master's degree. (Article 24 and Article 26 of the Graduate School Regulations)

2 Master's thesis evaluation system and method

(1) Evaluation system

Evaluation of Master's thesis or the outcomes of research on a specified topic will be conducted by an evaluation panel determined by the Graduate School Committee.

The evaluation panel will consist of three or more instructors in a research field related to the Master's thesis being evaluated, with one chief examiner and two or more sub-examiners. However,

in certain special circumstances, there may be only one sub-examiner.

(2) Evaluation method

[1] Final examination

The evaluation panel will conduct a final examination for the Master’s degree or the outcomes of research on a specified topic with the objective of confirming the outcomes of the research conducted by the student submitting the Master’s thesis or the outcomes of research on a specified topic. It will be conducted by an interview centering on the thesis. The interview will be conducted orally, but may also include written questions.

[2] Evaluation period

The evaluation of Master’s thesis and final examination will be completed within three (3) months from the deadline for submission of the Master’s thesis.

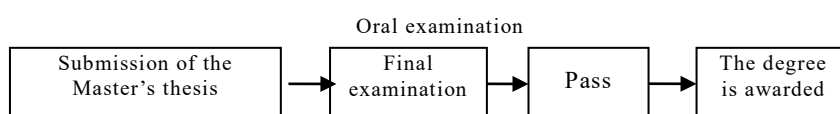
[3] Results of evaluation

The results of the evaluation of Master’s thesis or the outcomes of research on a specified topic and the final examination will be decided upon approval of the Graduate School Committee.

3 Criteria for the Master’s thesis evaluation

- (1) The student who receives the Master’s degree shall be an individual with broad and profound learning, and either research capacity in his/her major field of study or an ability to prove competent in professions or other occupational positions requiring a high level of expertise.
- (2) The Master’s thesis shall be logically and clearly written, and either be based upon research findings of an academic value with respect to the major field of study or a conception which represents the basic knowledge/comprehension/problem solving ability required in the accomplishment of research in the major field. If the research findings in the thesis are the result of the joint efforts of several researchers, the contribution of the individual receiving the degree must be significantly acknowledgeable.
- (3) The substance of the Master’s thesis shall be presented and debated at the Master’s thesis presentation in each major field in a manner suitable for academic research. As a general rule, Master’s thesis presentations shall be open to the public.

4 The basic flow of events leading to the award of a degree



5 Schedule

A detailed schedule will be provided via the Information System.

Element	Date appointed (deadline)	
	Award of degrees for the year ending in March	Award of degrees for the year ending in September
Submission of the thesis plan	-	-
Submission of the thesis	In mid-February	From mid- to late July
Final examination	From mid- to late February	From late July to early September

- * Students must consult with their faculty advisors regarding the submission of a Master’s thesis.
- * The submission deadline must be strictly observed.
- * Each student is responsible for obtaining a copy of the submission instructions posted in the

“Application/Questionnaire” section of the Information System. As submission instructions and other relevant procedures are subject to change, be sure to check the latest information on the Information System and with the Center for Academic Affairs.

6 Requirements for submitting the Master’s thesis

In accordance with Article 9 of the Degree Regulations, Master’s theses may only be submitted by students who have been enrolled in the Master’s Program for 1 year or more, earned 20 credits or more by taking required courses and met the following requirements stipulated by the Graduate School Committee.

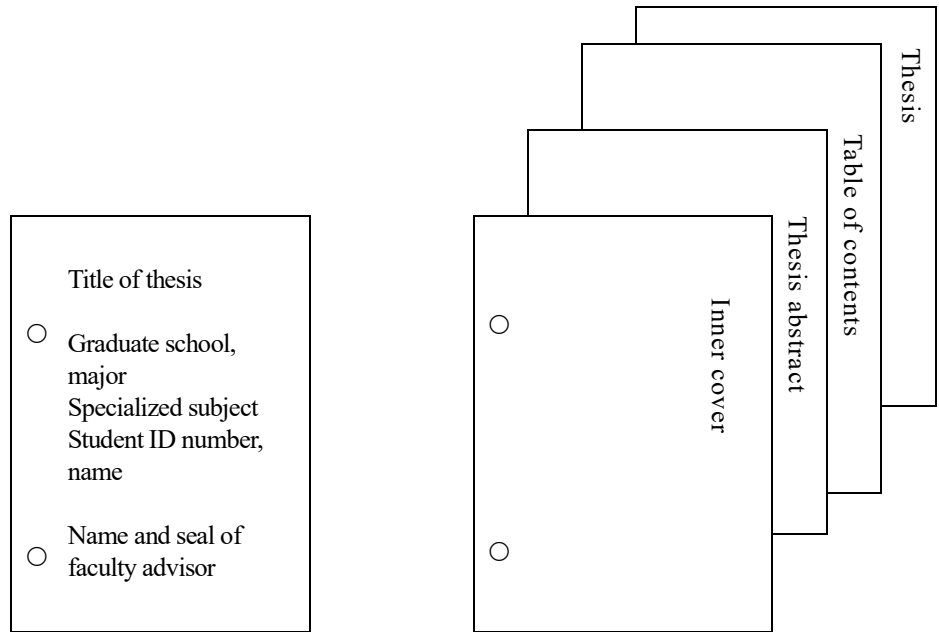
[Accreditation of foreign language proficiency]

- (1) Number of foreign language subjects
1 language (English)
- (2) Method of ascertaining foreign language proficiency
Written test as a general rule (conducted at the discretion of each subject area)
- (3) Requirements for exemption from the foreign language proficiency accreditation and how exemptions will be processed
Foreign language proficiency accreditation may be replaced by examination for entrance into the Master’s Program (whether or not this may be applied shall be determined by each discipline)

7 Instructions for submitting the Master’s thesis and thesis abstract

- (1) Number of counterparts to be submitted
1 original copy and 2 duplicate copies (The original copy is to be handwritten by the student or created on a word processor or computer. Duplicates must be reproductions of the original copy)
- (2) Restriction on the number of pages
[Master’s thesis] None
[Thesis abstract] Summarize the thesis in 1,000 to 2,000 characters.
- (3) Standards for paper
Paper must meet the following standards.
 - a Use size A4 writing paper (used for Graduate School of Science and Engineering), if handwritten .
* Writing paper can be purchased at the Co-op.
 - b Use A4 size high quality printing paper if written using a word processor (thermal paper is not accepted)
 - c The text should consist of 31 lines or fewer per page.
- (4) Binding instructions (* instructions given in a to d below apply to both originals and duplicates)
 - a Bind thesis pages using a flat file available at stores (example: A4 size Kokuyo Fu-V10).
 - b Create an inner cover indicating the title of the thesis, graduate school, major, discipline, student ID number and name.
 - c Bind the pages in the following order: inner cover, thesis abstract, table of contents, and thesis.
 - d Write your graduate school, major, discipline, student ID number, and name horizontally on the front cover and the back cover of the file.

Format of inner cover



(5) Notes

- a As a general rule, the thesis and thesis abstract must be written in black ink.
- b If the volume of reference materials is large and must be submitted as a separate volume, create this volume in accordance with the binding instructions for the thesis (a to d in (4) above) with “Materials” clearly written on the front.
- c Fold any larger documents or materials so that they can be bound together with thesis, fitting the required size.
- d Attach diagrams, tables, photographs, and so on as necessary.
- e **Be sure to have your faculty advisor sign and affix a seal on the inner cover of the original copy (the inner cover of duplicates may be reproduced).**

VI Directed study in a Ph.D. program

1 Flow of directed study

In a Ph.D. program, students receive guidance from their faculty advisors and sub-advisors* for 3 years to complete their doctoral thesis. The flow of the directed study is as follows:

Year	Timing	Details
First year	April (September)	Faculty advisors and sub-advisors* provide individual counseling. Students prepare and submit their first-year research plan to the Dean. Students take seminars provided by their faculty advisors.
	September to October (March to April)	Students report the progress of their research in accordance with their individual research themes, and have their faculty advisors check the progress.
	January to February (September to October)	Students have interviews with their faculty advisors and sub-advisors* for their research in the second year, and then submit their first-year research finding report to the Dean.
Second year	April (September)	Following the first year, students take seminars provided by their faculty advisors, receive guidance from their faculty advisors and sub-advisors* based on their research guidance plans, and submit their second-year research plan to the Dean.
	September to October (March to April)	Students report the progress of their research in accordance with their individual research themes, and have their faculty advisors check the progress.
	January to February (September to October)	Students have interviews with their faculty advisors and sub-advisors* for their research in the third year, and then submit their second-year research findings report to the Dean.
Third year	April (September)	Students receive guidance from their faculty advisors and sub-advisors* based on their research guidance plans, and then submit their third-year research plan to the Dean.
	August (February)	Submission of the doctoral thesis plan
	November (May)	Submission of the doctoral dissertation and the complete set of required documents, including an Application for Degree form
	December to January (July)	Final examination (public hearing)
	February (July)	Based on the result, the Graduate School Committee determines passing or failing of the examination.
	March (September)	Awarding of degree

Sub-advisors are limited to the discipline under the multiple advisor system.

*1 The timing in parentheses () in the Timing column indicates the timing for students entering in September.

*2 In the third and subsequent years, students receive research guidance in accordance with the schedule of the third year curriculum.

VII Procedures for applying for a doctoral degree, doctoral dissertation evaluation system and method, and evaluation criteria

1 Acquiring the doctoral degree by completing the course

A student who has been enrolled in the Doctoral Course for a specified period, earned the credits required by the relevant graduate school, completed the required amount of directed study, and then passed the doctoral thesis evaluation and final examination, is deemed to have completed the course and will be awarded the doctoral degree (Article 25 and Article 28 of the Graduate School Regulations).

2 A Doctoral dissertation evaluation system and method

(1) Evaluation system

- Evaluation of doctoral dissertation will be conducted by an evaluation panel determined by the Graduate School Committee.
- The evaluation panel will consist of three or more instructors in a research field related to the doctoral dissertation being evaluated, with one chief examiner and two or more sub-examiners.

(2) Evaluation method

[1] Final examination

The evaluation panel will conduct a final examination for the doctoral degree with the objective of confirming the outcomes of the research conducted by the student submitting the doctoral dissertation. It will be conducted by an interview centering on the dissertation. The interview will be conducted orally, but may also include written questions.

[2] Evaluation period

The evaluation of doctoral dissertation and final examination will be completed within one (1) year from acceptance of the dissertation.

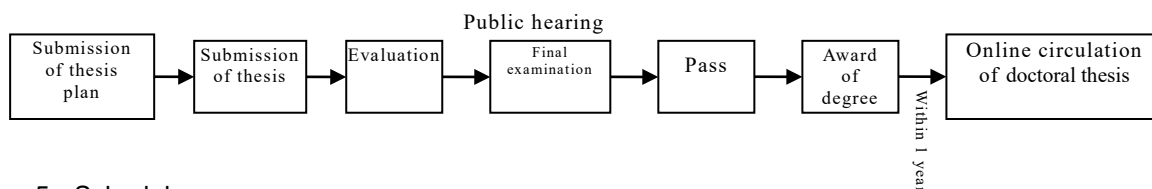
[3] Results of evaluation

The results of the evaluation of doctoral dissertation and the final examination will be decided upon approval of the Graduate School Committee.

3 Criteria for the doctoral thesis evaluation

- (1) The student who receives the doctoral degree shall be an individual with profound learning in the subject field of research, and a sufficient level of specialized research capacity in his/her field of study to independently accomplish that research.
- (2) The doctoral thesis shall be logically and clearly written, and based upon research findings of high academic value in the field of study. If the research findings in the dissertation are the result of the joint efforts of several researchers, the contribution of the individual receiving the degree must be distinguished.
- (3) The substance of the doctoral thesis shall be presented and debated at a public hearing in a manner suitable for academic research. As a general rule, the hearing shall be open to the public.

4 Basic flow of events leading to the award of degree



5 Schedule

Procedures for award of degree (Ph.D.)	[Doctorate by advanced course]		[Doctorate by dissertation]	
	Award for the year ending in September	Award for the year ending in March	Award for the year ending in September	Award for the year ending in March
Submission of “doctoral thesis plan” *1 <To Center for Academic Affairs>	By the end of February	By the end of August	-	-
Receipt and evaluation by Dissertation Acceptance Committee	Conducted as deemed appropriate by each discipline			
Submission of doctoral thesis and a complete set of documents including “Application for Degree” <To Center for Academic Affairs> *2	By the end of May	By the end of November	By the end of May	By the end of November
Ascertainment of scholastic ability and oral examination on doctoral thesis (public hearing)	-	-	July	December to January
Final examination (public hearing)	July	December to January	-	-
Diploma awarding ceremony	Around September 18	Around March 23	Around September 18	Around March 23

*1 Plan must be submitted at least 1 year before the submission of doctoral thesis upon obtaining the approval of the faculty advisor. Provided that this term may be reduced to 3 months, if accepted by the Graduate School Committee.

- *2 Acceptance must be approved by the Dissertation Acceptance Committee prior to submission to Center for Academic Affairs.
- * Students must consult with the faculty advisor regarding the submission of doctoral thesis.
- * The submission deadline must be strictly observed.
- * Documents required for application will be distributed by Center for Academic Affairs. As submission instructions and other relevant procedures are subject to change, be sure to check the latest information on Information System and at Center for Academic Affairs.

6 Requirements for submission of doctoral thesis

In accordance with Article 19 of the Degree Regulations, doctoral thesis may only be submitted by students who have been enrolled in the Ph.D. Program and have earned or are expected to earn the required credits, obtained a prior approval on the thesis plan, and met the following requirements stipulated by the Graduate School Committee.

[Accreditation of foreign language proficiency]

(1) Number of foreign language subjects

1 language (English)

(2) Method of ascertaining foreign language proficiency

Written test as a general rule

(3) Requirements for an exemption from foreign language proficiency accreditation and how that exemption will be processed

Foreign language proficiency accreditation may be replaced by either one of the following (provided that whether or not item a. will be applied shall be determined by each field)

a An examination for entrance into the Ph.D. Program

b An English proficiency test taken during the Master's Course, for students who have completed the Master's Program in the relevant graduate school

[Criteria for research achievements]

As a general rule, 2 or more association journals [acceptance (completion of evaluation)] by an academic conference with a referee system.

The criteria for the field of mathematics shall be discussed separately.

7 Circulation of the doctoral thesis

(1) Circulation of the thesis evaluation

In the event that a doctoral degree is awarded, summaries of the thesis and its evaluation will be circulated via the Internet (Kansai University Academic Repository).

(2) Circulation of a doctoral thesis

In accordance with Article 39 of the Degree Regulations, doctoral theses must be circulated via the Internet (Kansai University Academic Repository) within 1 year after the award.

* Detailed circulation procedures will be communicated separately via the Information System.