

## List of Syllabi for Common Graduate School Subjects (FY2025)

- Classification:  
 ①Advanced liberal arts education at the graduate level ②Cultivation of skills necessary in modern society, such as AI, mathematics, and data education  
 ③ Education to improve research skills such as English and presentations ④Cultivation of wide-ranging skills such as transferable skills ⑤ Education on ethical, legal, and social issues (ELSI)

Course Title (Japanese)	Class Subject	Credits	Instructors	Curricula	Terms	Day of the week	lecture period	Language used in courses	Classification ①～⑤	Object and Summary of Class
Intellectual Property seminar I (知的財産セミナーⅠ)	Patent System and Patent Searches	2	戸次 一夫 KAZUO BEKKI	Master's Program, Doctoral Program	1st Term	Thurs.	3	Japanese	①④⑤	(Note) This course corresponds to the "Intellectual Property Seminar" that was offered until 2024fy, and students who have earned credits for that course cannot take this course. In this class, students will first learn about the relationship between the patent system and the realization of inventions into products and services. Obtaining and utilizing patent information is required in various situations, such as analyzing information for new research and development, obtaining strong and broad patent rights, warning suspected infringers of patent rights, and avoiding infringement of patent rights. The purpose of this class is to help students understand the structure of the patent system and acquire the ability to obtain and utilize patent information. In this class, students will first understand the structure of the patent system and its major rules, and learn when and why patent searches are necessary. After that, students will learn specific methods of patent search and acquire practical patent search skills and basic IP strategy planning skills by working on exercises. This class will also cover recent topics such as the relationship between corporate management and patent information.
Intellectual Property seminar II (知的財産セミナーⅡ)	Patent systems in various countries and intellectual property strategies	2	戸次 一夫 KAZUO BEKKI	Master's Program, Doctoral Program	2nd Term	Thurs.	3	Japanese	①④⑤	The aim of this course is to acquire an understanding of the patent systems of Japan and other countries (including those of the intellectual property-related treaties that are important in practice), as well as an overview of intellectual property systems other than patent systems, and to acquire the ability to think about and put into practice strategic protection and utilization of intellectual property (intellectual property strategy), such as open/closed strategies, standardization, and intellectual property mixes. In this class, students will first learn about Japan's intellectual property system (particularly the patent system), and then learn about overseas patent systems and the main rules of the patent-related treaties used when acquiring rights overseas. After that, they will learn about intellectual property strategies such as open/closed strategies, standardization, and intellectual property mixes, with specific examples.
Renewable energy : Biomass circulation (再生可能エネルギー・バイ オマス循環)	Renewable energy : Biomass circulation	2	多田 千佳 CHIKA TADA	Master's Program, Doctoral Program	1st Term	Thurs.	2	Japanese	⑤	(Japanese only) 再生可能エネルギーの中でも、特に、バイオマスエネルギーに注目し、その技術や社会実装について、座学、実験、現場体験、グループディスカッションを行いながら、バイオマス循環について理解を深める。
Carbon neutral fundamentals (カーボンニュートラル基 礎論)	Carbon neutral fundamentals	2	中田 俊彦 TOSHIHIKO NAKATA	Master's Program, Doctoral Program	1st Term	Wed.	2	Japanese	①	Acquire the fundamentals of carbon neutrality, a common issue for the international community, from the perspective of energy supply and demand data analysis, energy system design, and renewable energy technology innovation. Acquire the principles and methodologies to solve community-specific issues and transition to a sustainable society, including security and resilience.

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Carbon neutral applications (カーボンニュートラル特論)	Carbon neutral applications	2	中田 俊彦 TOSHIHIKO NAKATA	Master's Program, Doctoral Program	2nd Term	Wed.	5	Englishi	①	To understand carbon neutrality as a common issue for the international community and to acquire the philosophy and methodology of a positive zero carbon transition strategy. Based on the implementation plans and investment strategies of global companies, students will learn about business planning that is compatible with climate change mitigation and the energy system analysis, scenario modeling, and integrated design that form the basis of such planning, and students will be responsible for their own case studies and will discuss and share the results.
Teaching Development in Higher Education (大学教授法開発論)	Teaching Development in Higher Education	2	戸村 理 OSAMU TOMURA	Doctoral Program	1st Quarter 3rd Quarter	Wed.	3・4	Japanese	①④	The purpose of this class is twofold. The first is to provide graduate students of our university who wish to become teachers in Japanese universities and higher education institutions with the basic knowledge required in modern Japanese university education and higher education. The second is for the students to acquire self-reflection skills to analyze, design, develop, implement, and evaluate their own classes.
Global Studies of International Education (国際教育演習)	Global Studies of Higher Education	2	米澤 彰純 AKIYOSHI YONEZAWA	Master's Program, Doctoral Program	1st Term	Mon.	1	英語	①③	This course is intended to generate a comprehensive understanding of the global context of universities in Japan and the world. Universities and higher education play an essential role in contemporary knowledge-based societies. At the same time, the characteristics of current universities are inevitably linked with their historical contexts, issues of access and equity, and mobility perceived as brain gain/drain and brain circulation. This class covers the following topics: (1) historical origins and current trends of higher education, (2) access, equity and finance in higher education, (3) knowledge economy and higher education, and (4) international dimensions of higher education. Across these topics, participants are expected to examine the role and value of universities in Japan and the world. Postgraduate level studies on the realities of univresities with various education and research levels are expected.

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Global Studies of International Education (国際教育演習)	Japanese Universities and Students	2	渡部 由紀 YUKI WATABE	Master's Program, Doctoral Program	2nd Term	Tue.	5	英語	①③	<p>This course examines the challenges and opportunities faced by Japanese universities and students within the context of globalization. It explores these issues from multiple perspectives, ranging from the individual experience to the broader role of higher education in the larger Japanese society. Discussions based on relevant readings, lectures, and student presentations serve as the platform for this course. In addition to classroom discussions, students work on a group project, focusing on one of five selected topics related to universities and their students in the globalizing and diversifying society.</p> <p>This class will be conducted in English. You are expected to have B2 level of English proficiency.</p>
Special Seminar on Multicultural Understanding PBL (多文化理解PBL特別演習)	Special Seminar on Multicultural Understanding PBL	2	末松 和子 KAZUKO SUEMATSU	Master's Program, Doctoral Program	1st Term	Thus.	3	英語	①③⑤	<p>This class provides both international and domestic students with opportunities to learn from each other through thematic discussions and collaborative projects. Interactions among students from diverse linguistic and cultural backgrounds are built into the learner-centered lessons where different ways of thinking, values, communication as well as working-styles are embraced in this class. The class will be conducted in Japanese, but English can be used as supplement.</p>
Special Seminar on Multicultural Understanding PBL (多文化理解PBL特別演習)	Human Rights Education Seminar	2	高松 美能 MINO TAKAMATSU	Master's Program, Doctoral Program	2nd Term	Thus.	3	英語	①③	<p>The aim of this course is to apply the knowledge about human rights to analyze various topics, to argue and to write about human rights issues from personal perspectives, and to develop a plan to take action for human rights in reality. We will try to create a classroom environment, where students study with each other and each of our views is heard and taken into consideration. You are highly expected to participate as a facilitator in group discussions, and lead to make the group presentations.</p>

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Special Seminar on Multicultural Understanding PBL (多文化理解PBL特別演習)	Special PBL Seminar with Local Companies in Sendai	2	新見 有紀子 YUKIKO SHIMMI	Master's Program, Doctoral Program	2nd Term	Mon.	3	英語	①③④⑤	This course is held in cooperation with the SENDAI Young Entrepreneurs Group (SENDAI YEG), an organization of young entrepreneurs from local companies in Sendai. This course is an international collaborative course; international students and domestic students collaboratively learn through a group project. Students will visit a local company in Sendai, conduct research, and present solutions for a problem of the company. This class aims to be beneficial not only for students and local companies, but also the Sendai community through discussions and group work by international and domestic students that use their diverse perspectives. Through this course, students will be able to have a better understanding of business in Sendai, and to develop employability by enhancing professional competencies such as communication and problem-solving skills. Domestic students can improve their English language skills and cross-cultural competency. International students can gain an understanding of Japanese business culture and Sendai's local companies. Graduate students are expected to take a leadership role in project work with multicultural team members. The language used in this course will primarily be plain English, supplemented by Japanese. Students are expected to have at least a B2 level of English proficiency.
Intercultural Collaborative Learning and Communication Seminar (グローバル・コミュニケーション協働演習)	Learning Japanese Culture through Intercultural Comedy Project	2	末松 和子 KAZUKO SUEMATSU	Master's Program, Doctoral Program	1st Term 2nd Term	Wed.	5	英語	③④	Collaborative projects by students with diverse cultural backgrounds are built into the learner-centered lessons where different ways of thinking, values, communication as well as working-styles are respected. The intensive interactions across cultures enable students to develop global competency, which is an essential element of employability in the international society. The theme of this semester is "Owarai," the Japanese comedy. The class will be conducted in English,
Global Communication Utilizing GenAI/XR (AI・XRで拓くグローバル・コミュニケーション)	XR・Connecting the World via XR (VR/AR) and the Metaverse	2	林 雅子 MASAKO HAYASHI	Master's Program	1st Term	Wed.	4	Japanese and English	②③④	This course is an international collaborative learning program that leverages Extended Reality (XR) and Metaverse technologies to facilitate real-time cooperation among universities worldwide. Domestic students, international students, and students from partner institutions will co-create Metaverse worlds, fostering intercultural understanding and a global perspective. The course offers a hands-on and interdisciplinary learning experience with the following three objectives: 1. Deepening Intercultural Understanding and Practicing International Collaboration Students from diverse cultural backgrounds will collaborate within the Metaverse to introduce and share their respective cultures, fostering a deeper understanding of diverse cultural perspectives. 2. Enhancing Expressive Skills and Immersive Presentations Utilizing XR Technologies Through group work, students will design and develop Metaverse worlds using Unity, incorporating 3D content to create interactive presentations. 3. Developing a Global Perspective and Understanding of Multicultural Coexistence By comparing and analyzing different cultural contexts, students will gain an objective understanding of their own culture while fostering an appreciation for cultural diversity and inclusivity. By experiencing immersion through Head-Mounted Displays (HMDs), students will practice non-verbal communication, such as gestures and backchanneling. Additionally, generative AI will be utilized for content creation, translation, and presentation optimization.gram that leverages Extended Reality (XR) and Metaverse technologies to facilitate real-time cooperation among universities worldwide. Domestic students, international students, and students from partner institutions will co-create Metaverse worlds, fostering intercultural understanding and a global perspective. The course offers a hands-on and interdisciplinary learning experience with the following three objectives: 1. Deepening Intercultural Understanding and Practicing International Collaboration Students from diverse cultural backgrounds will collaborate within the Metaverse to introduce and share their respective cultures, fostering a deeper understanding of diverse cultural perspectives.

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Global Project-based learning Utilizing GenAI/XR (AI・XRグローバルPBL)	Exploring Global Social Issues Through XR (VR/AR) and the Metaverse	2	林 雅子 MASAKO HAYASHI	Master's Program	2nd Term	Wed.	4	Japanese and English	②③④	This course is an international collaborative learning program that explores global social issues through the use of XR and Metaverse technologies. It provides students with practical and interdisciplinary learning opportunities based on the following three objectives: 1. Examining and Deepening Understanding of Social Issues from a Multinational Perspective Through the Metaverse, domestic and international students share and compare social issues, gaining a deeper understanding of global challenges by examining different national contexts and values. 2. Enhancing Immersive Presentation Skills Using XR Technology By leveraging XR technology to create presentations with a high sense of realism, immersiveness, and presence, students will cultivate effective communication skills. 3. Fostering a Global Perspective and Ethical Awareness By comparing international situations with their own country's context, students develop an objective understanding of their own society while developing an interest in and respect for other nations, building the ethical awareness required in a globalized world. Presenters will utilize tools such as Unity to create Metaverse environments suited for analyzing social issues. Within these spaces, they will deliver interactive presentations incorporating 3D content. The audience will use head-mounted displays (HMDs) to engage in immersive experiences and participate in discussions with students from around the world. Additionally, generative AI will be utilized for content creation, translation, and presentation optimization.
Inter-cultural Seminar (異文化交流演習)	Inter-cultural Seminar	2	芳賀 満, MITURU HAGA Elena FABBRETTI	Master's Program, Doctoral Program	1st Term 2nd Term	Thus.	2	Japanese and English	③	This is a discussion-based course designed for students who aim to improve their English and to develop skills in doing presentations in English. After a brief introduction to the historical background of past exchanges with Japan, some examples of inter-cultural connections will be provided in relation to contemporary Japanese pop culture. The course then will focus on how global issues, such as climate change and the wastefulness of fast fashion, have been discussed in recent years and what issues may arise in the future. This course will approach these problems from a transdisciplinary and international perspective.
Special Seminar on Career and Skill Development (キャリア・スキル開発特別演習)	Seminar on Career and Skill Development	2	米澤 由香子 YUKAKO YONEZAWA	Master's Program, Doctoral Program	2nd Term	Mon.	5	英語	①③④	In this course, students will learn the basic knowledge, skills and attitudes that are needed to create their own careers, by viewing careers as a lifelong process of continuous learning and action. These basic knowledge, skills and attitudes are necessary not only for students considering employment after graduate study, but also for those who wish to pursue a research career. The course will promote students to: (1) learn from guest speakers with a variety of cultural, educational and professional backgrounds in order to gain knowledge and information that will be useful in shaping their own career perspectives; (2) engage in collaborative learning with other students in order to understand the significance of working together; and (3) review the results of their learning by providing presentations and writing reports in order to reflect the results of their studies, set career goals, and take concrete action. Students are facilitated to actively interact with others by speaking and listening to each other and lead discussions to form a learning community. Guest speakers will include leading global figures from different fields and ways of working. This course will be conducted in English. A certain level of skill in interacting and discussing in English is required.

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Special Seminar on Career and Skill Development (キャリア・スキル開発特別 演習)	Seminar on Employment Practice Comparisons	2	末松 千秋 CHIAKI SUEMATSU	Master's Program, Doctoral Program	2nd Term	Thurs.	2	英語	③④	This course introduces students to Japanese corporate culture with the history of changes in employment practices. The classes will cover the Japanese Style Management, Bubble Economy, and the Lost 20 Years. How did Japanese companies develop their management style? Why were Japanese manufacturers regarded as the strongest? What caused the Bubble Economy? Why did they have to give up the practices once thought to be essential? While answering these questions, the course will emphasize the role of employment practices to illustrate the Japanese culture. Two main objectives of the course are to possess the knowledge of Japanese employment practices and to understand the rationales for changes in the practices for the past 20 years. The graduate students are to take leading roles in the group discussions with undergraduate students and international students, which will help them strengthen the administrative ability and the leadership.
Special Seminar on Career and Skill Development (キャリア・スキル開発特別 演習)	Seminar on Corporate Decision-Making Comparisons	2	末松 千秋 CHIAKI SUEMATSU	Master's Program, Doctoral Program	1st Term	Thurs.	2	英語	③④	This course introduces students to the typical decision-making in Japan, especially in Japanese companies. The classes will cover not only the ways of Japanese decision-making but also those of the Western world. In contrast with these mechanisms, things peculiar to Japan will be highlighted. Japanese companies are famous for the consensus decision-making. What are advantages and disadvantages of the consensus decision-making? What have Japanese companies changed to the management board in order to alleviate the disadvantages? Is there any good way to reach a consensus easier? While answering these questions, the course will emphasize the things Japanese are most concerned about to illustrate the Japanese culture. Two main objectives of the course are to provide the knowledge of Japanese style discussions and to provide the basic skills of the facilitator who helps make the process of reaching a consensus decision easier.
Internship for Master Course Students A (修士インターンシップ・ キャリア実習A)	Internship for Master Course Students A	1	猪股歳之 TOSHIYUKI INOMATA	Master's Program	3rd Quarter	Thurs.	5	日本語	④	This course aims for students to participate in an internship while enrolled in the master's program, clarify their interests and future careers, and further enrich their student life and research efforts.
Internship for Master Course Students B (修士インターンシップ・ キャリア実習B)	Internship for Master Course Students B	2	猪股歳之 TOSHIYUKI INOMATA	Master's Program	3rd Quarter	Thurs.	5	日本語	④	This course aims for students to participate in an internship while enrolled in the master's program, clarify their interests and future careers, and further enrich their student life and research efforts.

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Presentation practice in English (英語によるプレゼンテーション演習)	Presentation practice in English	2	猪股 歳之 TOSHIYUKI INOMATA・坪井 俊 TAKASHI TUBOI・Meres Richard・門間由記子YUKIKO MOMMA・影山徹哉TETSUYA KAGEYAMA	Master's Program, Doctoral Program	1st Term	Designated date	-	Japanese and English	①③	Students taking this class will participate in the presentation contest Falling Walls Lab Sendai 2025, where they will give a three-minute presentation in English on their research project, a business model based on that project, and a method for solving a social problem. In the preparation process, students will learn the elements necessary for presentations in English and take presentation coaching, which is a special privilege for contestants, to hone their presentation skills. The winner of Falling Walls Lab Sendai 2025 will be given the right to compete in the finals in Berlin (early November). Check the lesson procedure and detailed schedule at the first orientation of the lesson.
Seminar on Learning with Generative AI (AI応用学習方法論演習)	生成AIを活用して学ぶ	2	澤田 亮 RYO SAWADA	Master's Program, Doctoral Program	2nd Term	Wed.	2	日本語	②	本授業は、ChatGPT等の対話型生成AIを効果的に活用することにより自己の学習活動を深化させる方法を学ぶことを目的とする。生成AIの特性や適切な使用法を理解し、批判的思考力や創造的問題解決能力を育成する。受講者間の対話やAIとの対話を通じて、新しい学習アプローチを探求する。
Basic Scientific Literacy (科学リテラシー養成基礎)	Building Foundations in Scientific Literacy	2	山内 保典 YASUNORI YAMANOUCI 金井 浩 HIROSHI KANAI	Master's Program, Doctoral Program	2nd Term	Designated date	-	日本語	①②④⑤	This course is designed for graduate students, regardless of whether their field of expertise lies in the humanities, social sciences, or science and engineering, who aspire to leverage their specialized knowledge to contribute to the realization of a sustainable society and address pressing social challenges. Participants will have the opportunity to learn from leading experts across diverse fields about a wide range of topics, including healthcare, energy, education, social systems, urban planning, and the environment. Through concrete case studies and real-world examples, students will gain insights into current issues and practical approaches to tackling them. The course also emphasizes interdisciplinary collaboration, enabling students from different fields to work together and consider problems from multiple perspectives. In doing so, participants will develop practical problem-solving skills. By integrating perspectives from nature, science and technology, humanity, society, and culture, students will explore ways to apply their expertise to societal challenges, cultivating a broader vision and a proactive mindset. We hope that the fresh insights and actions you develop through this course will serve as a meaningful first step toward building a safer, more prosperous, and sustainable future. The class will be conducted in Japanese and will use Google Classroom.

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ILAS Special Lecture A (教養教育院特別講義A)	memento mori	2	尾崎 彰宏 AKIHIRO OZAKI	Master's Program, Doctoral Program	1st Term	Tue.	5	日本語	①	In this class, we will examine the issue of "death", which cannot be avoided as long as we live, from various perspectives. By doing so, we will carefully consider how we should live and what a happy life is like. In addition, in this class, we will invite 14 professors who are active on the front lines of the humanities and social sciences to give speeches on various issues surrounding death and discuss them with the students. The class consists of two parts. In the first half, the lecturer talks, and in the second half, the lecturer answers various questions based on the questions and opinions from everyone.
ILAS Special Lecture B (教養教育院特別講義B)	Mathematical Modelling Methods and Applications	2	田中 仁 HITOSHI TANAKA	Master's Program, Doctoral Program	2nd Term	Tue.	4	日本語・ 英語併用	①②	Various mathematical models have been widely utilized in science. In this lecture, we will extract the elements common to these mathematical methods, explain their analytical solutions from a general view point, and discuss the effectiveness and limitations of the models. In addition, a method of numerical solution using a spreadsheet program will be introduced. As a specific example of mathematical model, topics of deep social interest will be employed. The aim of this course is to deepen a mathematical viewpoint and strengthen the ability to use a mathematical model in various situations. Doctoral students are asked to draw from their own experience in their field of specialization.
ILAS Special Lecture C (教養教育院特別講義C)	Evolutionary Biology for Understanding Human Nature	2	河田 雅圭 MASAKADO KAWATA	Master's Program, Doctoral Program	2nd Term	Fri.	5	日本語	①	All human characteristics (physical characteristics, intelligence and cognitive function, mental characteristics, behavior, risk of disease, etc.) were acquired during the course of evolution. Furthermore, many of the differences in the various characteristics of individual humans today reflect genetic differences, which are the result of evolution, and it can be said that evolution is still continuing today. Understanding how the characteristics that humans naturally possess have been acquired as a result of evolution is important not only in the natural sciences, such as medicine, environmental science, life science and informatics, but also in philosophy, ethics, social science, psychology and education. However, even researchers in the natural sciences, especially those in the life sciences, often have a mistaken evolutionary mechanisms. In this class, we will deepen our understanding of the basic mechanisms of evolution and the latest research results on human evolution, while also considering how students from the humanities can understand the subject. Through this class, we aim to deepen our understanding of the evolutionary mechanisms and the "human nature" that is the result of evolution.

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ILAS Special Seminar (教養教育院特別演習)	岡倉天心の芸術論と現代の 「教養」	2	尾崎 彰宏	修士課程等, 博士課程等	第2学期	月	5	日本語	①	In this class, we will consider from several angles what role the humanities play in modern society, in other words, how they play an active role. For this purpose, the class consists of a lecture by the instructor, a careful reading of the text, and presentations by the participants. By taking seminars, students will be able to discover their awareness of issues, such as what they are thinking about and what they are particular about. At the same time, they can learn how to read books and how to express their opinions. The text will take up Tenshin Okakura's "The Book of Tea".
Lectures on Interdisciplinary Researches (融合領域研究合同講義)	Lectures on Interdisciplinary Researches	2	日笠 健一 他 KEN-ICHI HIKASA, et al.	Master's Program	2nd Term	Wed.	3	日本語	①	学際的・異分野融合的研究領域の進展に伴い、学際的な視野を持つ優れた若手研究者を養成するために、東北大学を代表する研究者に1回ずつ問題意識、ブレイクスルー、先端的 研究事例、研究経緯、体験談等を語ってもらうことにより、最新の学問の進展を俯瞰的に理 解し、学際的・横串的な視野の重要性を体感する。
Special Lectures on Interdisciplinary Researches I (学際研究特別講義I)	Special Lectures on Interdisciplinary Researches I	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	3rd Quarter	Wed.	3	日本語	①	東北大学を代表する研究者に1回ずつ問題意識、ブレイクスルー、先端的 研究事例、研究経緯、体験談等を語ってもらうことにより、最新の学問の進展を俯瞰的に理解する。これにより 学際的・横串的な視野の重要性を体感するとともに、アカデミックなキャリアを追求する上でのヒ ントを得る。
Special Lectures on Interdisciplinary Researches II (学際研究特別講義II)	Special Lectures on Interdisciplinary Researches II	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	4th Quarter	Wed.	3	日本語	①	学際研究特別講義 I に引き続き、東北大学を代表する研究者に1回ずつ問題意識、ブレイ クスルー、先端的 研究事例、研究経緯、体験談等を語ってもらうことにより、最新の学問の進展を俯瞰的に理解する。これにより学際的・横串的な視野の重要性を体感するとともに、アカデ ミックなキャリアを追求する上でのヒントを得る。
Special Exercise on Interdisciplinary Researches I (学際研究特別研修I)	Special Exercise on Interdisciplinary Researches I	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	year round	Design ated date	—	日本語	①③	学際高等研究教育院が学際科学フロンティア研究所と協力して開催する全領域合同研究交 流会および FRIS/DIARE Joint Workshop において、自分の研究内容を異分野の学生・ 研究者に理解できるよう工夫された発表を行い、専門外の視点からの質問・議論により、発表 者も含め、理解を深化させる。
Special Exercise on Interdisciplinary Researches II (学際研究特別研修II)	Special Exercise on Interdisciplinary Researches II	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	year round	Design ated date	—	日本語	①③	学際研究特別研修Iに続き、学際高等研究教育院が学際科学フロンティア研究所と協力して 開催する全領域合同研究交流会および FRIS/DIARE Joint Workshop において、自分の 研究内容を異分野の学生・研究者に理解できるよう工夫された発表を行い、専門外の視点か らの質問・議論により、発表者も含め、理解を深化させる。

## List of Syllabi for Common Graduate School Subjects (FY2025)

- Classification:  
 ①Advanced liberal arts education at the graduate level ②Cultivation of skills necessary in modern society, such as AI, mathematics, and data education  
 ③ Education to improve research skills such as English and presentations ④Cultivation of wide-ranging skills such as transferable skills ⑤ Education on ethical, legal, and social issues (ELSI)

Course Title (Japanese)	Class Subject	Credits	Instructors	Curricula	Terms	Day of the week	lecture period	Language used in courses	Classification ①～⑤	Object and Summary of Class
Special Exercise on Interdisciplinary Researches III (学際研究特別研修III)	Special Exercise on Interdisciplinary Researches III	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	year round	Designated date	—	日本語	①③	学際研究特別研修IIに引き続き、学際高等研究教育院が学際科学フロンティア研究所と協力して開催する全領域合同研究交流会および FRIS/DIARE Joint Workshop において、自分の研究内容を異分野の学生・研究者に理解できるよう工夫された発表を行い、専門外の視点からの質問・議論により、発表者も含め、理解を深化させる。
Special Exercise on Interdisciplinary Researches IV (学際研究特別研修IV)	Special Exercise on Interdisciplinary Researches IV	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	year round	Designated date	—	日本語	①③	学際研究特別研修IIIに引き続き、学際高等研究教育院が学際科学フロンティア研究所と協力して開催する全領域合同研究交流会および FRIS/DIARE Joint Workshop において、自分の研究内容を異分野の学生・研究者に理解できるよう工夫された発表を行い、専門外の視点からの質問・議論により、発表者も含め、理解を深化させる。
Special Exercise for Frontier Research in Interdisciplinary Sciences (学際フロンティア特別研修)	Special Exercise for Frontier Research in Interdisciplinary Sciences	1	日笠 健一 他 KEN-ICHI HIKASA, et al.	Doctoral Program	year round	Designated date	—	English and Japanese	①	自然科学、人文社会科学の様々な研究分野をカバーする学際科学フロンティア研究所の教員による研究発表セミナー。様々な分野の第一線で活躍する若手研究者による分かりやすい最新研究成果の紹介を聞き、討論に参加する。これにより俯瞰的・学際的な視野を養う。
Basic PhD Literacy (博士リテラシーの基礎)	Basic Ph.D. Literacy	2	佐久間 昭正・ 工藤 成史 AKIMASA SAKUMA・ SEISHI KUDO	Doctoral Program	1st Term 2nd Term	Tue.	1・2	日本語	④⑤	In this course, Ph.D. literacy is defined as the comprehensive ability to navigate life as a Ph.D. holder, both as a researcher and an individual. At its core lies research capability, which includes the skills to generate ideas and apply logical thinking. This research capability is primarily honed through daily laboratory activities and is largely transferable across disciplines. This course begins by recognizing this fundamental fact. Furthermore, additional qualities and skills become essential after earning your degree, regardless of whether you pursue a career in academia or the business sector. These include interpersonal skills, such as communicating effectively with others, project management skills for executing tasks, and research ethics to conduct your work responsibly. This course aims to enhance these qualities and skills while fostering an awareness of personal and global issues. Additionally, it allows students from diverse fields to build new human networks.
Doctoral Internship (博士インターンシップ研修)	Doctoral Internship	1又は2 ※実施 期間に より決 定	佐久間 昭正 AKIMASA SAKUMA	Doctoral Program	year round	Designated date	-	日本語	④	During the doctoral program, students will undertake a research internship in the form of practical training at a research institute or private company in Japan. Through this internship, students learn how to utilize their university research and doctoral abilities in society, as well as gain hands-on experience and understanding of product planning and development, market research, and quality control in the corporate. The research internship conducted by concluding an agreement between the training site and the University is the subject of this course.