



## International Science and



# **Course Registration Guide**

# <u>Doctoral Degree Program</u>

## 2024

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## Graduate School Calendar (2024)

#### Spring Semester

April, 2024	1 (Man)	Start of Spring Semester	
	I (MOD)	Spring Semester Entrance Ceremony	
	$2(Tue) \sim 10$ (Wed)	Course guidance for new students	
	4(Thu)~10 (Wed)	On-demand classes (DO Week)	
	8 (Mon)	O	
	9 (Tue)	Course registration	
	11 (Thu)	Face-to-face classes begin	
	26 (Fri)	Deadline for payment of Spring Semester fees	
	<b>29 (M</b> on) ~	Holidays	
May	~5 (Sun)	Holidays	
	6 (Mon)	Substitute holiday (classes held as usual)	
July	15 (Mon)	Marine Day (classes held as usual)	
	17 (Wed)	Last day of Face-to-face classes	
	18 (Thu)	Final examinations begin	
	31 (Wed)	Final examinations end	
August	1 (Thu)	Spare day for Final examinations Summer Recess begins	
September	10 (Thu)	Spring Semester thesis adjudication day	
	12 (Inu)	Summer Recess ends	
	13 (Fri)	Grade reports distribution to current students	
	20 (Fri)	End of Spring Semester	
	28 (Sat)	Spring Semester Ceremony for Bestowing Degrees	

#### Fall Semester

September	21 (Sat)	Fall Semester Entrance Ceremony Start of Fall Semester			
	24(Tue)-30 (Mon)	On-demand classes (DO Week)			
	26 (Thu)	Charges the source and istration accented			
	27 (Fri)	Changes the course registration accepted			
October	1 (Tue)	Face-to-face classes begin			
	14 (Mon)	National Sports Day (classes held as usual)			
	31 (Thu)	Deadline for payment of Fall Semester fees			
November	4 (Mon)	Substitute holiday (university holiday)			
	23 (Sat)	Labor Thanksgiving Day (university holiday)			
	26 (Tue)				
	27 (Wed)	"Doshisha EVE " School Foundation week (no classes)			
	28 (Thu)				
	29 (Fri)	School Foundation Day (university holiday)			
December	24 (Tue)	Winter Recess begins			
	25 (Wed)	Christmas Day (university holiday)			
January,	5 (Sun)	Winter Recess ends			
2025	6 (Mon)	Face-to-face classes recommence			
	13 (Mon)	Coming - of - age Day (university holiday)			
	20 (Mon)	Last day of Face-to-face classes			
	21 (Tue)	Final examinations begin			
	23 (Thu)	Founder's Day			
February	10 (Mon)	Final examinations end			
March	6 (Thu)	Fall Semester thesis adjudication day			
	14 (Fri)	Grade reports distribution to current students			
	20 (Thu)				
	21 (Fri)	Fall Semester DegreeConferment Ceremony			
	22 (Sat)				
	31 (Mon)	End of Fall Semester			

#### Educational Goals of Graduate School of Science and Engineering

Our university aims to nurture individuals who use their abilities as conscience dictates, and for this purpose we have three principles in our educational philosophy: Christian principles, liberalism and internationalism. Based on these educational goals, our graduate school aims not only to provide individuals with basic and applied theories to become pillars of science and engineering but also to nurture them to be "the nation's conscience," contributing to society with knowledge and virtue. We also aim to cultivate creative engineers and researchers with diverse academic skills and advanced expert knowledge in their majors who can cope with the innovation of science technology and play leading roles in the field.

The Master's Program is designed to equip students with broad horizons and advanced knowledge, and to cultivate the abilities necessary to engage in highly-specialized occupations that require research capabilities in specialized fields and advanced expertise. The Doctoral Program is designed to equip students with advanced research capabilities required to conduct independent research activities in their majored fields, as well as rich knowledge to support such activities.

The Graduate School of Science and Engineering consists of five majors; Information and Computer Science, Electrical and Electronic Engineering, Mechanical Engineering, Applied Chemistry, and Science of Environment and Mathematical Modeling. The aims of education and research in each major and the guidelines of our education are as follows.

#### **Information and Computer Science**

#### ◆Aims of Academic Activities

The Doctoral Program in Information and Computer Science at the Graduate School of Science and Engineering aims to cultivate world-leading researchers and engineers in advanced and broad-ranging fields of information processing for developing environment-friendly and intelligent information systems that form the social infrastructure for many years to come. Students will acquire theoretical knowledge through seminars, and practical knowledge, techniques and research skills through advanced and specialized laboratory experiments and presentations and discussions at international academic conferences.

- Diploma Policy
- Ability to pursue advanced studies in the area of specialization in information systems based on highly specialized knowledge and related interdisciplinary knowledge, with advanced, broad and profound knowledge about information processing for developing eco-friendly and intelligent information systems that serve as social infrastructure for many years to come (Knowledge and Skills)
- Ability to use advanced research and practical skills acquired for working as a top-level researcher or engineer in resolving cutting-edge or highly specialized issues in information systems, and to organize findings in papers and present and discuss them at international academic conferences (Thinking Ability, Judgment, Self-expression)
- Ability to locate cutting-edge or highly specialized issues in various information systems and to take a central role in exploring and instructing solutions to them (Independence, Diversity, Cooperativeness)

#### ◆Curriculum Policy

- We establish a curriculum comprising Directed Research and Intensive Seminar in order to cultivate top-level researchers and engineers with advanced and broad knowledge necessary for developing environment-friendly and intelligent information systems that form the social infrastructure for many years to come.
- Directed Research aims to equip students with advanced research and practical skills required for working as a top-level researcher or engineer, high level of knowledge in the area of specialization, and presentation and debating skills needed to demonstrate research findings. Following the instruction of the supervisor, students must take total 12 credits of Directed Research I to VI over the three years in the program (Knowledge, Skills / Thinking Ability, Judgment, Self-expression / Independence, Diversity, Cooperativeness).
- Intensive Seminar aims to equip students with advanced and broad knowledge necessary for developing environment-friendly and intelligent information systems that form the social infrastructure for many years to come. Students must take 4 or more credits of elective, seminar-style subjects (up to 2 credits on the same theme) (Knowledge and Skills).

#### **Electrical and Electronic Engineering**

#### ◆Aims of Academic Activities

The Doctoral Program in Electrical and Electronic Engineering at the Graduate School of Science and Engineering aims to cultivate specialists in the academic field that forms the basis of electrical energy and telecommunications essential to modern society, who work actively in the fields of electrical energy, devices and communication. Through developing multilateral research capability based on previously acquired theories and skills, students are expected to equip themselves with advanced and flexible research skills that enable them to pursue internationally recognized original research based on their own course, direction or philosophy.

- ♦ Diploma Policy
- Ability to use profound knowledge in basic and applied theories of electrical and electronic engineering to solve technical issues through designing and simulating systems and circuits (Knowledge and Skills)
- Ability to realize research development that contributes to the development of better society, with high ethical standards as an engineer or researcher (Thinking Ability and Judgment)
- Ability to take the initiative in transmitting research findings in diverse research groups, demonstrating leadership and advanced self-expression ability (Independence, Diversity, Cooperativeness)
- Acquisition of advanced communication and English skills for working internationally (Diversity and Cooperativeness)
- Ability to independently locate cutting-edge issues useful for the development of society and explore original and most appropriate solutions based on logical thinking (Thinking Ability, Judgment, Self-expression)
- ◆Curriculum Policy
- We establish the following curriculum with the aim of cultivating individuals with profound knowledge in electrical and electronic engineering and high ethical standards who are capable of creating technology that contributes to the development of better society. In order to acquire advanced research ability and practical skills required for working as a top-level researcher or

engineer, students must take 16 or more credits of prescribed courses to complete the program.

- In order to be able to take the initiative in locating cutting-edge issues related to electrical and electronic engineering and pursuing and transmitting internationally recognized original research based on their own philosophy, students must take total 12 credits of Directed Research in Electrical and Electronic Engineering I to VI over the three years in the program (Independence, Diversity, Cooperativeness).
- In order to acquire the ability to reinforce theories and knowledge in electrical and electronic engineering and explore eminent solutions, students must take 4 or more credits of the seminar-style Intensive Seminar in Electrical and Electronic Engineering (up to 2 credits on the same theme) (Knowledge and Skills).
- Students must take the prescribed number of credits, submit the doctoral dissertation and pass the examination to obtain the degree. During the research process preparing the doctoral dissertation, students are expected to locate cutting-edge issues related to electrical and electronic engineering on their own initiative and improve their ability to explore creative solutions (Thinking Ability, Judgment, Self-expression).

#### Mechanical Engineering

#### ◆Aims of Academic Activities

The Doctoral Program in Mechanical Engineering at the Graduate School of Science and Engineering aims to cultivate individuals who take the leadership in international development of mechanical engineering and contribute to science and technology and people's well-being. Through advanced practical training and research activities in various fields of rapidly-developing mechanical engineering such as materials and structure, thermal fluid, vibration, control and manufacturing, students are expected to develop highly specialized knowledge and research and development ability, as well as independence and autonomy as a researcher and world citizen who can act on their conscience.

- ◆Diploma Policy
- Ability to understand complex issues in mechanical engineering based on advanced knowledge in the disciplines of materials, thermal fluid, and dynamics/control and broad practical expertise (Knowledge and Skills).
- Ability to actively locate complex issues in mechanical engineering and explore solutions to them using methods of experimental analysis and designing of advanced systems as well as related broad academic expertise (Thinking Ability, Judgment, Self-expression).
- Ability to take a leadership role in planning and implementing advanced systems and numerical experiments and making an appropriate use of the analysis of experiment results and numerical analysis techniques in order to resolve complex issues in mechanical engineering (Independence, Diversity, Cooperativeness).
- Sufficient language skills and international awareness for working in international society, and the ability to approach complex issues in mechanical engineering from an international perspective and solve them in collaboration with overseas researchers and engineers (Independence, Diversity, Cooperativeness).
- Curriculum Policy
- We establish a curriculum comprising Directed Research and Intensive Seminar that deal with themes with which students can develop the ability to locate and solve advanced and complex issues

in mechanical engineering in a practical manner, in order to cultivate world-class researchers equipped with advanced knowledge, attitude and skills.

- Directed Research aims to equip students with advanced research ability and practical skills required for working as a top-level researcher or engineer. Following the instruction of the supervisor, students must take total 12 credits of Directed Research I to VI over the three years in the program (Knowledge and Skills) (Thinking Ability, Judgment, Self-expression) (Independence, Diversity, Cooperativeness).
- Intensive Seminar courses deal with themes with which students can develop the ability to locate and solve advanced and complex issues in mechanical engineering in a practical manner, in order to cultivate world-class researchers equipped with advanced knowledge, attitude and skills. Students must take 4 or more credits of elective, seminar-style subjects (up to 2 credits on the same theme) (Knowledge and Skills) (Thinking Ability, Judgment, Self-expression).

#### **Applied Chemistry**

#### <Doctor of Philosophy in Engineering>

The Doctoral Program (Engineering) in Applied Chemistry at the Graduate School of Science and Engineering aims to cultivate individuals who can act with a broad perspective on chemistry and chemical engineering, especially, individuals who will actively work as researchers specializing in creation and separation of important substances in engineering and science and technology related to their production processes. Through advanced research experiments and presentations on issues in chemistry and chemical engineering that are central to the formation of a sustainable social infrastructure now and in the future, students are expected to develop abilities to discover and solve problems on their own, communication skills to widely communicate findings internationally, and specialized research skills full of originality. This goal of the program is achieved in line with the university's educational philosophies (liberalism, Christian principles and internationalism).

- ♦ Diploma Policy
- Acquisition of highly specialized skills to synthesize or separate new substances needed in chemical and other industries (Knowledge and Skills)
- Ability to propose new concepts and original methods for new production processes of chemical substances (Knowledge and Skills)
- Ability to communicate in English at the level required of expert researchers in chemical engineering (Knowledge and Skills)
- Ability to understand the nature of issues related to chemical engineering based on highly specialized knowledge in chemistry and chemical engineering and broad general knowledge (Thinking Ability, Judgment, Self-expression)
- Ability to acquire highly specialized research skills necessary for resolving issues related to chemical engineering (Thinking Ability, Judgment, Self-expression)
- Ability to take the leadership in dealing with issues related to chemical engineering as an expert researcher with an international perspective and common sense (Thinking Ability, Judgment, Self-expression)
- Ability to make an advanced-level presentation to society as an expert researcher on issues related to chemical engineering and measures and solutions to them (Independence, Diversity, Cooperativeness)
- · Ability to locate chemistry-related issues confronting engineering, medicine and other fields of the

present and future from an original perspective as an advanced professional (Independence, Diversity, Cooperativeness)

• Ability to explore and solve chemistry-related issues confronting engineering, medicine and other fields of the present and future in cooperation with others as an advanced professional with an international perspective, common sense and understanding of the diversity of others (Independence, Diversity, Cooperativeness)

#### ♦ Curriculum Policy

The Doctoral Program (Engineering) in Applied Chemistry requires students to take the compulsory Directed Research courses on important specialized fields of chemistry and chemical engineering in order to develop the ability as accomplished expert researchers. Their development is rigorously examined at the annual presentation session attended by all faculty members of the major. In addition, 14 Intensive Seminars in Applied Chemistry are offered for students to acquire broad knowledge required of highly specialized researchers. In order to develop problem-solving ability with an international perspective and common sense and presentation skills to convey important points appropriately, students are required to publish their research outside of the university such as on academic journals, and the submitted doctoral dissertation will be rigorously examined by chief and secondary examiners. The fairness of this degree examination process is confirmed by secondary examiners.

• In order to acquire highly specialized skills to synthesize or separate new substances needed in chemical and other industries and to propose new concepts and original methods for production processes related to them, students must take 12 credits of Directed Research courses. Students can acquire specialized skills related to the Directed Research courses they chose, to develop themselves as accomplished expert researchers. Furthermore, students must take 4 credits of Intensive Seminar in Applied Chemistry in order to acquire broader knowledge and skills as an expert (Knowledge and Skills).

• In order to acquire the level of English communication skills required of expert researchers in chemical engineering, students are required to pass the language test for current students (Knowledge and Skills).

- In order to understand the nature of issues related to chemical engineering based on highly specialized knowledge in chemistry and chemical engineering and broad general knowledge, and to acquire thinking ability and judgment as an accomplished expert researcher, students must take 12 credits of Directed Research courses (Thinking Ability, Judgment, Self-expression).
- •In order to take the leadership as an expert in chemical engineering with an international perspective and common sense, students must take 4 credits of Intensive Seminar in Applied Chemistry for gaining broad knowledge and are required to pass the language test for current students (Thinking Ability, Judgment, Self-expression).
- In order to cultivate the skill to make an advanced-level presentation to society as an expert researcher on issues related to chemical engineering and measures and solutions to them, students are required to present their research progress at the annual presentation session attended by all faculty members of the major, and also to publish their research outside of the university, such as on academic journals (Thinking Ability, Judgment, Self-expression).
- While taking Directed Research and Intensive Seminar in Applied Chemistry courses and working on the doctoral dissertation, students need to present their research both at home and abroad and interact with researchers outside the university. This overall process will equip them with the ability

to take the initiative in locating issues from an original perspective as an advanced professional in chemistry and chemical engineering. Furthermore, they will acquire the ability to solve issues in cooperation with others as an advanced professional with an international perspective, common sense and understanding of the diversity of others (Independence, Diversity, Cooperativeness).

#### <Doctor of Philosophy in Science>

#### ◆Aims of Academic Activities

The Doctoral Program (Science) in Applied Chemistry at the Graduate School of Science and Engineering aims to cultivate individuals who can act with a broad perspective on chemistry and chemical engineering, especially, individuals who will actively work as researchers specializing in synthesis and separation of important substances for the development of chemistry and science and technology related to theories describing them. Through advanced research experiments and presentations on issues in chemistry and chemical engineering that are central to the formation of a sustainable social infrastructure now and in the future, students are expected to develop abilities to discover and solve problems on their own, communication skills to widely communicate findings internationally, and specialized research skills full of originality. This goal of the program is achieved in line with the university's educational philosophies (liberalism, Christian principles and internationalism).

- ♦ Diploma Policy
- Acquisition of highly specialized skills to conduct advanced chemical experiments needed for the development of chemistry (Knowledge and Skills)
- Ability to propose new concepts and original methods of chemical reaction and separating substances based on highly specialized theories (Knowledge and Skills)
- Ability to communicate in English at the level required of expert researchers in chemistry (Knowledge and Skills)
- Ability to understand the nature of issues related to chemistry based on highly specialized knowledge in chemistry and broad general knowledge (Thinking Ability, Judgment, Self-expression)
- Ability to acquire highly specialized research skills needed for realizing the development of chemistry (Thinking Ability, Judgment, Self-expression)
- Ability to take the leadership in dealing with issues related to chemistry as an expert researcher with an international perspective and common sense (Thinking Ability, Judgment, Self-expression)
- Ability to make an advanced-level presentation to society as an expert researcher on issues related to chemistry and measures and solutions to them (Independence, Diversity, Cooperativeness)
- Ability to locate issues necessary for the development of chemistry from an original perspective as an advanced professional (Independence, Diversity, Cooperativeness)
- Ability to explore and solve issues confronting chemistry of the present in cooperation with others as an advanced professional with an international perspective, common sense and understanding of the diversity of others (Independence, Diversity, Cooperativeness)
- ◆Curriculum Policy

The Doctoral Program (Science) in Applied Chemistry requires students to take the compulsory Directed Research courses on important specialized fields of cutting-edge chemistry in order to develop the ability as accomplished expert researchers. Their development is rigorously examined at the annual presentation session attended by all faculty members of the major. In addition, 14 Intensive Seminars in Applied Chemistry are offered for students to acquire broad knowledge required of highly specialized researchers. In order to develop problem-solving ability with an international perspective and common sense and presentation skills to convey important points appropriately, students are required to publish their research outside of the university such as on academic journals, and the submitted doctoral dissertation will be rigorously examined by chief and secondary examiners. The fairness of this degree examination process is confirmed by secondary examiners.

- In order to acquire highly specialized skills to synthesize or separate new substances needed in cutting-edge chemistry research and to propose new concepts and original methods in theoretical academic fields related to them, students are required to take 12 credits of Directed Research courses. Students can acquire specialized skills related to the Directed Research courses they chose, to develop themselves as accomplished expert researchers. Furthermore, students must take 4 credits of Intensive Seminar in Applied Chemistry in order to acquire broader knowledge and skills as an expert (Knowledge and Skills).
- In order to acquire the level of English communication skills required of expert researchers in chemistry, students are required to pass the language test for current students (Knowledge and Skills).
- In order to understand the nature of issues related to cutting-edge chemistry based on highly specialized knowledge in chemistry and broad general knowledge, and to acquire thinking ability and judgment as an accomplished expert researcher, students are required to take 12 credits of Directed Research courses (Thinking Ability, Judgment, Self-expression).
- •In order to take the leadership as an expert researcher in chemistry with an international perspective and common sense, students are required to take 4 credits of Intensive Seminar in Applied Chemistry for gaining broad knowledge and are required to pass the language test for current students (Thinking Ability, Judgment, Self-expression).
- In order to cultivate the skill to make an advanced-level presentation to society as an expert researcher in chemistry, students are required to present their research progress at the annual presentation session attended by all faculty members of the major, and also to publish their research outside of the university, such as on academic journals (Thinking Ability, Judgment, Self-expression).
- While taking Directed Research and Intensive Seminar in Applied Chemistry courses and working on the doctoral dissertation, students need to present their research both at home and abroad and interact with researchers outside the university. This overall process will equip them with the ability to take the initiative in locating issues from an original perspective as an expert researcher in chemistry. Furthermore, they will acquire the ability to solve issues in cooperation with others as an advanced professional with an international perspective, common sense and understanding of the diversity of others (Independence, Diversity, Cooperativeness).

#### Science of Environment and Mathematical Modeling

<Doctor of Philosophy in Engineering>

#### ◆Aims of Academic Activities

The Doctoral Program in Science of Environment and Mathematical Modeling at the Graduate School of Science and Engineering aims to cultivate specialists in mathematical science and environmental science who work actively in educational and industrial circles. Through understanding the academic development in the related fields and planning and execution of creative research projects, students are expected to equip themselves with profound knowledge in their area of specialization and the ability to put it into practice, broad knowledge for dealing with interdisciplinary issues, and the capability of pursuing creative research on cutting-edge issues.

- ◆Diploma Policy
- Ability to accurately evaluate and understand the values of cutting-edge findings, using highly specialized knowledge in environmental science and mathematical science (Knowledge and Skills)
- Ability to extract and analyze cutting-edge problems in environmental science and mathematical science, construct a new theory with a creative mindset and present the findings accurately at domestic and international academic conferences (Thinking Ability, Judgment, Self-expression)
- Ability to take the initiative in locating and posing various problems in environmental science and mathematical science and find solutions that are beneficial to the diverse environment of the earth (Independence, Diversity, Cooperativeness)
- ◆Curriculum Policy
- We establish a curriculum comprising Directed Research and Intensive Seminar with which students are expected to acquire advanced and flexible research skills that enable them to understand the earth's environment more deeply, construct and analyze mathematical models, and use their specialized knowledge to pursue creative research on various issues in environmental science and mathematical science (Thinking Ability, Judgment, Self-expression).
- Directed Research aims to equip students with advanced research and practical skills required for working as a top-level researcher or engineer. Following the instruction of the supervisor, students must take total 12 credits of Directed Research I to VI over the three years in the program to develop an ability to view issues arising in the diverse environment of the earth from the perspective of environmental science and mathematical science and find solutions that are beneficial to the environment (Independence, Diversity, Cooperativeness).
- Intensive Seminar in Science of Environment and Mathematical Modeling aims to equip students with advanced and flexible research skills that enable them to pursue creative research on various issues in environmental science and mathematical science. Students must take 4 or more credits of elective, seminar-style subjects (up to 2 credits on the same theme) (Knowledge and Skills).
- <Doctor of Philosophy in Science>

◆Aims of Academic Activities

The Doctoral Program in Science of Environment and Mathematical Modeling at the Graduate School of Science and Engineering aims to cultivate specialists in mathematical science and environmental science who work actively in educational and industrial circles. Through understanding the academic development in the related fields and planning and execution of creative research projects, students are expected to equip themselves with profound knowledge in their area of specialization and the ability to put it into practice, broad knowledge for dealing with interdisciplinary issues, and the capability of pursuing creative research on cutting-edge issues.

- ♦ Diploma Policy
- Ability to accurately evaluate and understand the values of cutting-edge findings, using highly specialized knowledge in environmental science and mathematical science (Knowledge and Skills)
- Ability to extract and analyze cutting-edge problems in environmental science and mathematical science, construct a new theory with a creative mindset and present the findings accurately at domestic and international academic conferences (Thinking Ability, Judgment, Self-expression)
- Ability to take the initiative in locating and posing various problems in environmental science and mathematical science and find comprehensive and truth-seeking solutions, viewing humans as part

of the universe full of diversity (Independence, Diversity, Cooperativeness)

- ◆Curriculum Policy
- We establish a curriculum comprising Directed Research and Intensive Seminar with which students are expected to acquire advanced and flexible research skills that enable them to understand the universe surrounding humans more deeply, construct and analyze mathematical models, and use their specialized knowledge to pursue creative research on various issues in environmental science and mathematical science (Thinking Ability, Judgment, Self-expression).
- Directed Research aims to equip students with advanced research and practical skills required for working as a top-level researcher or engineer. Following the instruction of the supervisor, students must take total 12 credits of Directed Research I to VI over the three years in the program to develop an ability to extract and analyze issues arising in the universe full of diversity from the perspective of environmental science and mathematical science and find independent, comprehensive and truth-seeking solutions (Independence, Diversity, Cooperativeness).
- Intensive Seminar in Science of Environment and Mathematical Modeling aims to equip students with advanced and flexible research skills that enable them to pursue creative research on various issues in environmental science and mathematical science. Students must take 4 or more credits of elective, seminar-style subjects (up to 2 credits on the same theme) (Knowledge and Skills).

## <AY2024> List of Subjects for ISTC, Graduate School of Science and Engineering **Information and Computer Science**

## How to Register

Students in a Doctoral Degree program are required to earn 12 credits of [Directed Research I $\sim$ VI] and 4 credits of [Intensive Seminar] under their supervisor's instruction. In their final Spring semester, students register for [Doctoral Thesis].

## [Directed Research in Information and Computer Science]

Code	Class	Subject	Credit	Semester	Day/Period	Year
For studen	nts enr	colled in Spring				
41691001	*1	Directed Research in Information and Computer Science I (E)	2	Spring	Intensive	1st
41691002	*1	Directed Research in Information and Computer Science II (E)	2	Fall	Intensive	1st
41691003	*1	Directed Research in Information and Computer Science III (E)	2	Spring	Intensive	2nd
41691004	*1	Directed Research in Information and Computer Science IV (E)	2	Fall	Intensive	2nd
41691005	*1	Directed Research in Information and Computer Science V (E)	2	Spring	Intensive	3rd
41691006	*1	Directed Research in Information and Computer Science VI (E)	2	Fall	Intensive	3rd
For studen	nts enr	colled in Fall				
41691011	*1	Directed Research in Information and Computer Science I (E)	2	Fall	Intensive	1st
41691012	*1	Directed Research in Information and Computer Science II (E)	2	Spring	Intensive	1st
41691013	*1	Directed Research in Information and Computer Science III (E)	2	Fall	Intensive	2nd
41691014	*1	Directed Research in Information and Computer Science IV (E)	2	Spring	Intensive	2nd
41691015	*1	Directed Research in Information and Computer Science V (E)	2	Fall	Intensive	3rd
41691016	*1	Directed Research in Information and Computer Science VI (E)	2	Spring	Intensive	3rd

\*1) Please choose the class code from the list below.

#### \*<u>1) Class Code for [Directed Research in Computer Science I $\sim$ VI]</u>

Class	Lecturer	Research Title
002	WATABE Hirokazu	Intelligent Information Processing
004	HASHIMOTO Masafumi	Sensing Information Processing
005	TSUCHIYA Takao	Numerical Acoustics
008	JUN CHENG	Information Transmission
010	SATO Kenya	Distributed Computing
011	HAGA Hirohide	Software Development Engineering
012	IVAN TANEV	Evolutionary Computation
013	TAKAHASHI Kazuhiko	Intelligent Control Systems
014	OSAKI Miho	Machine Learning and Knowledge Discovery
015	OKUBO Masashi	Human Computer Interaction
016	TSUCHIYA Seiji	Intelligent System
017	OKUDA Masahiro	Sparse Information Modeling
018	KATO Tsuneo	Speech Information Processing
019	KOITA Takahiro	Distributed Systems

## [Intensive Seminar in Information and Computer Sciences]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41691017	*2	Intensive Seminar in Information and Computer Sciences (E)	2	Spring/Fall	Intensive	*3

\*2) Please choose the class code from the list below.

\*3) Students should earn at least 4 credits (at least 2 subjects), but the subjects need to be registered from different lecturers/themes.

#### \*2) Class Code for [Intensive Seminar in Information and Computer Sciences]

Class		Locturon	Thomas
Spring	Fall	Lecturer	Theme
009	509	HAGA Hirohide	Digital Gaming
015	515	JUN CHENG	Communication Theory
018	518	SATO Kenya	Distributed Computing
022	522	IVAN TANEV	Evolutionary Computing
023	523	OSAKI Miho	Machine Learning and Knowledge Discovery
025	525	KATO Tsuneo	Speech information processing
026	526	OKUDA Masahiro	Multimodal Signal Analysis
027	527	KOITA Takahiro	Distributed Systems
028	528	ONO Keiko	Revolutionary Machine Learning
029	529	TAMURA Akihiro	Natural Language Processing
030	530	KIMURA Tomotaka	Network Design

#### [Doctoral Thesis]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41692000	-	Doctoral Thesis (E)	-	-	Intensive	*4

\*4) [Doctoral Thesis] should be registered in <u>final Spring semester</u>.

#### Procedure for Doctoral Thesis defense

The doctoral thesis must fulfill the requirements of a doctoral thesis defense established by each department( $\Rightarrow$ ). The thesis will be reviewed by multiple examiners in addition to the chief examiner and will be presented (with Q&A) at a public defense, and then, it will be comprehensively evaluated to determine whether it meets the criteria( $\star$ )

and a judgement will be made at the committee of the Graduate School of Science and Engineering.  $Regarding \Rightarrow and \Rightarrow$ , please read below.

#### ARequirements of Doctoral Thesis defense

Information and Computer Science

•Publish 2 academic papers.

•Give an academic presentation as the first-author in an academic international conference.

#### $\star$ Thesis Evaluation Criteria

The thesis must be demonstrated in an experimental and theoretical way based on the candidate's expertise in order to solve the issues of the research area. In addition to that, it must have novelty, originality and scientific value.

## <AY2024> List of Subjects for ISTC, Graduate School of Science and Engineering Electrical and Electronic Engineering

## How to Register

Students in a Doctoral Degree program are required to earn 12 credits of [Directed Research I $\sim$ VI] and 4 credits of [Intensive Seminar] under their supervisor's instruction. In their final Spring semester, students register for [Doctoral Thesis].

Code	Class	Subject	Credit	Semester	Day/Period	Year			
For studen	For students enrolled in Spring								
41692001	*1	Directed Research in Electrical and Electronic Engineering I (E)	2	Spring	Intensive	1st			
41692002	*1	Directed Research in Electrical and Electronic Engineering II (E)	2	Fall	Intensive	1st			
41692003	*1	Directed Research in Electrical and Electronic Engineering III (E)	2	Spring	Intensive	2nd			
41692004	*1	Directed Research in Electrical and Electronic Engineering IV (E)	2	Fall	Intensive	2nd			
41692005	*1	Directed Research in Electrical and Electronic Engineering V (E)	2	Spring	Intensive	3rd			
41692006	*1	Directed Research in Electrical and Electronic Engineering VI (E)	2	Fall	Intensive	3rd			
For studen	ts enro	olled in Fall							
41692011	*1	Directed Research in Electrical and Electronic Engineering I (E)	2	Fall	Intensive	1st			
41692012	*1	Directed Research in Electrical and Electronic Engineering II (E)	2	Spring	Intensive	1st			
41692013	*1	Directed Research in Electrical and Electronic Engineering III (E)	2	Fall	Intensive	2nd			
41692014	*1	Directed Research in Electrical and Electronic Engineering IV (E)	2	Spring	Intensive	2nd			
41692015	*1	Directed Research in Electrical and Electronic Engineering V (E)	2	Fall	Intensive	3rd			
41692016	*1	Directed Research in Electrical and Electronic Engineering VI (E)	2	Spring	Intensive	3rd			

#### [Directed Research in Electrical and Electronic Engineering]

\*1) Please choose the class code from the list below.

#### \*1) Class Code for [Directed Research in Electrical and Electronic Engineering I~VI]

Class	Lecturer	Research Title
005	FUJIWARA Koji	Electrical Machinery
006	KATO Toshiji	Applied Electric Circuit Systems
007	DEGUCHI Hiroyuki	Electromagnetic-Wave Theory
009	MATSUKAWA Mami	Applied Measurement and Instrument
010	KASUYA Toshiro	Applied Physics
012	TODA Hiroyuki	Optical Communication Engineering
013	IWAI Hisato	Radio Communication Engineering
014	OTANI Naoki	Photonic and Electric Devices
015	BABA Yoshihiro	Electric Power System
016	INOUE Kaoru	Applied Control Engineering
017	KONDO Koichi	Applied Mathematics
018	SATO Yuki	Electronic Materials Engineering
019	KOYAMA Daisuke	Applied Acoustic Devices

#### [Intensive Seminar in Electrical and Electronic Engineering]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41692017	*2	Intensive Seminar in Electrical and Electronic Engineering (E)	2	Spring/Fall	Intensive	*3

\*2) Please choose the class code from the list below.

\*3) Students should earn at least 4 credits (at least 2 subjects), but the subjects need to be registered from different lecturers/themes.

#### \*2) Class Code for [Intensive Seminar in Electrical and Electronic Engineering]

Class		Locturor	Thoma	
Spring	Fall	Lecturer	Ineme	
002	502	BABA Yoshihiro	Electric Power System	
004	504	MATSUKAWA Mami	Ultrasonic Engineering	
005	505	TODA Hiroyuki	Optical Communications	
006	-	KONDO Koichi	Applied Nonlinear Analysis	
007	507	FUJIWARA Koji	Applied Magnetics	
008	-	KATO Toshiji	Applied Circuit Engineering	
009	-	KASUYA Toshiro	Nonlinear Plasma Physics	
010	-	DEGUCHI Hiroyuki	Electromagnetic Wave Engineering	
013	-	IBI Shinsuke	Radio Communication Systems I	
-	514	INOUE Kaoru	Applied Control Engineering	
-	515	SATO Yuki	Electrical and Electronic Materials	
-	516	IWAI Hisato	Radio Communication Systems II	
-	517	OTANI Naoki	Optoelectronic Device Engineering	
-	519	KOYAMA Daisuke	Applied Acoustic Devices	
-	520	TAKAHASHI Yasuhito	Power Magnetics	

### [Doctoral Thesis]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41692000	-	Doctoral Thesis (E)	-	-	Intensive	*4

\*4) [Doctoral Thesis] should be registered in <u>final Spring semester</u>.

#### Procedure for Doctoral Thesis defense

The doctoral thesis must fulfill the requirements of a doctoral thesis defense established by each department( $\Rightarrow$ ). The thesis will be reviewed by multiple examiners in addition to the chief examiner and will be presented (with Q&A) at a public defense, and then, it will be comprehensively evaluated to determine whether it meets the criteria( $\Rightarrow$ )

and a judgement will be made at the committee of the Graduate School of Science and Engineering.  $Regarding \Rightarrow and \Rightarrow$ , please read below.

#### $\Rightarrow$ Requirements of Doctoral Thesis defense

**Electrical and Electronic Engineering** 

•Publish (or confirmed to be published) 2 peer-reviewed papers which should be first-author papers.

In lieu of one of the two papers, an oral research presentation at an international conference will be acceptable if the presentation proposal process involves screening/review for selection.

## $\star$ Thesis Evaluation Criteria

The thesis must be demonstrated in an experimental and theoretical way based on the candidate's expertise in order to solve the issues of the research area. In addition to that, it must have novelty, originality and scientific value.

# <a><br/> <br/> <a><br/> <br/> <a><br/> <br/> <br

## How to Register

Students in a Doctoral Degree program are required to earn 12 credits of [Directed Research I $\sim$ VI] and 4 credits of [Intensive Seminar] under their supervisor's instruction. In their final Spring semester, students register for [Doctoral Thesis].

Code	Class	Subject	Credit	Semester	Day/Period	Year				
For students enrolled in Spring										
41693001*1Directed Research in Mechanical Engineering I (E)2SpringIntensive										
41693002	*1	Directed Research in Mechanical Engineering II (E)	2	Fall	Intensive	1st				
41693003	*1	Directed Research in Mechanical Engineering III (E)	2	Spring	Intensive	2nd				
41693004	*1	Directed Research in Mechanical Engineering IV (E)	2	Fall	Intensive	2nd				
41693005	*1	Directed Research in Mechanical Engineering V (E)	2	Spring	Intensive	3rd				
41693006	*1	Directed Research in Mechanical Engineering VI (E)	2	Fall	Intensive	3rd				
For studen	its enro	olled in Fall								
41693011	*1	Directed Research in Mechanical Engineering I (E)	2	Fall	Intensive	1st				
41693012	*1	Directed Research in Mechanical Engineering II (E)	2	Spring	Intensive	1st				
41693013	*1	Directed Research in Mechanical Engineering III (E)	2	Fall	Intensive	2nd				
41693014	*1	Directed Research in Mechanical Engineering IV (E)	2	Spring	Intensive	2nd				
41693015	*1	Directed Research in Mechanical Engineering V (E)	2	Fall	Intensive	3rd				
41693016	*1	Directed Research in Mechanical Engineering VI (E)	2	Spring	Intensive	3rd				

## [Directed Research in Mechanical Engineering]

\*1) Please choose the class code from the list below.

#### \*<u>1) Class Code for [Directed Research in Mechanical Engineering I~VI]</u>

Class	Lecturer	Research Title
002	MIYAMOTO Hiroyuki	Metallurgy and Materials Science
004	INAOKA Kyoji	Transport Phenomena
005	HIRATA Katsuya	Fluid Mechanics
009	SENDA Jiro	Spray Combustion Technology
010	MATSUOKA Takashi	Strength and Fracture of Mechanism
011	TSUJIUCHI Nobutaka	Vibration Control
012	TAKAOKA Masanori	Nonlinear Physics
013	OKUBO Kazuya	Structural Engineering Design
014	TANAKA Tatsuya	Forming Processing
015	HIROGAKI Toshiki	System of Manufacturing and Design
017	TAKUWA Hideki	Inverse Problem
018	MATSUMURA Eriko	Advanced Energy Conversion Science
019	SASADA Masahiro	Material processing
020	ITO Akihito	Control Engineering

## [Intensive Seminar in Mechanical Engineering]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41693017	*2	Intensive Seminar in Mechanical Engineering (E)	2	Spring/Fall	Intensive	*3

\*2) Please choose the class code from the list below.

\*3) Students should earn at least 4 credits (at least 2 subjects), but the subjects need to be registered from different lecturers/themes.

#### \*2) Class Code for [Intensive Seminar in Mechanical Engineering]

Cl	ass	Locturer	Thoma
Spring	Fall	Lecturer	Ineme
003	503	HIRATA Katsuya	Fluid Mechanics
004	504	MIYAMOTO Hiroyuki	Metallic Materials Engineering
005	505	OKUBO Kazuya	Structural Design
008	508	SENDA Jiro	Spray Combustion Engineering
009	509	HIROGAKI Toshiki	Automation and System
010	510	INAOKA Kyoji	Heat Transfer Phenomena
011	511	MATSUOKA Takashi	Machine Elements Life and Design
012	512	TAKAOKA Masanori	Nonlinear Physics
013	513	TANAKA Tatsuya	Forming Processing
014	514	TSUJIUCHI Nobutaka	Motion and Vibration Control
015	515	TAKUWA Hideki	Inverse Problems in Mathematical Science and Engineering
016	516	MATSUMURA Eriko	Advanced Energy Conversion Science
017	517	SASADA Masahiro	Material processing
018	518	ITO Akihito	Advanced Control Engineering

#### [Doctoral Thesis]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41693000	-	Doctoral Thesis (E)	-	-	Intensive	*4

\*4) [Doctoral Thesis] should be registered in <u>final Spring semester</u>.

#### Procedure for Doctoral Thesis defense

The doctoral thesis must fulfill the requirements of a doctoral thesis defense established by each department( $\Rightarrow$ ). The thesis will be reviewed by multiple examiners in addition to the chief examiner and will be presented (with Q&A) at a public defense, and then, it will be comprehensively evaluated to determine whether it meets the criteria( $\Rightarrow$ )

and a judgement will be made at the committee of the Graduate School of Science and Engineering.  $Regarding \Rightarrow and \Rightarrow$ , please read below.

#### ARequirements of Doctoral Thesis defense Mechanical Engineering

•Publish (or confirmed to be published) 2 academic papers in a field which is closely related to the students' own research of Mechanical Engineering.

#### $\star$ Thesis Evaluation Criteria

The thesis must be demonstrated in an experimental and theoretical way based on the candidate's expertise in order to solve the issues of the research area. In addition to that, it must have novelty, originality and scientific value.

## <AY2024> List of Subjects for ISTC, Graduate School of Science and Engineering **Applied Chemistry**

## How to Register

Students in a Doctoral Degree program are required to earn 12 credits of [Directed Research I $\sim$ VI] and 4 credits of [Intensive Seminar] under their supervisor's instruction. In their final Spring semester, students register for [Doctoral Thesis].

Code	Class	Subject	Credit	Semester	Day/Period	Year				
For studen	For students enrolled in Spring									
41694001	*1	Directed Research in Applied Chemistry I (E)	2	Spring	Intensive	1st				
41694002	*1	Directed Research in Applied Chemistry II (E)	2	Fall	Intensive	1st				
41694003	*1	Directed Research in Applied Chemistry III (E)	Spring	Intensive	2nd					
41694004	*1	Directed Research in Applied Chemistry IV (E)	2	Fall	Intensive	2nd				
41694005	*1	Directed Research in Applied Chemistry V (E)	2	Spring	Intensive	3rd				
41694006	*1	Directed Research in Applied Chemistry VI (E)	2	Fall	Intensive	3rd				
For studen	ts enro	olled in Fall								
41694011	*1	Directed Research in Applied Chemistry I (E)	2	Fall	Intensive	1st				
41694012	*1	Directed Research in Applied Chemistry II (E)	2	Spring	Intensive	1st				
41694013	*1	Directed Research in Applied Chemistry III (E)	2	Fall	Intensive	2nd				
41694014	*1	Directed Research in Applied Chemistry IV (E)	2	Spring	Intensive	2nd				
41694015	*1	Directed Research in Applied Chemistry V (E)	2	Fall	Intensive	3rd				
41694016	*1	Directed Research in Applied Chemistry VI (E)	2	Spring	Intensive	3rd				

## [Directed Research in Applied Chemistry]

\*1) Please choose the class code from the list below.

## \*1) Class Code for [Directed Research in Applied Chemistry I~VI]

Class	Lecturer	Research Title
001	KODERA Masahito	Functional Metal Complex Chemistry
002	MIZUTANI Tadashi	Organic Reaction
004	TSUCHIYA Katsumi	Transport Phenomena
005	TSUKAGOSHI Kazuhiko	Separation and Detection Chemistry
006	SHIRAKAWA Yoshiyuki	Powder Technology
008	MATSUMOTO Michiaki	Bioreaction Engineering
010	INABA Minoru	Energy Conversion Chemistry
011	SHIOI Akihisa	Molecular Chemical Engineering
013	KATO Masaki	Inorganic Physics and Chemistry
014	KIMURA Yoshifumi	Physical Chemistry
015	KOGA Tomoyuki	Polymer Chemistry
016	HITOMI Yutaka	Functional Molecular Chemistry
017	TAKENAKA Sakae	Material Chemistry

## [Intensive Seminar in Applied Chemistry]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41694017	*2	Intensive Seminar in Applied Chemistry (E)	2	Spring/Fall	Intensive	*3

\*2) Please choose the class code from the list below.

\*3) Students should earn at least 4 credits (at least 2 subjects), but the subjects need to be registered from different lecturers/themes.

#### \*2) Class Code for [Intensive Seminar in Applied Chemistry]

Class		Lasturan	Thoma			
Spring	Fall	Lecturer	Ineme			
001	-	INABA Minoru	Electrochemical Energy Conversion			
002	-	KODERA Masahito	Bioinspired Metal Complex			
003	-	MATSUMOTO Michiaki	Bioseparation Engineering			
-	507	MIZUTANI Tadashi	Functional Organic Materials Chemistry			
-	508	SHIOI Akihisa	Nonequilibrium Chemical Systems			
-	509	SHIRAKAWA Yoshiyuki	Particle Technology			
-	510	TSUKAGOSHI Kazuhiko	Microfluidic Flow Analysis			
-	511	TSUCHIYA Katsumi	Multiphase Transport Phenomena			
012	-	KATO Masaki	Solid State Physics and Chemistry			
-	513	KIMURA Yoshifumi	Time-resolved Laser Spectroscopy			
014	-	KOGA Tomoyuki	Biopolymer Materials			
-	515	HITOMI Yutaka	Bio-inspired Material Transformation Chemistry			
-	516	TAKENAKA Sakae	Development of Catalysts and Catalysis			

#### [Doctoral Thesis]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41694000	-	Doctoral Thesis (E)	-	-	Intensive	*4

\*4) [Doctoral Thesis] should be registered in <u>final Spring semester</u>.

#### Procedure for Doctoral Thesis defense

The doctoral thesis must fulfill the requirements of a doctoral thesis defense established by each department( $\Rightarrow$ ). The thesis will be reviewed by multiple examiners in addition to the chief examiner and will be presented (with Q&A) at a public defense, and then, it will be comprehensively evaluated to determine whether it meets the criteria( $\Rightarrow$ )

and a judgement will be made at the committee of the Graduate School of Science and Engineering.  $Regarding \Rightarrow and \bigstar$ , please read below.

# Applied Chemistry

•Publish (or confirmed to be published) at least 3 papers in peer-reviewed academic journals.

or

•Publish (or confirmed to be published) 2 papers in peer-reviewed academic journals and 1 submitted paper in a peer-reviewed academic journal.

#### $\star$ Thesis Evaluation Criteria

The thesis must be demonstrated in an experimental and theoretical way based on the candidate's expertise in order to solve the issues of the research area. In addition to that, it must have novelty, originality and scientific value.

# <AY2024> List of Subjects for ISTC, Graduate School of Science and Engineering Science of Environment and Mathematical Modeling

## How to Register

Students in a Doctoral Degree program are required to earn 12 credits of [Directed Research I $\sim$ VI] and 4 credits of [Intensive Seminar] under their supervisor's instruction. In their final Spring semester, students register for [Doctoral Thesis].

Directed Research in Science of Environment and Mathematical Modeling	Directed	Research	in	Science	of	Env	vironment	and	Mathemat	ical	Modeling
---	----------	----------	----	---------	----	-----	-----------	-----	----------	------	----------

Code	Class	Subject	Credit	Semester	Day/Period	Year	
For students enrolled in Spring							
41695001	*1	Directed Research in Science of Environment and Mathematical Modeling I (E)	2	Spring	Intensive	1 st	
41695002	*1	Directed Research in Science of Environment and Mathematical Modeling II (E)	2	Fall	Intensive	1 st	
41695003	*1	Directed Research in Science of Environment and Mathematical Modeling III (E)	2	Spring	Intensive	2nd	
41695004	*1	Directed Research in Science of Environment and Mathematical Modeling IV (E)	2	Fall	Intensive	2nd	
41695005	*1	Directed Research in Science of Environment and Mathematical Modeling V (E)	2	Spring	Intensive	3rd	
41695006	*1	Directed Research in Science of Environment and Mathematical Modeling VI (E)	2	Fall	Intensive	3rd	
For student	ts enrol	led in Fall					
41695011	*1	Directed Research in Science of Environment and Mathematical Modeling I (E)	2	Fall	Intensive	1 st	
41695012	*1	Directed Research in Science of Environment and Mathematical Modeling II (E)	2	Spring	Intensive	1 st	
41695013	*1	Directed Research in Science of Environment and Mathematical Modeling III (E)	2	Fall	Intensive	2nd	
41695014	*1	Directed Research in Science of Environment and Mathematical Modeling IV (E)	2	Spring	Intensive	2nd	
41695015	*1	Directed Research in Science of Environment and Mathematical Modeling V (E)	2	Fall	Intensive	3rd	
41695016	*1	Directed Research in Science of Environment and Mathematical Modeling VI (E)	2	Spring	Intensive	3rd	

\*1) Please choose the class code from the list below.

#### \*1) Class Code for [Directed Research in Science of Environment and Mathematical Modeling I~VI]

Class	Lecturer	Research Title
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004	MORIMITSU Masatsugu	Environmental Systems Engineering
008	SAITO Seiji	Difference Equations
009	TSUDA Hiroshi	Statistical Finance
010	GOTO Takuya	Advanced Energy System Science
011	OSONO Takashi	Advanced Biodiversity Science
012	TSUTSUMI Hiroyuki	Advanced Environmental Disaster Science
013	TAKEI Yoshitsugu	Analysis
014	HASEGAWA Motohiro	Advanced Ecology

## [Intensive Seminar in Science of Environment and Mathematical Modeling]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41695017	*2	Intensive Seminar in Science of Environment and Mathematical Modeling (E)	2	Spring/Fall	Intensive	*3

\*2) Please choose the class code from the list below.

\*3) Students should earn at least 4 credits (at least 2 subjects), but the subjects need to be registered from different lecturers/themes.

#### \*2) Class Code for [Intensive Seminar in Science of Environment and Mathematical Modeling]

Class		Locturor	Thoma	
Spring	Fall	Lecturer	пнеше	
002	502	MORIMITSU Masatsugu	Environmental Systems Engineering	
005	-	SAITO Seiji	Difference/Differential Equations	
006	-	TSUDA Hiroshi	Statistical Finance	
009	509	GOTO Takuya	Energy System Science	
010	510	OSONO Takashi	Biodiversity Science	
011	511	TSUTSUMI Hiroyuki	Environmental Disaster Science	
-	512	TAKEI Yoshitsugu	Analysis	
013	513	HASEGAWA Motohiro	Ecology	

#### [Doctoral Thesis]

Code	Class	Subject	Credit	Semester	Day/Period	Note
41695000	-	Doctoral Thesis (E)	-	-	Intensive	*4

\*4) [Doctoral Thesis] should be registered in <u>final Spring semester</u>.

#### **Procedure for Doctoral Thesis defense**

The doctoral thesis must fulfill the requirements of a doctoral thesis defense established by each department ( $\Rightarrow$ ). The thesis will be reviewed by multiple examiners in addition to the chief examiner and will be presented (with Q&A) at a public defense, and then, it will be comprehensively evaluated to determine whether it meets the  $criteria(\bigstar)$ 

and a judgement will be made at the committee of the Graduate School of Science and Engineering.  $Regarding \Leftrightarrow$  and  $\bigstar$ , please read below.

#### $\Rightarrow$ Requirements of Doctoral Thesis defense

Science of Environment and Mathematical Modeling

• Publish (or confirmed to be published) 2 peer-reviewed papers. In case of a single-author paper, only 1 publication is sufficient.

#### $\bigstar$ Thesis Evaluation Criteria

The thesis must be demonstrated in an experimental and theoretical way based on the candidate's expertise in order to solve the issues of the research area. In addition to that, it must have novelty, originality and scientific value.

#### Course Period and Length of Enrollment

For Doctoral Degree Program, the standard period of study is 3 years. The period cannot be extended more than 6 years.

#### School Hours

1st period	9:00 - 10:30
2nd period	10:45 - 12:15
3rd period	13:10 - 14:40
4th period	14:55 - 16:25
5th period	16:40 - 18:10
6th period	18:25 - 19:55

#### GPA (Grade Point Average) System

Doshisha University has been adopting the GPA system university-wide since 2004. Graduate subjects are graded in 7 levels (A+, A, B+, B, C+, C, F). Each level is assigned with a Grade Point ranging from  $4.5 \sim 0.0$ . with which the Grade Point Average per credit is calculated.

Grade	Grade Point	Description
A+	4.5	Exceptional
А	4.0	Excellent
B+	3.5	Very Good
В	3.0	Good
C+	2.5	Satisfactory
С	2.0	Adequate
F	0.0	Failure

Subjects that are not covered by the above system are graded as PAS (pass), FAL (fail), TFC (approved), PEN (pending) and CNT (continued).

GPA is calculated by firstly converting the grades for all the courses graded in the A+  $\sim$  F range to grade points, and calculating the weighted average based on the number of credits. The formula to calculate GPA is

 $([A+]\times4.5+[A]\times4.0+[B+]\times3.5+[B]\times3.0+[C+]\times2.5+[C]\times2.0+[F]\times0.0)$ 

#### (**[**A+**]**+**[**A**]**+**[**B**]**+**[**C+**]**+**[**C**]**+**[**C**]**+**[**F**]**)

(A+ to F indicates the respective total numbers of credits for courses graded A+ to F)

#### Degree

For the department of Applied Chemistry and Science of Environmental and Mathematical Modeling, the name of degree is to be determined "Doctor of Philosophy in Science" or "Doctor of Philosophy in Engineering" under the guidance of students' supervisor. NOTE

#### How to Search the Course Syllabus

1. Open the home page of Doshisha University (http://www.doshisha.ac.jp/en/index.html), click the button of "Current students" and scroll down.



NEWS

2. Click the button of "Syllabus system".

Contents Guide				
Click on the item you are interested	in to see a list of related content.		Click here.	
System Information education environment	Web Single sign on	7	Microsoft3	7
Classes, Course Registration, Examinations	Doshisha University Portal	D	cearning support system DUET	2
Administrative Affairs	·			
School Fees	Syllabus system	7	e-class	
Student Life and Support	DOORS (Doshisha OPAC)	Ø	e-career	
For current international students	Database of Researchers	٦	IT Support Office (in Japanese)	٦
Annual Schedule		~	Th Support Office (In Sapanese)	
	Information Security Policy	$\bigcirc$		

3. Input the subject code (name) into the box (①) and click the button of "Search"(②).

Doshisha University			▶□志社大学ホーム	▶ 入学試験情報	▶ お問い合わせ一覧	交通アクセス・キャンバスマップ
→ 同志社	:大学	シラバス				
	※学期中(2	内容が変更になる	ことがあります。			
検索条件の指定 / Specifying	of search criteria					
・開講年度 / School year	2023 🗸					
- 課程 / Course	(指定なし / Not specified)		[] In	put the su	bject code (r	name) here
・学部・研究科 / Faculty・Graduate School	(指定なし / Not specified)					
·科目名 / Subject name	<mark>31692002</mark> キーワーKを複数指定できます。ク: You can specify mu <b>t</b> iple	うえを指定する時は vo <b>nter</b> Class code	、前 <del>に"-</del> "を付けます e to search by ent	。(例:"-002") ering "-".		
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	お問合せは 同 <u>たれ八子</u>	중국라 까치서부	/s≇(Contact Offi	<u>ee)</u> ಕರ್		
	Copyright(C) Doshisha Unive	ersity All Rights	Reserved.無断転載	を禁止します。		

\* Refer to "List of Subjects" to find the subject code.

4. Click the title displayed in the Search results.

Doshisha University		▶ 同志社大学ホーム ▶ 入学試験情報 ▶ お問い合わせ一覧 ▶ 交通アクセス・キャンバスマップ
	→ 同志社大学 シラノ	גא
	※学期中に内容が変更	こなることがあります。
	絞り込み文字列 (Refine Search) <mark>316920</mark>	12 検索/Search
		クラスを指定する時は、前に"*を付けます。(例:"-002") Class code to search by entering "".
	2023年度 該当文書件数(Hits): 1件	Click here
	●検索結果(Search results)	
	□ <u>A Advanced Opto-Electr</u> 1692002 博前 <u>guide(E)</u> Advanced Opto-Electronic W	onic Wave 戶田 裕之 京田辺 2単位 aveguide (E)
	(1/1)表示   2 検索画面(初期状態)に戻る(Clear criteria)	Lecturer's name
	お問合せは 同志社大学 各学部・研究	料事務室(Contact Office)まで
	Copyright(C) Doshisha University All Ri	ghts Reserved.無断転載を禁止します。

5. Details of the class are displayed.

## Cancellation of Classes and Examinations in case of Typhoons and Storms

# I In case Public Transportation is unavailable (no reason is needed)1. Imadegawa Campus

a) In the case of the interruption of both Kyoto City bus and subway in the whole area at a timeb) In the case of the interruption of two or more lines out of the following lines at a time (in all or part of the sections)

- Between Kyoto-kawaramachi Station and Osaka-umeda Station in Hankyu Line
- Between Demachi-yanagi Station and Yodoyabashi Station in Keihan Line
- Between Kyoto Station and Osaka-Namba Station (via Yamato-saidaiji Station) in Kintetsu Line
- Between Kobe Station and Maibara Station in JR Line

#### 2. Kyotanabe Campus

a) In the case of the interruption of both Kyoto City bus and subway in the whole area at a time

b) In the case of the interruption of Kintetsu Railway (Kyoto Station - Yamato-saidaiji Station) in the whole area

c) In the case of the interruption of two or more lines out of the following lines at a time (in all or part of the sections)

- 1. Between Kyoto-Kawaramachi Station and Osaka-umeda Station in Hankyu Line
- 2. Between Demachi-yanagi Station and Yodoyabashi Station in Keihan Line
- 3. Between Kyoto Station and Osaka-Namba Station (via Yamato-saidaiji Station) in Kintetsu Line
- 4. Between Kobe Station and Maibara Station in JR Line
- 5. Between Kizu Station and Kyobashi Station in JR Line

Time of Re-opening the Train Service	When to Start Class
By 6:30 a.m.	From the 1st Period
From 6:31 a.m. to 10:40 a.m.	From the 3rd Period
From 10:41 a.m. to 3:55 p.m.	From the 6th Period
After 3:55 p.m.	All Classes are Cancelled.

#### II Issuance of Storm Warning (Not Heavy Rain Warning)

- If a typhoon warning or any type of emergency warning is issued for any of the prefectural forecast area, sub-prefecture region 1, region comprising several municipalities or sub-prefecture region 2 in the table under "1. Areas Covered by the Warning," classes/final examinations scheduled for the day will be cancelled, starting from the next period after the issuance of the warning.
- For classes/final examinations that have already started or about to start at the time of the issuance of the warning, the university will decide whether or not to cancel them with due consideration of the level of urgency of the warning.
- An emergency warning is issued when the area concerned is in very dangerous situation. Students staying in the warned areas must immediately take necessary actions to protect themselves, regardless of the type of emergency warning. However, those who are on campus at the time of the issuance of the emergency warning should act as instructed by the university. Those who are at home or during commuting in an area where the emergency warning is issued should do what they consider is best to protect themselves.
- If the warning is withdrawn and safety is confirmed, the rest of the classes for the day will be held according to "2.Time of withdrawal of warning and classes/final examinations start time," except for cases where the university makes a separate announcement depending on the situation.

Prefectural forecast area	Sub-prefecture Region 1	Region comprising several municipalities	Sub-prefecture Region 2
Kyoto Prefecture	Nambu	Nantan-Kyo-tamba	Nantan-shi, Kyo-tamba-cho
		Kyoto-Kameoka	Kyoto-shi, Kameoka-shi, Muko- shi, Nagaokakyo-shi, Oyamazaki- cho
		Yamashiro Chubu	Uji-shi, Joyo-shi, Yawata-shi, Kyo-tanabe-shi, Kumiyamacho, Ide-cho, Uji-tawara-cho
		Yamashiro Nambu	Kizugawa-shi, Kasagi-cho, Wazuka-cho, Seika-cho, Minamiyamashiro-mura

#### 1. Areas Covered by the Warning

Osaka Prefecture	Osaka Prefecture	Kita Osaka	Toyonaka-shi, Ikeda-shi, Suita- shi, Takatsuki-shi, Ibaraki-shi, Mino-o-shi, Settsu-shi, Shimamoto-cho, Toyono-cho, Nose-cho
		Tobu Osaka	Moriguchi-shi, Hirakata-shi, Yao- shi, Neyagawa-shi, Daito-shi, Kashiwara-shi, Kadoma-shi, Higashiosaka- shi, Shijonawate- shi, Katano-shi
		Osaka-shi	Osaka-shi
		Minami Kawachi	Tondabayashi-shi, Kawachi- nagano-shi, Matsubara- shi, Habikino-shi, Fujiidera-shi, Osaka-sayama-shi, Taishicho, Kanan-cho, Chihaya-Akasaka- mura
		Senshu	Sakai-shi, Kishiwada-shi, Izumi- otsu-shi, Kaizuka-shi, Izumi-sano- shi, Izumi-shi, Takaishi-shi, Sennan-shi, Hannan-shi, Tadaoka-cho, Kumatori-cho, Tajiri-cho, Misaki-cho

# 2. Time of withdrawal of warning and classes/final examinations start time

Time of Cancellation of the Warning	When to Start Class
By 6:30 a.m.	From the 1st Period
By 10:40 a.m.	From the 3rd Period
By 3:55 p.m.	From the 6th Period
Still under the Warning As of 3:56 p.m.	All Classes are Cancelled.

III Notwithstanding I and II, classes or final examinations may be cancelled at the discretion of the President in the case that they have been determined to be not feasible or unsafe.

IV In the event that confirmed information about a planned suspension is announced in advance for any of the train/bus lines specified in I, the university may cancel classes and final examinations depending on which train/bus lines will be affected.

V In the event that classes and final examinations cannot be held as usual due to suspension of train/bus lines, typhoon warning or emergency warning, or other heavy weather or natural disaster, the university or the course instructor will inform the situation as necessary via the university website, Doshisha University Portal, DUET, e-class and so on.

Please check the university website, Doshisha University Portal, DUET, eclass and so on regularly to keep yourself updated.

#### **ISTC Team – Doshisha University**

#### Office of Faculty / Graduate School of Science and Engineering, Doshisha University

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<Opening hours> <u>Weekdays 9:00 - 17:00 (Closed 11:30 - 12:30)</u> %Closed on Saturdays, Sundays, National holidays and University holidays