

Course List for Graduate program (Courses conducted in English)

as of 14 June 2024

*Including courses that can be conducted in English upon request.

Course Number	Course Name	Credits	stand and registration on year	Term	Meeting Days, Period etc.	Classroom	Instructor	Course Overview	Remarks	Credited Auditors	Application conditions	Subjects Areas or Course offering Schools/Colleges
0A00312	Global Issues and Global Society: Marine Environmental Change and Life	1.0	1 - 5	Spr Vac	Intensive		Inaba Kazuo, Shiba Kogiku	国連が提唱した「持続可能な開発目標(SDGs)」に密接に関わる国際社会が直面する課題を理解し、大学院生各人に国際社会の一員としての自覚を誘起することで、高等教育を受けた者が果たすべき役割と責任について熟考させることを目的とする。 当科目は「持続可能な開発目標(SDGs)」のうち、Goal 13 & 14に関連した、国際社会が直面する「海洋環境変動と生命」について取り扱う。CO2濃度上昇に関わる地球規模環境課題、海洋酸性化、地球温暖化による生物影響、北極南極の海氷融解などの個別課題を含めて講義することにより、国際社会で活躍できる能力と人間力を養う。	Lecture is conducted in English. face-to-face 場所：下田臨海実験センター			Master's Program in Agro-Bioresources Science and Technology
0A00313	Global Issues and Global Society: The Social Brain	1.0	1 - 5	Spr Vac	Intensive		Nakata Mariko, Ogawa Sonoko, Pavlides Constantine, 菅我 朋子	国連が提唱した「持続可能な開発目標(SDGs)」に密接に関わる国際社会が直面する課題を理解し、大学院生各人に国際社会の一員としての自覚を誘起することで、高等教育を受けた者が果たすべき役割と責任について熟考させることを目的とする。 当科目は「持続可能な開発目標(SDGs)」の中で、主として、Goal 3 & 4に関連するが、社会性や共生という観点から現代に生きる人類に共通する課題とそれに対する取り組みの方向性を提起する先端的な講義を展開する。 国際社会が直面する「社会性の変容」に起因する様々な問題を「社会脳」として新たな分野を創成しそれを取り扱う。 個別課題として、社会性の発達と環境、社会認知の脳内基盤、高齢者の認知機能などについて講義する。	Lecture is conducted in English. face-to-face(partially online)			Master's Program in Neuroscience
0AA3012	Japan's Politics and Civil Society 1	1.0	1, 2	Fall AB	Fri 2	8M604	Yamamoto Hidehiro	In this class, we aim to understand Japanese politics and civil society and to master methodology of social sciences through reading some basic literatures in English. In particular, we make much account of comparative methods. We discuss a variety of themes concerning civil society in this class.	Open in even number academic years. Identical to 01DR491. Lecture is conducted in English. Online(partially face-to-face)			Master's Program in International and Advanced Japanese Studies
0ABAE47	Studies in Anglophone Culture (1A)	1.0	1, 2	Spr AB	Thu 3	8E206	TSAI TSUNG-HAN	This course focuses on the field of global Anglophone literatures and cultures, analysing texts produced both at the centre and the peripheries of Britain's imperial enterprises. The primary aims are twofold: to familiarize students with a selection of writers and their works and to sharpen students' alertness to the historical, socio-political, and cultural contexts of a literary text. We will ask how these works illuminate the forces that have influenced, and continue to shape, the globalized yet unequal world today. Special attention will be paid to the plural histories, conceptions, relations, networks, and hierarchies of race and gender. In the first semester, the course aims to introduce students to a range of early twentieth-century texts and to develop their understanding of the influences and debates that shaped the concept of 'Anglophone'.	Open in even number academic years. Identical to 02DSA47. Lecture is conducted in English. face-to-face	△	It depends on decision of the class instructor	Master's Program in Humanities
0ABAE48	Studies in Anglophone Culture (1B)	1.0	1, 2	Fall AB	Thu 3	8E206	TSAI TSUNG-HAN	This course focuses on the field of global Anglophone literatures and cultures, analysing texts produced both at the centre and the peripheries of Britain's imperial enterprises. The primary aims are twofold: to familiarize students with a selection of writers and their works and to sharpen students' alertness to the historical, socio-political, and cultural contexts of a literary text. We will ask how these works illuminate the forces that have influenced, and continue to shape, the globalized yet unequal world today. Special attention will be paid to the plural histories, conceptions, relations, networks, and hierarchies of race and gender. In the second semester, the course is designed to expose students to a range of late twentieth-century writers, moving between a detailed focus on highlighted key works and a wider perspective on the tension between local and global.	Open in even number academic years. Identical to 02DSA48. Lecture is conducted in English. face-to-face	△	It depends on decision of the class instructor	Master's Program in Humanities
0ABAE61	Transnational Literature (1)	1.0	1, 2	Spr AB	Tue 4	8E206	Heselhaus, Herrad	"Transnational Literary Studies" does not only comprise literature (and other media) that is produced across borders and in various languages (including translation), it also analyzes the common multi-lingual and multi-cultural basis inherent in aesthetic productivity. The focus point of this course is on text, author, genre, period, aesthetics, media, methods or translation, depending on the needs and interests of its participants and the research focus of the instructor.	Open in even number academic years. Identical to 02DSA61. Lecture is conducted in English.			Master's Program in Humanities

OABAE62	Applied Humanities (1)	1.0	1. 2	FallAB	Tue4		Heselhaus, Herrad	The study of "Applied Humanities" focuses on the interface between traditional literary studies and society. In this course the focus will be on humanities' contribution to society and on career strategies. Students will have the opportunity to discuss their own approaches and design their own academic profiles. The course will also include analysis and discussion of literary and theoretical texts in an "Applied Humanities" perspective and introduce the relevant methodology.	Open in even number academic years. Identical to 02DSA62. Lecture is conducted in English. face-to-face 教室は人社A203			Master's Program in Humanities
OABC108	International Security A	1.0	1. 2	SprAB	Fri2	3K126	Hidaka Kaoru	This course examines some of the major debates and important issues in international security (such as causes of war, deterrence, arms control and disarmament, and so forth) from a theoretical perspective. Students will learn the fundamentals of these issues and consider their contemporary significance.	授業形式はシラバスの「その他」欄で確認してください。 Open in even number academic years. Lecture is conducted in English.			Master's Program in International Public Policy
OABC129	International Relations in the Indo-Pacific	1.0	1. 2	SprAB	Fri4		CHOTANI MAI VINDU	The nature of international relations has fundamentally shifted over the past 30 years. The 21st century is witnessing a move from the Atlantic world to what is increasingly referred to as the "Indo-Pacific" region. This region is broadly characterized by wide-ranging issues from the US-China contestation for power, traditional and non-traditional security threats, its relative poverty, and its religious, political, and cultural diversity. This class will address the transition in power to the Indo-Pacific region, key trends that are shaping the region, and how IR theory can be used to understand these changes.	The class will be held in 3K227. Open in even number academic years. Lecture is conducted in English.			Master's Program in International Public Policy
OABC608	Seminar on International Security A	1.0	1. 2	FallAB	Fri2	3K126	Hidaka Kaoru	This course aims to enable students to develop an appropriate research design for writing academic papers in the field of international relations and security studies. Specifically, they will (1) receive a lecture on how to construct a research design, (2) be trained to read existing research critically, and (3) present their research (plans) and discuss them.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC624	Seminar on Policy Analysis and Programme Evaluation A	1.0	1. 2	FallC, Spr Vac	by appointment	3K227	Matsushima Midori	In this class, students will learn impact evaluation methods using data. This class will begin with learning how to set evaluation questions and move on to quantitative analysis. Regarding evaluation methodologies, students will learn: causal inference and counterfactuals, randomized selection methods, regression discontinuity design, difference-in-differences, and matching. Students will be given homework and assignments to advance their understanding and research skills.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC630	Seminar on International Relations in the Indo-Pacific	1.0	1. 2	FallAB	Wed2		CHOTANI MAI VINDU	This seminar is focused on the geopolitics and international relations in the Indo-Pacific region. Home to over 50 percent of the world's population - it has the world's most populous countries, China and India. It also has almost 60 percent of global GDP, that is, two-thirds of global growth is generated in the Indo-Pacific. This seminar will have a participatory approach and focus on addressing and studying key trends in the region. Important questions on the promotion of stability and peace and the future of the region will also be discussed.	Open in even number academic years. Lecture is conducted in English.			Master's Program in International Public Policy
OABC301	Methods of Fieldwork II	1.0	1. 2	FallAB	Fri4	1C406	Urano Edson Ioshiaqui	The objective of this course is to introduce students to qualitative research methods and research design. The purpose is to provide students with theoretical and practical skills while planning and carrying out their own research, through lectures and group discussions.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC326	Topics in Central Eurasian Studies A	1.0	1. 2	FallAB	Tue3		Joint Use Facility Bld. A Room 102 Yamamoto Yukiko	This course examines the current economic, political, social and cultural climate of Central Eurasian countries within a global context. By utilizing the Sustainable Development Goals (SDGs) as a guideline of the global measure, it explores the area's developmental issues and identifies efforts to address challenges. Students will gain a basic knowledge of international development goals, particularly the SDGs through various readings and discussions.	This course is offered in English. NipCa fellows are expected to register this course. Lecture is conducted in English. face-to-face 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC327	Topics in Central Eurasian Studies B	1.0	1. 2	SprAB	Tue5		Joint Use Facility Bld. A Room 102 Yamamoto Yukiko	This course examines the current economic, political, social and cultural climate of Central Eurasian countries within a global context. By utilizing the Sustainable Development Goals (SDGs) as a guideline of the global measure, it explores the area's developmental issues and identifies efforts to address challenges. Students will gain a basic knowledge of international development goals, particularly the SDGs through various readings and discussions.	This course is offered in English. NipCa fellows are expected to register for this course. You must take "Topics in Central Eurasian Studies A (OABC326)" before registering for this course. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy

OABC825	Seminar on Central Eurasian Studies (SPJES) I	2.0	1	Fall AB	Mon3, 4		Yamamoto Yukiko, Dadabaev Timur, Kawasaki Leslie, Tkach, Shioya Akifumi	This course will start with introduction of academic writing for various disciplines. It will then move on to the discussion of student's Master thesis themes, ways to define research questions and methodology and analysis of their research subjects.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC826	Seminar on Central Eurasian Studies (SPJES) II	2.0	2	Spr AB	Mon3, 4	8A409	Yamamoto Yukiko, Dadabaev Timur, Kawasaki Leslie, Tkach, Shioya Akifumi	Based on seminar on Central Eurasian Studies I, this course will continue studying academic writing for various disciplines. It will then move on to the discussion of student's Master thesis themes, ways to define research questions and methodology and analysis of their research subjects.	Lecture is conducted in English. This course is offered in English. NipCa fellows are expected to register this course. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC827	Seminar on Central Eurasian Studies (SPJES) III	2.0	2	Fall AB			Yamamoto Yukiko, Dadabaev Timur, Kawasaki Leslie, Tkach, Shioya Akifumi	Based on seminar on Central Eurasian Studies I-II, this course will deepen academic writing for various disciplines. It will then move on to the discussion of student's Master thesis themes, ways to develop methodology, analysis and discussion of their research subjects toward finalizing thesis.	Lecture is conducted in English. This course is offered in English. NipCa fellows are expected to register this course. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC401	International Society and Law	1.0	1, 2	Spr C	Wed6, by appointment	1B202	AKIYAMA Hajime	This course examines the role of law in international society critically. Students will be able to examine the history, theory, and practice of international law critically. They will also acquire basic academic communication skills by making a presentation and writing a research paper.	Lecture is conducted in English. Fall B, Wednesday 16:45-19:30				Master's Program in International Public Policy
OABC402	International Trade	2.0	2	Spr AB	Mon5, 6	3B202	Kurokawa Yoshinori	This course will study trade theories and their evidence and will also study selected topics in trade, such as trade and wage inequality, by applying trade theories.	Lecture is conducted in English. face-to-face				Master's Program in International Public Policy
OABC403	Public Economics	2.0	2	Spr AB	Tue5, 6	3A305	Naito Hishiro	This course teaches both the theoretical side and empirical side of public economics. In many countries, the size of public sector is quite large. Thus, it is natural and necessary to know how the presence of public sector affects the economy and how to design the optimal policy. First, this course teaches the effect of the policy of the public sector such as taxation, government debt, labor market policy, environment policies and social security policy. Second, it also discusses how to analyze those policies empirically using the micro and macro data set in depth. Third, this course teaches how to design the optimal policy and what kind of parameters are important.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC404	Microeconomics	2.0	1	Spr AB	Wed4, Thu3	3K220	Nakano Yuko	This course provides students with a deep understanding of graduate-level microeconomics for policy analysis. The topics to be covered include consumer theory, producer theory, game theory, and other related topics in Microeconomics.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC407	International Finance and Policy	2.0	1, 2	Spr AB	Fri5, 6	1B302	Moges Abu Girma	The course is an advanced theory and application of international finance theory and policy for graduate students. The main topics for discussion include real business cycle theory, global imbalances, exchange rate determination, short term and long run adjustments to trade flows, sovereign debt and default risks, determinants of international capital flows and multinational production, and international financial policy and coordination.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC409	Global Governance	1.0	1, 2	Spr B	Tue6, by appointment	1B202	AKIYAMA Hajime	This course introduces the role and limitations of global governance. Students will be able to examine the history, theory, and practice of global governance critically. They will also acquire basic academic communication skills by making a presentation and writing a research paper.	Open in even number academic years. Lecture is conducted in English. 16:45-19:30 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC412	Public Philosophy	1.0	1, 2	Spr BC	Wed6	3K226	KIYAMA Kosuke	This course aims to familiarize students with topics of public philosophy and affords them with an overview of the field, especially those relating to international public policy. The main topics under discussion include themes such as basic normative theories, human rights theories, and global justice.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy
OABC415	Labor Economics	2.0	1, 2	Fall ABC	Intensive	3K219	Fukai Taiyo	In this course, we study labor economics with an emphasis on applied microeconomic theory and empirical analysis. Topics to be covered include: labor supply and demand, taxes and transfers, minimum wages, immigration, human capital, education, and discrimination.	非常勤講師。 Lecture is conducted in English.				Master's Program in International Public Policy
OABC416	Geographic Information System and Satellite Data Analysis for Economics Research	2.0	1, 2	Fall AB	Fri1, 2	3K219	RAMDANI Fatwa	To provide an understanding of the fundamental concepts principles, functions and applications of Geographic Information Systems (GIS). A special focus of the course will be to illustrate the utility of GIS in applied economics such as data inputting, storing, managing, analyzing and mapping spatial data.	Lecture is conducted in English. face-to-face				Master's Program in International Public Policy
OABC420	Comparative Criminal Law	1.0	2	Fall BC	Thu4		TSAI YUNCHI	Through various reading exercises (including reading Japanese academic articles), by the end of this course, students should be able to discuss what acts and mental state are for different levels of criminal offenses, and should be able to explain goals of punishment in criminal justice system of Japan, China, and Taiwan.	Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。				Master's Program in International Public Policy

OABC920	Seminar on Global Governance	1.0	1, 2	FallA	Mon6, by appointment	1B202	AKIYAMA Hajime	The purpose of this seminar is to enhance students' ability to analyse the role and limitations of various actors such as international organisations and civil society, to deal with a specific global issue. Students will acquire basic academic communication skills and critical perspectives to understand global governance by conducting an independent research.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。16:45-19:30, Mondays			Master's Program in International Public Policy
OABC921	Seminar on Public Policy A	1.0	1, 2	FallAB	Fri1	3K226	Okura Sae	This course serves as an in-depth understanding of public policy analysis and contemporary Japanese politics. Students are expected to display their knowledge of public policy analysis through various readings on Japanese politics and policymaking processes. At the end of the course, students are expected to present a research project relevant to their M.A. thesis.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC923	Seminar on Public Philosophy	1.0	1, 2	FallAB	Fri5	3K226	KIYAMA Kosuke	This seminar aims to familiarize students with central debates relating to public philosophy and affords them an overview of the field by examining significant and important philosophical texts. The aim is to impart an in-depth understanding of the subject. The main topics under discussion include basic normative theories, human rights, immigration, cosmopolitanism, and fairness in trade.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OABC924	Seminar on Comparative Criminal Law A	1.0	1, 2	SprBC	Thu4	3K227	TSAI YUNCHI	The course begins with an overview of theories of punishment and goes on to discussion about important social issues in criminal justice system of Japan, China and Taiwan. Through various reading exercises (including reading Japanese academic articles), students will learn criminal legal systems in these countries, and will improve their critical thinking ability and presentation skills.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください			Master's Program in International Public Policy
OAA3012	Japan's Politics and Civil Society 1	1.0	1, 2	FallAB	Fri2	8M604	Yamamoto Hidehiro	In this class, we aim to understand Japanese politics and civil society and to master methodology of social sciences through reading some basic literatures in English. In particular, we make much account of comparative methods. We discuss a variety of themes concerning civil society in this class.	Open in even number academic years. Identical to 01DR491. Lecture is conducted in English. Online (partially face-to-face)			Master's Program in International and Advanced Japanese Studies
OABE078	Comparative Perspectives on Law1A	1.0	1, 2	SprAB	Mon2	8M604	Ortolani Andrea	Civil codes serve as foundational texts in numerous legal systems. This course will explore the civil codes of several countries. Equal emphasis will be given to the historical, social and legal contexts that led to their adoption, and to the peculiarities of each code. The lessons will follow the comparative method and provide insights into the processes of globalization and circulation of legal models.	Lecture is conducted in English. face-to-face			Master's Program in International and Advanced Japanese Studies
OABE079	Comparative Perspectives on Law1B	1.0	1, 2	FallAB	Mon2	8M604	Ortolani Andrea	Civil codes serve as foundational texts in numerous legal systems. This course will explore the civil codes of several countries. Equal emphasis will be given to the historical, social and legal contexts that led to their adoption, and to the peculiarities of each code. The lessons will follow the comparative method and provide insights into the processes of globalization and circulation of legal models.	Lecture is conducted in English. face-to-face			Master's Program in International and Advanced Japanese Studies
OABE461	Foundation of Game Theory 1	1.0	1, 2	FallAB	by appointment		Fukuzumi Masakazu	The main goal of this class is to well understand the fundamental topics and concepts of game theory. Particularly, the class provides a way to represent economic and social situations mathematically in extensive-form games. As equilibrium concepts of extensive-form games, this class covers subgame perfect equilibrium, perfect Bayesian equilibrium, and sequential equilibrium. Through these concepts, we study how it can be applied to reality.	Open in even number academic years. Lecture is conducted in English. face-to-face			Master's Program in International and Advanced Japanese Studies
OBBC236	Special Seminar on Policy Analysis and Programme Evaluation A1	1.0	1 - 3	SprC	by appointment		Matsushima Midori	In this class, it is assumed that students are equipped with basic impact evaluation skills. Thus, we will read top-ranked academic journals' papers to update our knowledge on policy evaluations and critically discuss each academic paper. For PhD students, it is important to read academic papers outside of their primary interest areas in order to expand their knowledge and perspective. Therefore, paper themes will not be specified so long as they relate to policy evaluations.	Open in even number academic years. Identical to 02DJ428. Lecture is conducted in English. 授業形態はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OBBC237	Special Seminar on Policy Analysis and Programme Evaluation A11	1.0	1 - 3	FallAB	Mon5	3K226	Matsushima Midori	In this class, we will spend half our time to reading papers from top-ranked academic journals and devote the rest to the presentation and discussion of the participants' own research papers relating to policy and programme evaluations. Hence, students are required to complete a research paper during the term of this class. When conducting their own research, students are allowed to use either primary or secondary data, and they are free to choose topics based on their own interests.	Open in even number academic years. Identical to 02DJ429. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy

OBBC244	Special Seminar on Peace Studies AI	1.0	1 - 3	SprABC	by appointment		AKIYAMA Hajime	This special seminar covers basic and advanced theories of peace studies, and students will apply these theories to their topic of the dissertation. They will also critically examine theories of peace studies. This special seminar is basically conducted in English, but it can be conducted in Japanese upon the request of students.	Open in even number academic years. Lecture is conducted in English.			Master's Program in International Public Policy
OBBC245	Special Seminar on Peace Studies AII	1.0	1 - 3	FallABC	by appointment		AKIYAMA Hajime	This special seminar covers various theories of peace studies related to law, global governance and international organizations, and students will apply these theories to their topic of the dissertation. They will also critically examine these theories. This special seminar is basically conducted in English, but it can be conducted in Japanese upon the request of students.	Open in even number academic years. Lecture is conducted in English.			Master's Program in International Public Policy
OBBC804	Special Seminar on International Development Policy AI	1.0	1 - 3	SprAB	Wed6	3K426	Moges Abu Girma	This seminar is an advanced course in international development issues and policies. It deals with contemporary topics and challenges in development economics and reviews the latest analytical tools to understand development policy challenges in African, Asian and Latin American countries. Students are required to make extensive reading and make presentations in the seminar and to participate in discussions and reviews of recent contributions in the field of development economics. SSIDP AI and AII are sequential and deal with broad themes in development economics and policy issues. SSIDP AI focuses on theoretical and analytical issues in development economics.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OBBC805	Special Seminar on International Development Policy AII	1.0	1 - 3	FallAB	Wed6	3K426	Moges Abu Girma	This seminar is an advanced course in international development issues and policies. It deals with contemporary topics and challenges in development economics and reviews the latest analytical tools to understand development policy challenges in African, Asian and Latin American countries. Students are required to make extensive reading and make presentations in the seminar and to participate in discussions and reviews of recent contributions in the field of development economics. SSIDP AI and AII are sequential and deal with broad themes in development economics and policy issues. SSIDP AII addresses country and regional experiences and case studies in development policy and the interaction and cooperation across countries.	Open in even number academic years. Lecture is conducted in English. 授業形式はシラバスの「その他」欄で確認してください。			Master's Program in International Public Policy
OAFM201	Organizational Management II: Professional Manager	1.0	1, 2	FallB	Sat3,4		Noda Toru	The MBA-IB Organizational Management II: Professional Manager Course aims to provide students with the opportunity to learn practical and real world issues, and challenges as well as strategies from the micro managerial point of view. Students will learn theories and frameworks, and practice how to apply them to real cases.	Identical to O1PC201. Lecture is conducted in English, face-to-face	△	There is an interview	MBA Program in International Business
OAFM310	Marketing III: Branding	1.0	1, 2	SprA	Wed7,8		Tan Caroline S.L.	A brand essentially is one of the most valuable assets to a company. Brand management is an integral part of a firm's competitive strategy. The understanding of the different core aspects of brand and brand management is critical in ensuring customer loyalty and strong brand equity. This course examines the fundamentals of brands and brand management. Students will learn brand positioning, the building, maintaining and developing of brands as well as brand valuation and managing global brands. As the course will be conducted using the case study method, students will be given the opportunity to discuss and present their ideas and proposals of various industries.	Identical to O1PC312. Lecture is conducted in English, face-to-face	△	There is an interview	MBA Program in International Business
OAFM313	Technology Management	1.0	1, 2	FallB	Wed7,8		Hirai Takashi	This course aims to graphs the landscape of Technology Management and asks the question, "How can corporations create value and capture it?" This course investigates strategic perspectives for aligning competitive strategies and core competencies associated with the use of technology and innovation.	Identical to O1PC330. Lecture is conducted in English, face-to-face (partially online)	△	There is an interview	MBA Program in International Business
OAFM315	Business Model Innovation	1.0	1, 2	FallA	Wed7,8		Hirai Takashi	This course is designed to acquaint students with the methodology of business model innovation and transformation. We will examine the superior business model characteristics from both strategic and organizational perspectives. Classes will be a mixture of lecture for theory/framework and case discussion with practical examples.	Identical to O1PC337. Lecture is conducted in English, face-to-face (partially online)	△	There is an interview	MBA Program in International Business
OAFM401	Cross Cultural Management I: Managing Across Borders	1.0	1, 2	FallA	Sat1,2		Magnier-Watanabe Remy	This course explores some theoretical concepts and practical examples related to the global manager's environment, social responsibility, national and organizational culture, foreign market entry, and global leadership.	Face-to-face (partially online) Identical to O1PC421. Lecture is conducted in English, face-to-face (partially online)	△	There is an interview	MBA Program in International Business
OAFM402	Cross Cultural Management II: The Challenges of Globalization	1.0	1, 2	FallC	Thu7,8		Magnier-Watanabe Remy	This course explores some challenges of globalization, by considering economic systems and regional integration, international trade, foreign direct investment, and global human resources management.	Face-to-face (partially online) Identical to O1PC422. Lecture is conducted in English, face-to-face (partially online)	△	There is an interview	MBA Program in International Business

OAFM414	Business Studies I (Seminar)	1.0	1, 2	Spr Vac	by appointment		Tan Caroline S. L.	This course is for the Field Work pre-departure. Students will be researching and analyzing specific assigned topics in preparation for the company visits.	Identical to O1PC440. Lecture is conducted in English. Identical to O1PC440. Lecture is conducted in English.			MBA Program in International Business
OAFM415	Business Studies II (Fieldwork)	1.0	1, 2	Spr Vac	by appointment		Tan Caroline S. L.	This course provides students the opportunity to visit companies operating in a different range of industries as well as institutions involved in innovation in a foreign country. Students will be able to observe international business concepts in practice from the viewpoint of the foreign companies.	Identical to O1PC441. Lecture is conducted in English.			MBA Program in International Business
OAFM506	Operations Management II: Decision Analysis	1.0	1, 2	SprC	Fri7, 8		Xu Hua	Decision analysis provides powerful tools for dealing with complex decisions that involve multiple objectives and/or uncertainty. In this course, we will learn a useful decision process to identify and overcome the challenges of decision making. We will introduce some fundamental concepts, models and methods for decision analysis in various situations such as decision with multiple objectives, decisions under uncertainty and decisions with different decision makers and different/conflict decision objectives, namely game problems. We will make practices to solve some real-world decision problems through group works.	Online (partially face-to-face) Identical to O1PC504. Lecture is conducted in English. Online (partially face-to-face) The style of lecture will be announced later	△	There is an interview	MBA Program in International Business
OAFM507	Operations Management III: Risk Analysis	1.0	1, 2	FallB	Thu7, 8		Xu Hua	Risk analysis is defined as a systematic process to describe risk, i.e. to present an informative risk picture. Risk analysis is incorporated primarily in risk management and risk-based decision making. The objective of this course is to learn the fundamental concepts of risk analysis and a variety of models and methods to deal with risk identification, risk assessment and risk management problems. A risk filtering, ranking and management (RFRM) process will be introduced and applied to solve some practical risk management problems through group works.	Online (partially face-to-face) Identical to O1PC505. Lecture is conducted in English. Online (partially face-to-face) The style of lecture will be announced later	△	There is an interview	MBA Program in International Business
OAFM508	Operations Management IV: Project Management	1.0	1, 2	SprC	Tue7, 8		Kino Yasunobu	In order to accomplish a project successfully, it is important to carry out systematized management processes, such as requirements definition, planning, executing tasks, and monitoring and control. This course provides the fundamental knowledge of project management. For instance, WBS (Work Breakdown Structure), Scheduling techniques, EVM (Earned Value Management), Cost Estimation and Contract, Risk Management, Quality Assurance and so on.	Identical to O1PC506. Lecture is conducted in English. The style of lecture will be announced later	△	There is an interview	MBA Program in International Business
OAFM509	Operations Management VI: Systems Design Theory	1.0	2	SprB	Sat3, 4		Kino Yasunobu	Understanding behaviors of social systems is one of key factors for success on business and our life. Diagramming techniques, for example, Flow chart, ER Diagram (Entity Relationship Diagram), State chart and UML (Unified Modeling Language) are useful to visualize/design our social systems. Additionally, natural languages, for example, Japanese, English, Spanish and other languages are useful when we will design social models. In this class we will learn text analysis, diagramming techniques, and systems design.	Identical to O1PC509. Lecture is conducted in English. The style of lecture will be announced later	△	There is an interview	MBA Program in International Business
OAH0207	Computational Science Literacy	1.0	1, 2	Spr Vac	Intensive	3B406	Kusaka Hiroyuki, Nakatsukasa Takashi, Haradaryuhei, YOSHIKAWA Kohji, Tong Xiao-Min, Ishizuka Naruhito, Kameda Yoshinari, Takahashi Daisuke, Bou Savong, Doan Quang Van, Yajima Hidenobu	Computational science, which opens up unexplored areas of science through numerical analysis using ultra-high performance computers, is an important and cutting-edge research tool that ranks alongside experiment and theory, and its importance is increasing. In order to explore the future of science, it is essential to acquire basic knowledge and methodology of computational science, which can be called "reading and writing" or literacy. This lecture is an introduction to computational science, which is the literacy for the future of science. Faculty members of the Research Center for Computational Science will give an overview of research in computational science in various fields, and aim to give a broad perspective on various scientific fields from computational science in a cross-disciplinary and comprehensive manner. The latest computer technologies supporting computational science will also be outlined.	Lecture is conducted in English. face-to-face (partially online)			Degree Programs in Systems and Information Engineering

0AH0209	High Performance Parallel Computing Technology for Computational Sciences	1.0	1, 2	Spr Vac	Intensive		Boku Taisuke, Tatebe Osamu, Takahashi Daisuke, Nukada Akira, Tadano Hiroto, Fujita Norihisa, Kobayashi Ryohei	High performance computing is the basic technology needed to support today's large scale scientific simulations. It covers a wide variety of issues on hardware and software for high-end computing such as high speed computation, high speed networking, large scale memory and disk storage, high speed numerical algorithms, programming schemes and the system softwares to support them. Current advanced supercomputer systems are based on large scale parallel processing systems. Nowadays, even application users are required to understand these technologies to a certain level for their effective utilization. In this class, we focus on the basic technology of high-end computing systems, programming, algorithms and performance tuning for application users who aim to use these systems for their practical simulation and computing.	Lecture is conducted in English. face-to-face			Degree Programs in Systems and Information Engineering
0AH0316	Introduction to Environmental Sciences	2.0	1	Fall IAB	Wed1,2	C103 Nat. Sci.	環境科学学位プログラム担当教員, Mizunoya Takeshi	This course introduces the core issues globally in environmental sciences and approaches relating to hydrology, biology, ecosystem science, analytical chemistry, climate system science, urban engineering, environmental engineering, social science, and environmental health. Through this course, students can learn the fundamentals and applications of environmental sciences from multi-perspectives on difference scales. It aims to foster students from both global/local and high-/low-angle views.	0AH0316 and OAND001 must be taken at the same time. The lecture will be conducted in English. In-person class or on-line. Lecture is conducted in English. face-to-face. Online(Asynchronous). Online(Synchronous).			Master's Program in Environmental Sciences
0AJG024	Statistical Mechanics I	1.0	1, 2	Fall I A	Tue4,5	3A212	Ohno Yuzou	This lecture begins with a review of basic concepts of statistical mechanics (partition functions, black body radiation, specific of crystal, ideal quantum gas, Fermi-Dirac distribution, Bose-Einstein distribution, etc.), followed by the formulation of statistical mechanics in terms of the density matrix which is an essential tool for dealing with quantum-mechanical many-body systems. Then, we discuss the Wigner function and the perturbation expansion.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG041	Electromagnetism I	1.0	1, 2	Fall I A	Fri1,2	3A212	Fujioka Jun	First, Maxwell's equations in vacuum are derived from the basic laws of the electric field and the magnetic field. Then, the generic properties of Maxwell equations in vacuum and Maxwell's equations in matter are studied.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG042	Electromagnetism II	1.0	1, 2	Fall I B	Thu4,5	3Z107		Time-varying/time-harmonic electromagnetic fields and electrical properties of matter based on Maxwell's equations will be studied. Topics include: variable forms of Maxwell's eq., dielectrics/magnetics-polarization/magnetization-permittivity/permeability, etc.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG043	Electromagnetism III	1.0	1, 2	Fall I C	Thu1,2	3Z107		Wave equation, propagation, polarization, reflection, transmission, radiation, and scattering will be studied. Topics include: variable formed wave eq., transverse electromagnetic modes (in Lossy media), linear/circular polarization, different incidence issues in Lossy media with multiple interfaces, electromagnetic theorems and principles, etc.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG421	Materials Chemistry A	1.0	1, 2	Spr AB	Wed4		Tsujimura Seiya	The lectures include statistical processing in chemical experiments, and analytical chemistry based on chemical equilibrium.	Identical to 0AJR011. Lecture is conducted in English. Online(Asynchronous)			Master's Program in Engineering Sciences
0AJJL11	Advanced Photonics	1.0	1, 2	Fall I AB	Wed1	3Z108	Ishii Satoshi, Takeda Yoshihiko, Hu Xiao	This lecture introduces photonics based nanostructures that does not follow the conventional concept of photonics. The topics include, optical responses of materials, spectroscopic measurements, plasmonics, metamaterials, and topological photonics. The lecture starts from basics and explains deeper outlines in details.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJMA07	Semiconductor Spintronics	1.0	1, 2	Fall I AB	Thu1	3B204	Kuroda Shinji	Spintronics is an emerging novel technology utilizing both the charge and spin of electrons for the operation of electronic devices, which is expected to replace the conventional electronics utilizing only the electric charge of electrons. This lecture covers the basic physics underlying spintronics and some examples of its application in semiconductors.	Open in even number academic years. Lecture is conducted in English. Online(Asynchronous)			Master's Program in Engineering Sciences
0AJMD08	Surface Chemistry	2.0	1, 2	Spr AB	Tue/Thu1	3A409	Kondo Takahiro	This lecture will review i) surface structure, ii) surface electronic states, and iii) surface elementary steps from a chemical viewpoint as a basis of surface chemistry. Surface physics is also included. The relationship between electronic states and reactivity will also be mentioned. The surface analysis using scanning tunneling microscope and high-resolution photoemission spectroscopy, first principle calculation, surface reaction theory, vacuum technology, and mechanism of surface elementary step observed at atomic level will be widely lectured.	Open in even number academic years. Identical to 0AJRF01. Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJME01	Nanomaterials II	1.0	1, 2	Fall I AB	Mon1	3Z108	Professors for the Materials Science and Engineering Class (in Materials Science, Physics)	This course will introduce cutting-edge research being carried out as research projects at the National Institute for Materials Science (NIMS), and will explain fields such as metallic materials, electrode materials, semiconductor materials, two-dimensional materials, rechargeable battery, surface chemistry, first-principles simulation, and data driven science.	Identical to 01BC710. Lecture is conducted in English. face-to-face 対面授業を予定しているが、状況によりオンライン化も考慮する。			Master's Program in Engineering Sciences

0AJME03	Ceramics Science	1.0	1, 2	FallAB	Mon4		Mori Takao	Fundamental topic of ceramics science is to make clear the characteristics and origins of atomic structure and microstructure of functional inorganic materials, and their relationship to physical properties. This lecture will span and cover in detail, basics of atomic bonding, crystal structure of inorganic materials, and their physical properties such as electrical, thermal, thermoelectric, magnetic, etc. In particular it will focus on deriving particular structure-property relationship of ceramic materials. Effects of different defect types and microstructures will also be explained, together with introduction of various applications and devices.	Open in even number academic years. Identical to 0AJRN01. Lecture is conducted in English. Online(Synchronous)			Master's Program in Engineering Sciences
0AJME04	Biomaterials	1.0	1, 2	FallAB	Mon2		Taguchi Tetsushi, Chen Guoping	The lecture introduces the basis of the synthesis and characteristics of metal, ceramics, polymers, and biological body-derived biomedical materials that have direct contact with the living body tissue. These all have a mutual influence on biomedical materials and cells, a biocompatibility and bioabsorbable property, surface-modification, adhesive agent, a drug delivery system, tissue replacement and shakeout, and system engineering. These topics will all be reviewed.	Lecture is conducted in English. Online(Synchronous)			Master's Program in Engineering Sciences
0AJME05	Smart Biomaterials	1.0	1, 2	FallB	Intensive		Ebara Mitsuhiro	Students learn the basis of the synthesis and characteristics of smart biomaterials such as stimuli-responsive polymers for the future medicine.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJME06	Deformation and Strength of Materials	1.0	1, 2	SprC	Fri1,2	3Z108	Watanabe Ikumu	This lecture addresses mechanical properties of deformable solid materials represented by stress-strain curves and various strengths with an emphasis on fundamentals of mechanics.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJME11	Pharmaceutical Physical Chemistry	1.0	1, 2	SprAB	Mon1	3Z112-1	KAWAKAMI KOHSAKU	Physical chemistry required for pharmaceutical development is explained. Subjects include solubility, crystal polymorphism, amorphous science, colloidal carriers, administration routes, and biopharmaceuticals.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG041	Electromagnetism I	1.0	1, 2	FallA	Fri1,2	3A212	Fujioka Jun	First, Maxwell's equations in vacuum are derived from the basic laws of the electric field and the magnetic field. Then, the generic properties of Maxwell equations in vacuum and Maxwell's equations in matter are studied.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG042	Electromagnetism II	1.0	1, 2	FallB	Thu4,5	3Z107		Time-varying/time-harmonic electromagnetic fields and electrical properties of matter based on Maxwell's equations will be studied. Topics include: variable forms of Maxwell's eq., dielectrics/magnetics-polarization/magnetization-permittivity/permeability, etc.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG043	Electromagnetism III	1.0	1, 2	FallC	Thu1,2	3Z107		Wave equation, propagation, polarization, reflection, transmission, radiation, and scattering will be studied. Topics include: variable formed wave eq., transverse electromagnetic modes (in Lossy media), linear/circular polarization, different incidence issues in Lossy media with multiple interfaces, electromagnetic theorems and principles, etc.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AJG024	Statistical Mechanics I	1.0	1, 2	FallA	Tue4,5	3A212	Ohno Yuzou	This lecture begins with a review of basic concepts of statistical mechanics (partition functions, black body radiation, specific of crystal, ideal quantum gas, Fermi-Dirac distribution, Bose-Einstein distribution, etc.), followed by the formulation of statistical mechanics in terms of the density matrix which is an essential tool for dealing with quantum-mechanical many-body systems. Then, we discuss the Wigner function and the perturbation expansion.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
0AL0400	Experiment Design in Computer Sciences	2.0	1, 2	SprAB	Fri5,6	3B301	Sakurai Tetsuya, Aranha, Claus	(Course in English) This course is an overview of the basic knowledge needed for performing proper scientific experiments in the field of Computer Sciences. Therefore, this course focuses on three topics: 1- Philosophical discussion about the scientific methods, 2- Conceptual discussion about the design and analysis of Experiments, and 3- Statistical methods for the analysis of experimental data. After finishing this course, the student will be able to consider a research topic in Computer sciences, define what kind of data is necessary for advancing the knowledge in this topic, design an experiment to obtain this data, and evaluating the data in order to draw conclusions from the experiment in a rigorous manner. The evaluation method for this course is a short experiment performed in groups, which will be designed, executed, evaluated, presented and reviewed by the students by the end of the course.	Lecture is conducted in English. face-to-face			Degree Programs in Systems and Information Engineering
0AL0612	Advanced Space Exploration Engineering Workshop 2024	2.0	1, 2	SprAB, FallAB	Fri17	3B402	Kameda Toshihiro	It is a workshop style project based class, handling space exploration engineering mission proposal and realization. During the class, students are expected to propose their own space mission and provide some prototype equipment for the mission, including space environment test. Collaboration with foreign space engineering teams such as cubesat development project is strongly encouraged.	Lecture is conducted in English. face-to-face Students can register this course even if they took previous Advanced Space Exploration Engineering courses, however, up to two credit hours can be provided in total for graduation requirement.			Degree Programs in Systems and Information Engineering

OAL5319	Policy and case study on information-intelligence-based disaster risk management	1.0	1. 2	Fall A	Intensive	3Z811	Li Wei-Sen, LIU Yi-Chung, Sakai Naoki, Umemoto Michitaka	Disaster Prevention Research and Efforts in NCDR. The main concepts proposed by NCDR are aimed at how to implement scientific outputs at level of policy formation, emergency operation, information integration and risk communication. With practical case studies, it will offer students a chance to think the way to develop effective and efficiency disaster risk management.	01CF910と同一。英語による授業。Lecture is conducted in English. face-to-face				Degree Programs in Systems and Information Engineering
OAL5400	Principles of Software Engineering	2.0	1. 2	Spr A Spr B	Wed3 Wed4 Wed3, 4	3A403 3A410 3A410	Simona Vasilache, Takahashi Shin	The goal of this course is to introduce basic software engineering principles. The students will learn about the necessity of software engineering as a modern engineering discipline; they will study various software development models, and focus on some of the major phases in the software development life cycle. Project planning and management, business aspects of software engineering, along with some of the basic tools used by software engineers during the development of large applications, will also be introduced.	Open in even number academic years. Lecture is conducted in English. face-to-face				Degree Programs in Systems and Information Engineering
OAL5409	Data Engineering I	2.0	1. 2	Fall AB	Tue3, 4	3Z0110	Amagasa Toshiyuki, Shiohara Hiroaki, Bou Savong	In this course, the students will learn the basics and recent topics in data engineering. First, the students will review the fundamental technology of database systems, followed by learning major techniques in data mining and graph processing and its related topics. The students will understand basic approaches of data engineering in the area of database and data mining, as well as recent trends in the area, i.e., graph processing. The lecture is given in English.	Lecture is conducted in English. face-to-face (partially online) Conducted in a combination of online (asynchronous) and face-to-face				Degree Programs in Systems and Information Engineering
OAL5421	Advanced Course in High Performance Computing	2.0	1. 2	Fall AB	Wed2, 3	3Z0110	Boku Taisuke, Takahashi Daisuke, Nukada Akira	This lecture introduces the high-performance computing technologies that support today's advanced scientific and technological computing (computational science and engineering), including parallel processing systems, processor architectures, networks, numerical algorithms, and optimization methods, spanning all levels from hardware to applications. It includes several latest examples of computer systems and application software. This lecture is for both students who develop applications on HPC systems and students who design the HPC systems, aiming successful co-design between them in the future.	Identical to OBTX123. Lecture is conducted in English. face-to-face				Degree Programs in Systems and Information Engineering
OAL5427	Special Lecture on Numerical Simulation	2.0	1. 2	Spr AB	Mon5, 6	3B406	Cai Dongsheng	コンピュータアルゴリズムを使い工学、化学、医学、経済学で現れるシミュレーション問題を解く。具体的な項目として、差分法、緩和法、エントロピー最大法、フラクタル、人工生命を使った物理的現象モデル、カオスの理論とその応用等	Lecture is conducted in English. face-to-face (partially online)				Degree Programs in Systems and Information Engineering
OAL5430	Adaptive Media Processing	1.0	1. 2	Spr AB	Mon2	3B303	Kameyama Keisuke	Adaptive techniques in processing, recognition and retrieval of media information will be discussed. Much weight will be put on (re-)assuring the fundamental knowledge and algorithms in machine learning and signal/image processing, that are essential for adaptive handling of media contents. In addition, up-to-date methods in the field will also be mentioned. (Lecture in English)	Lecture is conducted in English. face-to-face (partially online)				Degree Programs in Systems and Information Engineering
OAL5427	Special Lecture on Numerical Simulation	2.0	1. 2	Spr AB	Mon5, 6	3B406	Cai Dongsheng	コンピュータアルゴリズムを使い工学、化学、医学、経済学で現れるシミュレーション問題を解く。具体的な項目として、差分法、緩和法、エントロピー最大法、フラクタル、人工生命を使った物理的現象モデル、カオスの理論とその応用等	Lecture is conducted in English. face-to-face (partially online)				Degree Programs in Systems and Information Engineering
OAL5409	Data Engineering I	2.0	1. 2	Fall AB	Tue3, 4	3Z0110	Amagasa Toshiyuki, Shiohara Hiroaki, Bou Savong	In this course, the students will learn the basics and recent topics in data engineering. First, the students will review the fundamental technology of database systems, followed by learning major techniques in data mining and graph processing and its related topics. The students will understand basic approaches of data engineering in the area of database and data mining, as well as recent trends in the area, i.e., graph processing. The lecture is given in English.	Lecture is conducted in English. face-to-face (partially online) Conducted in a combination of online (asynchronous) and face-to-face				Degree Programs in Systems and Information Engineering
OAL5421	Advanced Course in High Performance Computing	2.0	1. 2	Fall AB	Wed2, 3	3Z0110	Boku Taisuke, Takahashi Daisuke, Nukada Akira	This lecture introduces the high-performance computing technologies that support today's advanced scientific and technological computing (computational science and engineering), including parallel processing systems, processor architectures, networks, numerical algorithms, and optimization methods, spanning all levels from hardware to applications. It includes several latest examples of computer systems and application software. This lecture is for both students who develop applications on HPC systems and students who design the HPC systems, aiming successful co-design between them in the future.	Identical to OBTX123. Lecture is conducted in English. face-to-face				Degree Programs in Systems and Information Engineering
OAL5430	Adaptive Media Processing	1.0	1. 2	Spr AB	Mon2	3B303	Kameyama Keisuke	Adaptive techniques in processing, recognition and retrieval of media information will be discussed. Much weight will be put on (re-)assuring the fundamental knowledge and algorithms in machine learning and signal/image processing, that are essential for adaptive handling of media contents. In addition, up-to-date methods in the field will also be mentioned. (Lecture in English)	Lecture is conducted in English. face-to-face (partially online)				Degree Programs in Systems and Information Engineering

OAND357	Ecological Biochemistry	2.0	1, 2	FallAB	Fri5,6	B501 Nat. Sci.	Yamaji Keiko, Sunohara Yukari	Responses of plants to abiotic environmental stresses such as air pollution, soil contamination, low temperatures, high temperatures, saline soils, aridity, etc. and interactions between organisms (plant-plant, plant-microbe, plant-insect) will be taken from an ecochemical perspective.	If online, materials will be posted on manaba. It shall be in a self-study format. Lecture is conducted in English. face-to-face. Online(Asynchronous)				Master's Program in Environmental Sciences
OAND361	Introduction to Water Environment	2.0	1, 2	FallAB	Fri3,4	B107 Nat. Sci.	Tsujimura Maki	This class aims to foster ability to understand principles of water resources issues in relation with regional issues based on scientific/ anthropogenic knowledge of hydrological cycle and water governance. The class consists of lectures on basics of hydrology and discussion on textbook of water governance/ policy.	The class is performed in Hybrid (Face to Face and online (synchronized and ondemand)). Identical to OAQT033. Lecture is conducted in English. face-to-face (partially online). Online (Synchronous)				Master's Program in Environmental Sciences
OAND362	Environmental Soil Science	2.0	1, 2	SprC, Sum Vac	Intensive		Tamura Kenji, Asano Maki	Soil is a fundamental part that supports the natural ecosystems. This lecture deal with basic soil concept, basic soil chemistry, soil functions in ecosystems, soil genesis and classification, soil degradation and conservation, and the relationships between global environmental issues and soil. In this lecture, we will have brainstorming and group discussions on soil issues.	Lecture is conducted in English. face-to-face				Master's Program in Environmental Sciences
OAND363	Environmental Analytical Chemistry	1.0	1, 2	FallAB	Thu5	B501 Nat. Sci.	Sakaguchi Aya	'Environmental Science' is a field of study that plays an active role in solving environmental issues/problems in terms of science. In these studies, the target environmental conditions will be understood physically, biologically and chemically with appropriate preciseness and accuracy. Through lectures, students can learn analytical chemistry with application to environmental science. The course addresses the sampling of environmental materials, sample preparation, and subsequent chemical analyses using conventional/ advanced methods.	Lecture is conducted in English. face-to-face				Master's Program in Environmental Sciences
OAND365	Remote Sensing	1.0	1, 2	SprAB	Thu5	B107 Nat. Sci.	Nasahara Kenlo	Remote sensing (observation of earth surface from air and space) is a powerful tool for environmental monitoring and assessment. We learn the principles, utility, and potential of this technology. As a basic background of this lecture, students are encouraged to study elementary physics, mathematics, and geography.	English class. Depending on the situation, the class will be on-line. Lecture is conducted in English.				Master's Program in Environmental Sciences
OAND366	Introduction to Waste Management (Solid Waste Management Systems Planning)	2.0	1, 2	SprAB	Fri1,2	B107 Nat. Sci.	Yabar Helmut Friedrich	One of the greatest challenges modern societies face is finding ways to increase economic growth while minimizing resource consumption and environmental degradation. The highly inefficient use of natural resources, from their extraction to final disposal, is already damaging the planet because most of the extracted resources end up as waste. This class will introduce the main aspects concerning integrated waste management including current waste treatment technologies, strategies, policies and modeling of waste management systems.	Identical to OAQT035. Lecture is conducted in English. face-to-face. Online(Synchronous)				Master's Program in Environmental Sciences
OAND367	Solid Waste Management Systems Planning	2.0	1, 2	FallAB	Mon3,4	B107 Nat. Sci.	Yabar Helmut Friedrich	In addition to health and safety concerns, the Planning of waste management systems must also be sustainable i.e. environmentally sound, socially acceptable and economically viable. This class introduces the tools necessary to design integral solid waste management systems. The class provides specific modeling based on life-cycle thinking towards planning of waste management systems through scenario design.	Identical to OAQT037. Lecture is conducted in English. face-to-face. Online(Synchronous)				Master's Program in Environmental Sciences
OAND369	Environmental Psychology	1.0	1, 2	FallAB	Tue2	8G504	Kaida Naoko	In this course, students learn theories and methods in environmental psychology. The topics covered in this course include theories and models on the psychological processes of environmental values, attitudes, and behaviors; natural and built environment and well-being; restorative impacts of the environment; and interventions to facilitate behavioral changes toward creating a sustainable society. Throughout this coursework, students will be able to understand the human-environment relationships from the psychological and behavioral science perspectives.	Identical to OAQT045. Lecture is conducted in English. Online(Asynchronous)				Master's Program in Environmental Sciences
OAND373	Introduction to Ecology	2.0	1, 2	SprAB	Mon3,4	B107 Nat. Sci.	Hirota Mitsuru, Yokoi Tomoyuki	Ecology is scientific study of interactions of organisms with one another (biotic environments), and with abiotic environments. As ever-increasing serious environmental issues at local to global scale, ecology is recognized as one of the fundamental science, because we have to learn and well-consider various relevant aspects on organisms and environments. This class will address fundamentals of ecology mainly focused on plants, insects, their relations, and its surrounding environments. Although I'll try to talk students who have little background on ecology and biology, please don't forget to make every effort to understand and to have flexibility to think for oneself.	Lecture is conducted in English.				Master's Program in Environmental Sciences

OAND377	Environmental Analysis and Planning	2.0	1. 2	Fall AB	Mon5, 6	C502 Nat. Sci.	Murakami Akinobu, Yamamoto Sachiko	The course will explain the basic scientific knowledge and techniques of urban planning and land use analysis oriented to the realization of appropriate and sustainable environments. The course also aims to cultivate the basic knowledge necessary to discuss urban planning from an environmental perspective. The course will include systematic lectures on the history of urban planning, reading map information, nature and cities, the role of green spaces in the urban environments, and sustainable landscape planning, as well as exercises and discussions.	Lecture is conducted in English. (Asynchronous Online)				Master's Program in Environmental Sciences
OAND378	Applied Environmental Ethics (Introduction to English Presentation and Debate)	2.0	1. 2	Fall AB	Mon1, 2	B107 Nat. Sci.	Matsui Kenichi	This course aims to develop and refine your academic skills that are imperative in analyzing legal, social, and ethical implications of environmental issues. You are asked to actively participate in discussing, presenting, critically reading and writing about these issues so that you will be fully prepared for your internationally competent career as an environmental scientist or leader. Our topics for discussion include (1) environmental leadership/ diplomacy; (2) eco-economy; (3) rights of nature; (4) climate change; (5) LMOs and ELSI; (6) biological diversity and ecological service; (7) global bioethics; (8) cultural diversity and indigenous knowledge; and (9) innovative approaches to environmental ethics. The examination of these wide-ranging topics will not only enrich your knowledge about environmental ethics but also enlarge your academic background as environmental science communicator.	Identical to OAQT027. Lecture is conducted in English.				Master's Program in Environmental Sciences
OAND403	Climate System Study I	1.0	1. 2	Spr AB	Thu3	C103 Nat. Sci.	Kamae Yoichi	The Earth's climate system represents complex interactions between the atmosphere, ocean and land. This class aims to foster ability to understand general basis on elements of climate system, their interactions, and their variability including El Nino Southern Oscillation and global warming. This course will also introduce 1) conceptual difference between weather forecast and climate projection, and 2) physical mechanisms responsible for anomalous weather and climate events (heavy rainfall, drought, heat wave, etc) occurred in recent years.	Identical to OAQT042. Lecture is conducted in English.				Master's Program in Environmental Sciences
OAHO316	Introduction to Environmental Sciences	2.0	1	Fall AB	Wed1, 2	C103 Nat. Sci.	環境科学学位プログラム担当教員 Mizunoya Takeshi	This course introduces the core issues globally in environmental sciences and approaches relating to hydrology, biology, ecosystem science, analytical chemistry, climate system science, urban engineering, environmental engineering, social science, and environmental health. Through this course, students can learn the fundamentals and applications of environmental sciences from multi-perspectives on difference scales. It aims to foster students from both global/local and high-/low-angle views.	OAHO316 and OAND001 must be taken at the same time. The lecture will be conducted in English. In-person class or on-line. Lecture is conducted in English. face-to-face. Online (Asynchronous). Online (Synchronous).				Master's Program in Environmental Sciences
OAND361	Introduction to Water Environment	2.0	1. 2	Fall AB	Fri3, 4	B107 Nat. Sci.	Tsujimura Maki	This class aims to foster ability to understand principles of water resources issues in relation with regional issues based on scientific/ anthropogenic knowledge of hydrological cycle and water governance. The class consists of lectures on basics of hydrology and discussion on textbook of water governance/ policy.	The class is performed in Hybrid (Face to Face and online (synchronized and ondemand)). Identical to OAQT033. Lecture is conducted in English. face-to-face (partially online). Online (Synchronous).				Master's Program in Environmental Sciences
OAND362	Environmental Soil Science	2.0	1. 2	SprC, Sum Vac	Intensive		Tamura Kenji, Asano Maki	Soil is a fundamental part that supports the natural ecosystems. This lecture deal with basic soil concept, basic soil chemistry, soil functions in ecosystems, soil genesis and classification, soil degradation and conservation, and the relationships between global environmental issues and soil. In this lecture, we will have brainstorming and group discussions on soil issues.	Lecture is conducted in English. face-to-face				Master's Program in Environmental Sciences
OAND365	Remote Sensing	1.0	1. 2	Spr AB	Thu5	B107 Nat. Sci.	Nasahara Kenlo	Remote sensing (observation of earth surface from air and space) is a powerful tool for environmental monitoring and assessment. We learn the principles, utility, and potential of this technology. As a basic background of this lecture, students are encouraged to study elementary physics, mathematics, and geography.	English class. Depending on the situation, the class will be on-line. Lecture is conducted in English.				Master's Program in Environmental Sciences
OAND366	Introduction to Waste Management (Solid Waste Management Systems Planning)	2.0	1. 2	Spr AB	Fri1, 2	B107 Nat. Sci.	Yabar Helmut Friedrich	One of the greatest challenges modern societies face is finding ways to increase economic growth while minimizing resource consumption and environmental degradation. The highly inefficient use of natural resources, from their extraction to final disposal, is already damaging the planet because most of the extracted resources end up as waste. This class will introduce the main aspects concerning integrated waste management including current waste treatment technologies, strategies, policies and modeling of waste management systems.	Identical to OAQT035. Lecture is conducted in English. face-to-face. Online (Synchronous).				Master's Program in Environmental Sciences

OAND367	Solid Waste Management Systems Planning	2.0	1. 2	FallAB	Mon3, 4	B107 Nat. Sci.	Yabar Helmut Friedrich	In addition to health and safety concerns, the Planning of waste management systems must also be sustainable i.e. environmentally sound, socially acceptable and economically viable. This class introduces the tools necessary to design integral solid waste management systems. The class provides specific modeling based on life-cycle thinking towards planning of waste management systems through scenario design.	Identical to OAQT037. Lecture is conducted in English. Face-to-face. Online(Synchronous)			Master's Program in Environmental Sciences
OAND369	Environmental Psychology	1.0	1. 2	FallAB	Tue2	8G504	Kaida Naoko	In this course, students learn theories and methods in environmental psychology. The topics covered in this course include theories and models on the psychological processes of environmental values, attitudes, and behaviors; natural and built environment and well-being; restorative impacts of the environment; and interventions to facilitate behavioral changes toward creating a sustainable society. Throughout this coursework, students will be able to understand the human-environment relationships from the psychological and behavioral science perspectives.	Identical to OAQT045. Lecture is conducted in English. Online(Asynchronous)			Master's Program in Environmental Sciences
OAND373	Introduction to Ecology	2.0	1. 2	SprAB	Mon3, 4	B107 Nat. Sci.	Hirota Mitsuru, Yokoi Tomoyuki	Ecology is scientific study of interactions of organisms with one another (biotic environments), and with abiotic environments. As ever-increasing serious environmental issues at local to global scale, ecology is recognized as one of the fundamental science, because we have to learn and well-consider various relevant aspects on organisms and environments. This class will address fundamentals of ecology mainly focused on plants, insects, their relations, and its surrounding environments. Although I'll try to talk students who have little background on ecology and biology, please don't forget to make every effort to understand and to have flexibility to think for oneself.	Lecture is conducted in English.			Master's Program in Environmental Sciences
OAND377	Environmental Analysis and Planning	2.0	1. 2	FallAB	Mon5, 6	C502 Nat. Sci.	Murakami Akinobu, Yamamoto Sachiko	The course will explain the basic scientific knowledge and techniques of urban planning and land use analysis oriented to the realization of appropriate and sustainable environments. The course also aims to cultivate the basic knowledge necessary to discuss urban planning from an environmental perspective. The course will include systematic lectures on the history of urban planning, reading map information, nature and cities, the role of green spaces in the urban environments, and sustainable landscape planning, as well as exercises and discussions.	Lecture is conducted in English. Online(Asynchronous)			Master's Program in Environmental Sciences
OAND378	Applied Environmental Ethics (Introduction to English Presentation and Debate)	2.0	1. 2	FallAB	Mon1, 2	B107 Nat. Sci.	Matsui Kenichi	This course aims to develop and refine your academic skills that are imperative in analyzing legal, social, and ethical implications of environmental issues. You are asked to actively participate in discussing, presenting, critically reading and writing about these issues so that you will be fully prepared for your internationally competent career as an environmental scientist or leader. Our topics for discussion include (1) environmental leadership/ diplomacy; (2) eco-economy; (3) rights of nature; (4) climate change; (5) LMOs and ELSI; (6) biological diversity and ecological service; (7) global bioethics; (8) cultural diversity and indigenous knowledge; and (9) innovative approaches to environmental ethics. The examination of these wide-ranging topics will not only enrich your knowledge about environmental ethics but also enlarge your academic background as environmental science communicator.	Identical to OAQT027. Lecture is conducted in English.			Master's Program in Environmental Sciences
OAND365	Remote Sensing	1.0	1. 2	SprAB	Thu5	B107 Nat. Sci.	Nasahara Kenlo	Remote sensing (observation of earth surface from air and space) is a powerful tool for environmental monitoring and assessment. We learn the principles, utility, and potential of this technology. As a basic background of this lecture, students are encouraged to study elementary physics, mathematics, and geography.	English class. Depending on the situation, the class will be online. Lecture is conducted in English.			Master's Program in Environmental Sciences
OAND378	Applied Environmental Ethics (Introduction to English Presentation and Debate)	2.0	1. 2	FallAB	Mon1, 2	B107 Nat. Sci.	Matsui Kenichi	This course aims to develop and refine your academic skills that are imperative in analyzing legal, social, and ethical implications of environmental issues. You are asked to actively participate in discussing, presenting, critically reading and writing about these issues so that you will be fully prepared for your internationally competent career as an environmental scientist or leader. Our topics for discussion include (1) environmental leadership/ diplomacy; (2) eco-economy; (3) rights of nature; (4) climate change; (5) LMOs and ELSI; (6) biological diversity and ecological service; (7) global bioethics; (8) cultural diversity and indigenous knowledge; and (9) innovative approaches to environmental ethics. The examination of these wide-ranging topics will not only enrich your knowledge about environmental ethics but also enlarge your academic background as environmental science communicator.	Identical to OAQT027. Lecture is conducted in English.			Master's Program in Environmental Sciences

OAS0507	Introduction to Social Medicine	2.0	1	SprAB	Thu1, 2		Ichikawa Masao, Kondo Masahide, Goshō Masahiko, Tamiya Nanako, Wagatsuma Yukiko, Sasahara Shinichiro, Morita Nobuaki, Ogai Yasukazu, Sugano Yukiko, Togoobatar Ganchimeg, Fukuhige Mizuho, Hori Ai, Iwagami Masao, Takahashi Sho, Takahashi Tsukasa, Kihara Tomomi	This course aims to equip students with an understanding of the broad determinants of health – income and poverty, education, environmental factors such as housing and transport – as well as health care and genetic influences and of the importance of a multi-disciplinary approach which includes medicine, epidemiology, statistics, economics, social science and many other subjects in improving population health.	Lecture is conducted in English. Online(Asynchronous)			Master's Program in Public Health
OAS0509	TED MED: Scientific English	1.0	1, 2	FallBC	NT		Mayers Thomas David	The ability to communicate clearly about your research to a global audience is a vital skill for the modern scientist. In this course, students will study scientific English through the medium of TED talks on medical-related topics. This online, on-demand course will provide students with materials to improve their scientific English understanding, scientific presentation and communication skills, and creative thinking, while learning about exciting topics in science and medicine.	Lecture is conducted in English. Online(Asynchronous)			Master's Program in Medical Sciences
OATGA16	English in Medical Science and Technology I	1.0	1	SprA SprB	Mon2	4F204 4F305	Miyamasu Flaminia, Mayers Thomas David, Florescu Cosmin Mihail	The goal of this course is for students to develop the English proficiency they need to effectively and energetically communicate their professional achievements within the international scientific community. To this end, students will be divided into three classes and will take four modules. In the first module, they will study the basics of scientific communication. Thereafter, they will rotate through three modules on scientific writing, scientific presentation, and multimedia communication. Classes will be conducted entirely in English, so students will also hone their listening skills. Upon completion of the course, students will have a foundation for sharing knowledge and ideas with other scientists in English.	Lecture is conducted in English. Online(Asynchronous)			Master's Program in Medical Sciences
OATGA17	English in Medical Science and Technology II	1.0	1	FallA FallB	Mon5	4F204 4F305	Miyamasu Flaminia, Mayers Thomas David, Florescu Cosmin Mihail	Dependent on the module they took in the English in Medical Science and Technology I course, students will rotate through two of the following modules: Scientific Writing, Scientific Presentation, Scientific Multimedia Communication. As in the spring semester, classes will be conducted entirely in English, so students will also hone their listening skills. Upon completion of the course, students will have a foundation for sharing their knowledge and ideas with other scientists in English.	Identical to OAV0013. Lecture is conducted in English. Online(Asynchronous)			Master's Program in Medical Sciences
OATGA28	Topics in Biochemistry	1.0	1	SprAB	Mon1	4F204	Fukuda Aya, Irie Kenji, Hisatake Koji, Mizuno Tomoaki, Keino-Masu Kazuko, Okada Takuya	This course aims to equip students with understanding the molecular basis in various human functions. Upon completion of this course, students will be able to discuss molecular mechanisms involved in various human body functions. This course is conducted online. Details will be informed later. 1. DNA, RNA, Nucleic acid metabolism. Chromosomes and Genomes 2. DNA Replication, Repair, and Recombination 3. Transcription and Control of Gene Expression 4. Translational Mechanisms and Regulations 5. Metabolism I (Glucose metabolism) 6. Metabolism I (TCA cycle, electron transport system) 7. Metabolism III (Lipid metabolism) 8. The Cell Cycle 9. Intracellular signal transduction 10. Cell proliferation and cancer	(英) Identical to OBTX111. Lecture is conducted in English. Online(Asynchronous)			Master's Program in Medical Sciences
OATGC32	Introduction to Human Pathology	2.0	1	SprAB	Wed5, 6	4F204	Matsubara Daisuke, Shiba Aya, Takayashiki Norio, Matsuoka Ryota, Sanuki Masaru	This subject is aiming to understand disease entity, etiology, morphological changes of the representative human diseases at molecular and clinical levels and to study the importance of pathology findings for diagnosis and treatment of the diseases.	Lecture is conducted in English. Online(Asynchronous)			Master's Program in Medical Sciences

OATGC38	English Discussion and Presentation on Medical Sciences I	2.0	1, 2	SprAB	Fri1, 2		Irie Kenji, Mizuno Tomoaki, Suda Yasuyuki	テレビ会議システムを使った国立台湾大学、京都大学との交流授業(分子細胞生物学に関する英語による講義と討論、英語による論文紹介と討論)を通して、生命科学の知識、および英語によるサイエンスコミュニケーション能力、プレゼンテーション能力を身につける。Iでは、分子細胞生物学をトピックとする。 (1) タンパク質の立体配座、ダイナミクス、酵素学、(2) 転写、(3) 遺伝子発現における転写後調節、(4) 遺伝子発現の制御動物におけるsmall RNAを介した遺伝子サイレンシング、(5) シンゲナル伝達、(6) 細胞応答と環境要因への適応(I)―酵素、(7) 細胞の反応と環境要因への適応(II)―発生、(8) 細胞の反応と環境要因への適応(III)―細胞の移動、(9) 細胞応答と環境要因への適応(IV)―細胞死、(10) 細胞間コミュニケーションを解析するための先端技術、(11) 学生による論文発表I、(12) 学生による論文発表II	Lecture is conducted in English. face-to-face(partially online)				Master's Program in Medical Sciences
OATGC39	English Discussion and Presentation on Medical Sciences II	2.0	1, 2	FallAB	Wed1, 2		Irie Kenji, Kawaguchi Atsushi, Takahashi Satoru, Funakoshi Yuji, Mizuno Tomoaki, Suda Yasuyuki	テレビ会議システムを使った国立台湾大学、京都大学との交流授業(分子細胞生物学に関する英語による講義と討論、英語による論文紹介と討論)を通して、生命科学の知識、および英語によるサイエンスコミュニケーション能力、プレゼンテーション能力を身につける。IIでは、がん生物学をトピックとする。 (1) がん生物学、(2) RNA制御とその癌との関係、(3) 腫瘍ウイルス学、(4) テロメア生物学、(5) ゲノム不安定性のメカニズムとその癌との関連性、(6) がんのエピジェネティクス、(7) 癌はどのように成長しますか?、(8) 腫瘍の微小環境、(9) 癌細胞におけるシンゲナル伝達、(10) がんゲノミクス、(11) 癌研究における動物モデル	Identical to OAVC201. Lecture is conducted in English. face-to-face(partially online)				Master's Program in Medical Sciences
OATGC41	Prominent Discoveries in Neuroscience	1.0	1, 2	SprA	Tue/Thu 7		Yanagisawa Masashi, Sakurai Takeshi, Abe Takashi, Sakaguchi Masanori, Lazarus Michael, Sakurai Katsuyasu, Toda Hirofumi, Hirano Arisa, Honjoh Sakiko, Vogt Kaspar	The class will be held in an omnibus style, with a total of 11 sessions. The class will discuss a broad topic of molecules, cells, neural circuits, and behavior in a variety of animals, such as flies, mice, and humans. The goal of this omnibus course is to learn advanced principles in neuroscience, by reading "landmark" papers of historical significance in the broad area of neurobiology chosen by each instructor.	Lecture is conducted in English. face-to-face				Master's Program in Medical Sciences
OATGE49	Oncology	2.0	1	FallAB	Mon/Tue 4	4F204	Matsubara Daisuke, Kato Mitsuyasu, Sakurai Hideyuki, Sekine Ikuo, Sakata-Yanagimoto Mamiko, Nakajima Takahito, Hisatake Koji, Masumoto Koji, Shiba Aya, Takayashiki Norio, Kandori Shuya, Kato Kosuke, KIMURA KENICHI, Funakoshi Yuji, Watanabe Yukihide	This subject is aiming to understand disease entity, etiology, and the progression mechanism of malignant tumor at the molecular level. The topics of the latest tumor research (basic) and diagnostic treatment (clinical) are also covered while aiming at acquiring basic knowledge.	Lecture is conducted in English. Online(Asynchronous)				Master's Program in Medical Sciences
OATGE52	Genome Medicine	2.0	1, 2	FallAB	Tue5, 6	4F204	Noguchi Emiko, Sekine Ikuo, Takekoshi Kazuhiro, Homma Masato, Muratani Masafumi, Morikawa Kazuya, Fukushima Hiroko, Miyadera Hiroko, Shiba Aya	The aim of this course is to learn the basics of genome research and its application to medicine. Students will learn issues related to genome research and the clinical application of genomic information in diagnosing and treating diseases.	Lecture is conducted in English. Online(Asynchronous)				Master's Program in Medical Sciences
OATGE58	Critical Path Research Management	2.0	1	FallAB	Mon6, 7	4F204	Hashimoto Koichi, Muratani Masafumi, Machino Takeshi, Yamada Takeshi, Marushima Aiki	This course aims to equip students with an understanding of the process of critical path research and translational research, using to translate the finding in basic research more quickly and efficiently into medical practice. 1. Students will be able to explain the process of medical drug and device development. 2. Students will be able to explain the importance of pre-clinical and clinical studies evaluating the safety and efficacy of medical drugs and devices. 3. Students will be able to explain the social situation of medical drug and device development, and the organization and authorized people concerning drug development. 4. Students will be able to explain the importance of technology for drug and device development and intellectual property.	Identical to OAVC205. Lecture is conducted in English. Online(Asynchronous)				Master's Program in Medical Sciences

OAS0507	Introduction to Social Medicine	2.0	1	SprAB	Thu1, 2		Ichikawa Masao, Kondo Masahide, Goshō Masahiko, Tamiya Nanako, Wagatsuma Yukiko, Sasahara Shinichiro, Morita Nobuaki, Ogai Yasukazu, Sugano Yukiko, Togoobaatar Ganchimeg, Fukushige Mizuho, Hori Ai, Iwagami Masao, Takahashi Sho, Takahashi Tsukasa, Kihara Tomomi	This course aims to equip students with an understanding of the broad determinants of health – income and poverty, education, environmental factors such as housing and transport – as well as health care and genetic influences and of the importance of a multi-disciplinary approach which includes medicine, epidemiology, statistics, economics, social science and many other subjects in improving population health.	Lecture is conducted in English. Online(Asynchronous)				Master's Program in Public Health
OATHA11	Introduction to Epidemiology	1.0	1	SprAB	Tue3	4F204	Wagatsuma Yukiko	Epidemiology is the study of factors affecting the health and illness of populations, and serves as the foundation and logic of interventions made in the interest of public health and preventive medicine. The aim of this course is to learn the fundamental concepts and uses of epidemiology, and its role in formulating principles.	Lecture is conducted in English. face-to-face				Master's Program in Public Health
OATHA12	Biostatistics, Basic	1.0	1	SprAB	Wed3	4F204	Goshō Masahiko, Maruo Kazushi, Ishii Ryota	This course aims to equip students with understanding basic statistical methods and with interpreting the analysis results, and with applying them for their medical studies. Students will learn statistical test, estimate, correlation, regression, analysis of variance, multivariate analysis, survival analysis.	Lecture is conducted in English. Online(Asynchronous)				Master's Program in Public Health
OATHA13	Biostatistics in Practice	1.0	1	SprAB	Wed5, 6	4F305	Maruo Kazushi, Ishii Ryota	This course aims to teach concepts and techniques to analyze various data from biomedical studies, using R, a free software for statistical analysis.	Lecture is conducted in English.				Master's Program in Public Health
OATHA15	Seminar: Epidemiology and Biostatistics	2.0	1	Annual	Tue6		Wagatsuma Yukiko, Goshō Masahiko, Iwagami Masao	This course assists students in learning steps through the discussions over textbooks and articles in epidemiology and biostatistics. We encourage students majoring in epidemiology and biostatistics should attend the course.	Lecture is conducted in English. face-to-face(partially online)				Master's Program in Public Health
OATHA16	Critical Appraisal in Quantitative Health and Social Sciences Research	1.0	1	SprC	Fri3, 4	4F204	Togoobaatar Ganchimeg	The course will provide students with experience in critically appraising a range of research methods and familiarize them with a variety of bio-statistic approaches. Students will use a variety of frameworks to critically appraise literature from their chosen field of study and examine and discuss the implications for evidence-based practice.	Lecture is conducted in English.				Master's Program in Public Health
OATHA17	Systematic Reviews and Introduction to Meta-analysis	2.0	1	FallAB	Mon2, 3	4F305	Togoobaatar Ganchimeg	Systematic reviews and meta-analyses are useful for decision-making as well as evidence-based clinical and public health practice. This course will provide a detailed description of the systematic review process, discuss the strengths and limitations of the method, and provide step-by-step guidance on how to perform a systematic review and meta-analysis. Specific topics to be covered include: formulation of the review question, searching of literature, quality assessment of studies, data extraction, meta-analytic methods, assessment of heterogeneity and report writing. RevMan statistical software will be used to perform meta-analysis during the computer lab, along with tutorials on how to effectively use tools such as PubMed for conducting reviews.	Lecture is conducted in English.				Master's Program in Public Health
OATHE21	Lecture on Health Behavioral Science	1.0	1, 2	FallAB	Wed3	4E608	Sasahara Shinichiro, Matsuzaki Ichio, Morita Nobuaki, Oi Yuichi, Ogai Yasukazu, Doki Syotaro, Nitta Chie, Hori Daisuke, Takahashi Tsukasa	Goal: To understand the concept of health promotion and the theory and methods of health behavior change through examples from various fields of environmental stress. To be able to discuss health behavior change from various perspectives.	Lecture is conducted in English. *Face-to-face, but lecture content will also be delivered online (on-demand). Depending on the infection situation, all lectures may be changed to online.				Master's Program in Public Health
OATHE22	Health Care Policy and Management	1.0	1, 2	FallAB	Thu3	4F204	Kondo Masahide, Okubo Reiko	1 To understand basic theories of health care policy science and challenges of health systems worldwide. 2 To understand health systems and challenges in Japan. Goal: To be able to argue issues of health systems based on basic theories from the viewpoint of health policy sciences. (1) Introduction: health, health care and policy, (2) Determinants of health and policy, (3) Role of state and health system, (4) Japan's health care provision system, (5) Japan's health care financing system, (6) Practice of health policy sciences, (7) Topics in global health policy, (8) Health policy process, (9) Health planning and management, (10) Health policies beyond health care policy.	(英) OAVC206と同一 Identical to OAVC206. Lecture is conducted in English. face-to-face				Master's Program in Public Health

OATHE23	Health Service Administration	1.0	1, 2	Fall AB	Thu4	4F204	Tamiya Nanako, Sugiyama Takehiro, Iwagami Masao, Watanabe Taeko	1 To understand the policy and systems for administering health services in Japan 2 To understand the practices of health services in Japan. 3 To understand Health Services Research from the point of view of the administration of health services. Upon completion of this course, students will be able to examine the current issues on health system and its administration based on basic theories from the prism of Health Services Research.	Lecture is conducted in English. face-to-face (partially online)				Master's Program in Public Health
OATHE24	Health Economics	1.0	1, 2	Fall C	Intensive	4F204	Kondo Masahide	As a foundation of health economics, application of microeconomics, welfare economics, and new institutional economics in health care are explained. Goal: To be able to view the health system as a market for health care. To be able to appraise economic evaluations. (1) Introduction: health care, money and economic growth, (2) Microeconomics of health insurance, (3) Law of demand, (4) Theory of production, (5) Market mechanism, (6) Behaviour of health care provider, (7) Basics of welfare economics, (8) Economic evaluation of health care programme, (9) Equity: justice and fairness, (10) Overall discussion.	Lecture is conducted in English. face-to-face 1st and 2nd period				Master's Program in Public Health
OATHE25	Introduction of Health Services Research	1.0	1, 2	Spr AB	Thu4	4F305	Tamiya Nanako, Sugiyama Takehiro, Iwagami Masao, Watanabe Taeko	This course is designed to introduce basic concepts and methods used in Health Services Research. The course helps students to understand how to apply Health Services Research on several fields in health care based on the interests of the students. Upon completion of this course, students will be able to discuss current public health and welfare services through the prism of Health Services Research.	Lecture is conducted in English. face-to-face (partially online)				Master's Program in Public Health
OATHF31	Epidemiology	2.0	1, 2	Fall AB	Tue3, 4	4F305	Wagatsuma Yukiko, Iwagami Masao	The fundamental concepts and uses of epidemiology, and its role in formulating principles, are examined. The uses of information science and statistics in epidemiological and clinical researches are studied, and the role that these fields can play in EBM (Evidence-Based Medicine) are also examined. Exercises are conducted in which epidemiological methods are utilized, to promote understanding of the practice of this discipline.	Lecture is conducted in English. face-to-face				Master's Program in Public Health
OATHF32	Methods in Clinical Trials	1.0	1, 2	Fall AB	Tue7, 8	4F204	Wagatsuma Yukiko, Goshō Masahiko	Clinical trial is a comparison test of a medical treatment, versus a placebo, or the standard medical treatment for a patient's condition. Good Clinical Practice (GCP) guidelines include the standards on how clinical trials should be conducted, define the roles and responsibilities of clinical trial sponsors, clinical research investigators and monitors. The aim of this course is to learn about the outline of clinical trials and GCP.	Lecture is conducted in English. face-to-face (partially online)				Master's Program in Public Health
OATHF33	Health Promotion	1.0	1, 2	Fall AB	Tue2	4F305	Anne Tokio	This course aims to equip students with an understanding of the theories and practices of health promotion, advocacy, communication and empowerment, as well as various research evidences.	Lecture is conducted in English. Online (Synchronous)				Master's Program in Public Health
OATHF34	Topics in Environmental Health	1.0	1, 2	Spr AB	Mon4		KIM Satbyul Estella	Understand the basics of environmental epidemiology and acquire knowledge of environmental health issues such as the health effects of climate change.	英語で授業 Lecture is conducted in English. Online (Synchronous)				Master's Program in Public Health
OATHF36	Mental Health	1.0	1, 2	Spr AB	Mon5	4F305	Morita Nobuaki, Ogai Yasukazu, Nitta Chie	This course aims to equip students with an understanding of basic concepts, methods and social systems to assess and support persons with mental health problems. ・ Mechanisms and assessment of stress ・ Psychological development and crisis ・ Mental health care ・ Actual status of persons with mental disorders and support systems for them	Lecture is conducted in English. face-to-face				Master's Program in Public Health
OATHF38	Occupational and Environmental Health	1.0	1	Spr AB	Wed4		Hori Ai, Sasahara Shinichiro, Doki Syotaro, Hori Daisuke, Takahashi Tsukasa, 貴志孝洋	This course aims to equip students with an understanding of occupational and environmental health.	Lecture is conducted in English. Online (partially face-to-face)				Master's Program in Public Health
OATAY01	Social Issues and Education Policies	1.0	1, 2	SprC, Sum Vac	by appointment		古田 雄一, Komatsu Nahatame Shingo, Katsuta Hikaru, Karaki Kiyoshi, TOKUNAGA TOMOKO	地球規模課題の解決に向けての社会的な課題を検討するために必要な教育政策に関する基盤的事項について理解する。特に、現代社会における教育の役割及び教育政策の枠組みについて学ぶとともに、社会課題を解決するための教育政策と実践の具体的事例を知る。	Lecture is conducted in English. Online (Asynchronous) 世界展開力事業 CAMPUS-Asia6の参加学生のみを受講対象とする。英語で授業。	△	Authorized students only	Master's Program in Education	
OATAY02	The State of Global Issues	1.0	1, 2	SprC, Sum Vac	by appointment		Yamamoto Yoko, Tanaka Maria, Kokubu Mari, Umetsu Shizuko, Tsujimura Maki, Hirota Mitsuru, uchida tarou, Nakamura Junji	Students look at global issues from various perspectives through this course. First, based on the Sustainable Development Goals (SDGs), we grasp what global issues are and share a basic perspective. Then, from the perspectives of pedagogy, life science, and material science, in particular, we will consider various issues arising among humans, society, and nations, issues related with water, eco-system and disaster prevention, and issues that require new scientific and technological development. -Program in Education: issues arising among humans, society, and nations; -Program in Environmental Sciences: issues related with water, eco-system and disaster prevention; -Program in Materials Innovation: issues that require new scientific and technological development	Lecture is conducted in English. Online (Asynchronous) 世界展開力事業 CAMPUS-Asia6の参加学生のみを受講対象とする。英語で授業。	△	Authorized students only	Master's Program in Education	

OATAL22	Education in Japan: Principles Policies and Practice	1.0	1, 2	SprAB	Mon4	8C425	菊地 かおり, Umetsu Shizuko, Fujita Teruyuki, Shimizu Yoshinori, Tanaka Masahiro, TOKUNAGA TOMOKO, Tasthanbekova Kuanysh, Yamamoto Yoko, 京免 徹雄, 川上 若奈	現代日本の教育をめぐる論点を政策、制度、実践といった多角的な視点から理解し、またその課題について十分な知識をもとに論じることができるようになることを目標とする。授業では、日本の教育をめぐるさまざまなテーマを取り上げ、その原理、政策、実践を概説する。具体的には、教育制度、学校経営、数学教育、理科教育、社会科教育、言語教育政策、道德教育、特別支援教育、高等教育をテーマとし、近年の改革動向とその課題を提示する。授業の内容をもとに討論を行い、論点についての理解を深める。なお、主として英語で授業を行う。	Lecture is conducted in English.			Master's Program in Education
OATAL23	Frontier of Educational Research	1.0	1, 2	FallAB	Mon3	8C425	Umetsu Shizuko, 古田 雄一, Fujita Teruyuki, Endo Yusuke, 菊地 かおり, 川上 若奈, Katsuta Hikaru, Komatsu	The course will provide a discussion of trends and frontiers in educational research. Particular attention will be given to international trends in commentary and discussion. Presentation of assignments and collaborative learning will also be conducted. Topics include an examination of internationally used pedagogical concepts, lesson study, sociological research, educational policies of international organizations and other countries, international comparison of school management and career education, reporting on the state of Japanese education abroad, and analysis of educational practices, in order to improve students' knowledge and research skills.	Language of instruction: English (with supplementary explanations in Japanese) This class will be taught in English, but Japanese-language explanations will be added according to the needs and desires of the students. For this reason, it is recommended that Japanese speakers take the class as well as English speakers. Students who wish to present their research results overseas are encouraged to take this course. In addition to students in the International Education SP, students in the Fundamentals of Education SP, Next Generation School Education SP, and Doctoral Program are also welcome to take this course. Lecture is conducted in English.			Master's Program in Education
OA00202	Presentations for General Audiences	1.0	1 - 5	SprC	Intensive	2Z110	Wood Matthew Christopher	This course provides an overview of basic techniques for public speaking and presentations in English. Students are then given ample opportunity to practice these techniques in front of the class.	This course is limited to 30 people. If there are more than 30 people at the course registration deadline, a lottery will be held, however priority will be given to students enrolled in the Certificate Program in Science Communication. Lecture is conducted in English. 7/10 7/22 face-to-face			Master's Program in Biology
OATQ004	Anti-Doping	1.0	1	FallB	Intensive		Watanabe Koichi	The development of anti-doping (AD) program in sports all over the world, AD program and Global sport, Sport system, the Code and roles and responsibilities of athletes are introduced. Also the importance of integrity in sport, values-based education, fairness in sport will be discussed.	Lecture is conducted in English. 12/10-12 face-to-face (partially online) Details will be announced by the instructor	△	It depends on decision of the class instructor	Master's Program in Sport and Olympic Studies
OATQ006	Sport and Diversity	1.0	1	SprB	Intensive		Shimizu Satoshi, Sato Takahiro	Through this course, the students will learn about problems that we have been facing regarding sports and diversity and discuss about future inclusive society through 2 different topics. First topic is about sport and gender issues such as women's participation in sports, women's position and leadership in sports organizations, LGBT issues, etc. The second topic is about sport and disabilities. The students will learn about the Paralympic Games and other international competitive sports events as well as learning about various disabilities and their characteristics through some examples.	Lecture is conducted in English. 5/30-31, 6/13 face-to-face (partially online) GS1301	△	It depends on decision of the class instructor	Master's Program in Sport and Olympic Studies

OATQ009	Cross-Cultural Communication	1.0	1	FallAB	Fri5		Rakwal Randeep	In this course, students will learn the basics of cross-cultural communication in respect to the globalized university, and the future working environment they will face. Irrespective of your backgrounds, past affiliations and disciplines, the need will be to have good communication with people having diverse perspectives and personalities, and which is key for building relationships and success, and future careers. In other words, to be able to develop an "international mindset". Expert Guest Speakers as expert communicators from a highly diverse career path and with substantial practical backgrounds and experience (across countries) will be providing highly interactive workshops. 5th Cross Cultural-Communication Batch students (Oct. 2024 enroll) : Register Fall AB	Lecture is conducted in English. Face-to-face GS1302			Master's Program in Sport and Olympic Studies
OATQ010	Research Project Management	2.0	1	FallAB	Fri1,2		Rakwal Randeep	In this course, students will learn about management of their research projects. Focusing on the planning (original idea to research topic to HOT TOPIC to RESEARCH DESIGN), outline (TABLE OF CONTENTS) construction, and details therein in line with the stated aims and objectives of the project. Basics of research to practical steps to manage the research will be provided. The course dwells on the reason to do research and the interests that lead to the research, starting with the HOT TOPIC.	Lecture is conducted in English. Face-to-face			Master's Program in Sport and Olympic Studies
OATQ209	Olympism and Legacy	1.0	1	FallAB	Thu3		Fukasawa Koyo	In this course, we will learn about the significance of Olympism and Olympic Legacy, consider the ideal way of legacy that fits the situation in the future countries and regions, and reflect Olympism by contemplating future Olympic Legacy. Will aim to develop insight into legacy through them. After confirming the essentials of Olympism, we will take the opportunity of the Olympic Legacy to be mentioned and the details of its introduction. Based on these, we will investigate the actual sports mega event, contemplate actions that reflect the legacy philosophy, and give presentations on them.	Lecture is conducted in English. Face-to-face			Master's Program in Sport and Olympic Studies
OATQ215	Elite Sport Coaching	1.0	2	FallAB	Intensive		Sengoku Yasuo	In this course, we will learn and practice the theory and methodology about coaching and training for elite athletes.	Lecture is conducted in English. Face-to-face GS1302			Master's Program in Sport and Olympic Studies
OATW125	Biological and Life Informatics	2.0	1, 2	SprAB	Mon3, 4	7A210	Maeshiro Tetsuya	A course designed to teach informatic aspects of life. Measurement and modelling, data storage, analysis and representation of biological phenomena are discussed, focusing on genetic information, information processing in living organisms, brain activity and physiological signals. Specifically, bioinformatics methods to treat biological information, systems biology approach to model living organisms, physiological signal processing, auditory system and its modeling, and media art with physiological information are explained. Informatic principles and approaches in modern biology will also be discussed with related biological processes.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for media science: Teacher Training Course Open in even number academic years. Lecture is conducted in English. Face-to-face See Course Number OATW115 for Japanese Syllabus			Master's Program in Informatics
OATW126	Kansei and Cognitive Information	2.0	1, 2	SprAB	Tue5, 6	7A205	Morita Hiromi, Lee Seung Hee, 飯野 なみ	This course examines human kansei and cognitive activities as a prerequisite for studying media science. The course consists of lectures on: (1) Basics and application of computational modelling and knowledge representation of human cognition, in particular, of rational and analytic processes, (2) Psychological methodology and results of object recognition and movement learning related to interface design, and, (3) The relation of kansei information to creative activity and their evaluation criteria. Application of such kansei, cognitive, and biokinematic information to design inspiration and product development will also be discussed.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Media Science Open in even number academic years. Lecture is conducted in English. Face-to-face (partially online) See Course Number OATW116 for Japanese Syllabus			Master's Program in Informatics
OATW141	Analysis of Knowledge and Information	2.0	1, 2	SprAB	Fri1,2	7A210	Yokoyama Mikiko, Matsubara Masaki, Yoshikane Fuyuki	This course introduces the concepts of knowledge and their formation and acquisition methods. The initial units discuss the concept of knowledge. After having seen the definition of knowledge as justified true belief and its criticism (the Gettier problem etc.), we argue about the sharing of knowledge in light of theories of meaning from the viewpoint of relativism and its criticism. The subsequent units introduce three ways of thinking about knowledge formation from the viewpoint of embodied cognition and discuss them in light of recent research trends. The last units introduce methods of knowledge representation and acquisition based on informetric models, focusing on the interrelations between knowledge, information and data.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Information Interaction: Teacher Training Course No duplicated entry with OATW13A Open in even number academic years. Lecture is conducted in English. Face-to-face (partially online). Online (Asynchronous) See Course Number OATW131 for Japanese Syllabus			Master's Program in Informatics

OATW143	Recommendation Systems	2.0	1, 2	Fall/AB	Fri/1, 2		Tsuji Keita, Matsumura Atsushi	Various aspects of recommender systems such as methods, implementation, evaluation and problems will be introduced. More specifically, representative recommendation methods such as user-based collaborative filtering, item-based collaborative filtering (association rules), content-based filtering (which represents contents of items as various numericals), knowledge-based recommendation (which requires users to show their interests) and hybrid recommendation based on machine learning using various information will be introduced. How to measure appropriateness of recommendation i.e. notion of precision, recall, novelty or serendipity for users will also be shown.	Classes are offered in Japanese in odd-years and in English in even-years, respectively; Special subjects for Information Interaction; Teacher Training Course Open in even number academic years. Lecture is conducted in English. Online (Asynchronous) See Course Number OATW133 for			Master's Program in Informatics
OATW144	Human Computer Interaction	2.0	1, 2	Fall/AB	Tue/3, 4	7A210	Mikawa Masahiko, Inoue Tomoo	This course provides lectures on Human-Computer Interaction (HCI). Basics of HCI for realizing natural interaction, and brief overview of design, implementation, and evaluation methodologies for building interactive systems are explained. Technological elements for intelligent systems such as user interface (UI), robotics, computer vision and recognition are in the scope. The course also touches on recent research advancement in social computing for supporting and augmenting human communication and information sharing.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Information Interaction; Teacher Training Course No duplicated entry with OATW138 Open in even number academic years. Lecture is conducted in English. face-to-face See Course Number OATW134 for Japanese Syllabus			Master's Program in Informatics
OATW145	Communication Behavior	2.0	1, 2	Spr/AB	Tue/5, 6	7A208	Toshimori Atsushi, Ye Shaoyu	This course discusses interpersonal communication via quantitative survey approach. Students are expected to learn how various media usage influences interpersonal communication and selective behaviors. This course will introduce the history and development of various media, namely: (1) from mass media to social media, and (2) their effects on users' identity formation, (3) language use, (4) perception of communication media and interpersonal relationships especially social support networks. Through this course, students will be able to acquire basic skills to understand existing body of research studies conducted both within and outside of Japan.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Information Interaction; Teacher Training Course Open in even number academic years. Lecture is conducted in English. face-to-face See Course Number OATW135 for Japanese Syllabus			Master's Program in Informatics
OATW147	Digital Humanities	2.0	1, 2	Fall/AB	Thu/1, 2	7A210	Uda Norihiko, Waki Toshihito	Digital Humanities is aimed at obtaining knowledge that could not be obtained by traditional methods by applying digital technology to human literary materials. The course provides lectures on text encoding for the resources of the text, iconography analysis to consider the culture and society of the time created from a drawing, and document analysis to apply natural language processing techniques to historical documents. The course explains a method of mapping descriptions of old maps and old documents to geographic information systems. The course introduces the International Image Interoperability Framework (IIIF) which is the standard for easily distributing image files.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for information Interaction No duplicated entry with OATW130 Open in even number academic years. Lecture is conducted in English. face-to-face See Course Number OATW137 for Japanese Syllabus			Master's Program in Informatics
OATW163	Library Management	2.0	1, 2	Spr/AB	Fri/3, 4		Ikeuchi Atsushi, Ohba Ichiro, Koizumi Masanori	This course enables students to develop an understanding of the different approaches to effective organizational/operational management, as well as administrations, with special emphasis on public libraries. This course examines various management theories, principles, concepts, techniques in business administration. Challenges and limitations of applying such management theories for running the library as a nonprofit organization will also be addressed. In addition, students will also develop a basic understanding of the following: (1) social role, (2) policy, (3) legal system, (4) human resource management, (5) service planning and evaluation, (6) budget acquisition and financing, (7) public relations, (8) public-private partnerships, and (9) collaborations and partnerships with external partners for developing programs catered for early childhood education.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Library and Information Science No duplicated entry with OATW150 Open in even number academic years. Lecture is conducted in English. Online (Asynchronous) See Course Number OATW153 for Japanese Syllabus			Master's Program in Informatics
OATW164	Scholarly Communication and Infrastructure	2.0	1, 2	Fall/AB	Mon/3, 4	7A210	Matsubayashi Mamiko, Nishikawa Kai	In this lecture, students learn the overview of scholarly communication and scholarly publishing system which supports the communication, and understand the current situation and some challenges of scholarly communication. In former part of the lecture, students learn the relationship between research practices and scholarly communication, and the new wave of scholarly communication (e.g. the change of scholarly journal, open access, open science.) In the latter part of the lecture, students learn scholarly publishing system which supports scholarly communication, such as business model of scholarly journals, research support services by academic libraries, and scholarly information network.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Library and Information Science No duplicated entry with OATW150 Open in even number academic years. Lecture is conducted in English. face-to-face See Course Number OATW154 for Japanese Syllabus			Master's Program in Informatics

OATW167	Information Organization	2.0	1, 2	SprAB	Thu5, 6	7A210	Takaku Masao, Kato Makoto, Nagamori Mitsuharu	In this lecture, students will learn about organizing methodologies to utilize various information resources effectively. They learn about information resource analysis and its metadata description, classification, and identification methods, targeting information resources mainly provided and shared via a network such as WWW or digital library. This lecture also discusses practical metadata descriptions such as Linked Open Data, schema definitions, and ontologies using RDF Scheme, OWL, SKOS, etc., for description. In addition, as methods of record identification for electronic information resources, the course explains the identification method using appropriate identifiers, data cleaning, and automatic identification methods.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Library and Information Science; Teacher Training Course No duplicated entry with OATW156 Open in even number academic years. Lecture is conducted in English. face-to-face (partially online) See Course Number OATW157 for Japanese Syllabus			Master's Program in Informatics
OATW168	Media Education	2.0	1, 2	FallAB	Tue1, 2		Suzuki Kanae, Ono Haruki, Tsuji Keita	This lecture will comprehensively learn the following topics and provide models and practice related to these topics: school and public libraries in a lifelong-learning society, what learning environments from analog to digital including networks should be, and media usage, application and education in these environments. Specifically, this course will enable students' understanding of the concept of "media literacy," which requires the ability to collect, judge, create and communicate information effectively. It also focuses on the importance of media-based education and maintenance of learning environments, and the current state and future issues and includes discussions regarding further development.	Classes are offered in English in even-years and in Japanese in odd-years, respectively; Special subjects for Library and Information Science No duplicated entry with OATW15H Open in even number academic years. Lecture is conducted in English. Online(Asynchronous) See Course Number OATW158 for Japanese Syllabus			Master's Program in Informatics
OAJME11	Pharmaceutical Physical Chemistry	1.0	1, 2	SprAB	Mon1	3Z112-1	KAWAKAMI KOHSAKU	Physical chemistry required for pharmaceutical development is explained. Subjects include solubility, crystal polymorphism, amorphous science, colloidal carriers, administration routes, and biopharmaceuticals.	Lecture is conducted in English. face-to-face			Master's Program in Engineering Sciences
OATGC41	Prominent Discoveries in Neuroscience	1.0	1, 2	SprA	Tue/Thu 7		Yanagisawa Masashi, Sakurai Takeshi, Abe Takashi, Sakaguchi Masanori, Lazarus Michael, Sakurai Katsuyasu, Toda Hirofumi, Hirano Arisa, Honjoh Sakiko, Vogt Kaspar	The class will be held in an omnibus style, with a total of 11 sessions. The class will discuss a broad topic of molecules, cells, neural circuits, and behavior in a variety of animals, such as flies, mice, and humans. The goal of this omnibus course is to learn advanced principles in neuroscience, by reading "landmark" papers of historical significance in the broad area of neurobiology chosen by each instructor.	Lecture is conducted in English. face-to-face			Master's Program in Medical Sciences
OAH0207	Computational Science Literacy	1.0	1, 2	Spr Vac	Intensive	3B406	Kusaka Hiroyuki, Nakatsukasa Takashi, Harada ryuhei, YOSHIKAWA Kohji, Tong Xiao-Min, Ishizuka Naruhito, Kameda Yoshinari, Takahashi Daisuke, Bou Savong, Doan Quang Van, Yajima Hidenobu	Computational science, which opens up unexplored areas of science through numerical analysis using ultra-high performance computers, is an important and cutting-edge research tool that ranks alongside experiment and theory, and its importance is increasing. In order to explore the future of science, it is essential to acquire basic knowledge and methodology of computational science, which can be called "reading and writing" or literacy. This lecture is an introduction to computational science, which is the literacy for the future of science. Faculty members of the Research Center for Computational Science will give an overview of research in computational science in various fields, and aim to give a broad perspective on various scientific fields from computational science in a cross-disciplinary and comprehensive manner. The latest computer technologies supporting computational science will also be outlined.	Lecture is conducted in English. face-to-face (partially online)			Degree Programs in Systems and Information Engineering
OAH0209	High Performance Parallel Computing Technology for Computational Sciences	1.0	1, 2	Spr Vac	Intensive		Boku Taisuke, Tatebe Osamu, Takahashi Daisuke, Nukada Akira, Tadano Hiroto, Fujita Norihisa, Kobayashi Ryohei	High performance computing is the basic technology needed to support today's large scale scientific simulations. It covers a wide variety of issues on hardware and software for high-end computing such as high speed computation, high speed networking, large scale memory and disk storage, high speed numerical algorithms, programming schemes and the system softwares to support them. Current advanced supercomputer systems are based on large scale parallel processing systems. Nowadays, even application users are required to understand these technologies to a certain level for their effective utilization. In this class, we focus on the basic technology of high-end computing systems, programming, algorithms and performance tuning for application users who aim to use these systems for their practical simulation and computing.	Lecture is conducted in English. face-to-face			Degree Programs in Systems and Information Engineering

0A00101	Applied Ethics	1.0	1 - 5	Fall B	Intensive	C103 Nat. Sci.	Matsui Kenichi, Ohgami Akira	Situational ethical principles such as research ethics for research laboratories and medical ethics for hospitals do not always correspond well each other in giving us a clear direction in pursuing the best quality of life in modern society. Rather than taking individual principles for granted, this course attempts to understand how we may disentangle somewhat conflicting ethical principles. In so doing, this course provides unique perspectives to ethical principles by incorporating cultural and historical contexts of human rights and environmental concerns.	Lecture is conducted in English. face-to-face				Master's Program in Environmental Sciences
0A00102	Introduction to Environmental Ethics	1.0	1 - 5	Fall B	Intensive	C103 Nat. Sci.	Matsui Kenichi, Watanabe Kazuo	Environmental ethics helps us not only think about interpersonal relations in society but also the ones between people and the natural environment. This expansive scope helps us see our daily activities, ethical or not, within ecosystems or biotic communities. This course invites students to think about a need to establish a universally applicable ethical principle/law for global citizens to tackle with environmental problems. To answer this question, it introduces many environmental ethical ideas related to biodiversity, bioethics, animal rights/welfare, and household activities.	Lecture is conducted in English. face-to-face				Master's Program in Environmental Sciences
0A00202	Presentations for General Audiences	1.0	1 - 5	Spr C	Intensive	2Z110	Wood Matthew Christopher	This course provides an overview of basic techniques for public speaking and presentations in English. Students are then given ample opportunity to practice these techniques in front of the class.	This course is limited to 30 people. If there are more than 30 people at the course registration deadline, a lottery will be held, however priority will be given to students enrolled in the Certificate Program in Science Communication. Lecture is conducted in English. 7/10 7/22 face-to-face				Master's Program in Biology
0ATGC38	English Discussion and Presentation on Medical Sciences I	2.0	1, 2	Spr AB	Fri 1, 2		Irie Kenji, Mizuno Tomoaki, Suda Yasuyuki	テレビ会議システムを使った国立台湾大学、京都大学との交流授業(分子細胞生物学に関する英語による講義と討論、英語による論文紹介と討論)を通して、生命科学の知識、および英語によるサイエンスコミュニケーション能力、プレゼンテーション能力を身につける。Iでは、分子細胞生物学をトピックとする。 (1) タンパク質の立体配座、ダイナミクス、酵素学、(2) 転写、(3) 遺伝子発現における転写後調節、(4) 遺伝子発現の制御動物における small RNA を介した遺伝子サイレンシング、(5) シグナル伝達、(6) 細胞応答と環境要因への適応(I)---酸素、(7) 細胞の反応と環境要因への適応(II)---発生、(8) 細胞の反応と環境要因への適応(III)---細胞の移動、(9) 細胞応答と環境要因への適応(IV)---細胞死、(10) 細胞間コミュニケーションを解析するための先端技術、(11) 学生による論文発表I、(12) 学生による論文発表II	Lecture is conducted in English. face-to-face (partially online)				Master's Program in Medical Sciences
0ATGC39	English Discussion and Presentation on Medical Sciences II	2.0	1, 2	Fall AB	Wed 1, 2		Irie Kenji, Kawaguchi Atsushi, Takahashi Satoru, Funakoshi Yuji, Mizuno Tomoaki, Suda Yasuyuki	テレビ会議システムを使った国立台湾大学、京都大学との交流授業(分子細胞生物学に関する英語による講義と討論、英語による論文紹介と討論)を通して、生命科学の知識、および英語によるサイエンスコミュニケーション能力、プレゼンテーション能力を身につける。IIでは、がん生物学をトピックとする。 (1) がん生物学、(2) RNA制御とその癌との関係、(3) 腫瘍ウイルス学、(4) テロメア生物学、(5) ゲノム不安定性のメカニズムとその癌との関連性、(6) がんのエピジェネティクス、(7) 癌はどのように成長しますか?、(8) 腫瘍の微小環境、(9) 癌細胞におけるシグナル伝達、(10) がんゲノミクス、(11) 癌研究における動物モデル	Identical to 0AVC201. Lecture is conducted in English. face-to-face (partially online)				Master's Program in Medical Sciences
0ATGE58	Critical Path Research Management	2.0	1	Fall AB	Mon 6, 7	4F204	Hashimoto Koichi, Muratani Masafumi, Machino Takeshi, Yamada Takeshi, Marushima Aiki	"This course aims to equip students with an understanding of the process of critical path research and translational research, using to translate the finding in basic research more quickly and efficiently into medical practice. 1. Students will be able to explain the process of medical drug and device development. 2. Students will be able to explain the importance of pre-clinical and clinical studies evaluating the safety and efficacy of medical drugs and devices. 3. Students will be able to explain the social situation of medical drug and device development, and the organization and authorized people concerning drug development. 4. Students will be able to explain the importance of technology for drug and device development and intellectual property."	Identical to 0AVC205. Lecture is conducted in English. Online (Asynchronous)				Master's Program in Medical Sciences

OATGC41	Prominent Discoveries in Neuroscience	1.0	1, 2	SprA	Tue/Thu 7	Yanagisawa Masashi, Sakurai Takashi, Abe Takashi, Sakaguchi Masanori, Lazarus Michael, Sakurai Katsuyasu, Toda Hirofumi, Hirano Arisa, Honjoh Sakiko, Vogt Kaspar	The class will be held in an omnibus style, with a total of 11 sessions. The class will discuss a broad topic of molecules, cells, neural circuits, and behavior in a variety of animals, such as flies, mice, and humans. The goal of this omnibus course is to learn advanced principles in neuroscience, by reading "landmark" papers of historical significance in the broad area of neurobiology chosen by each instructor.	Lecture is conducted in English, face-to-face			Master's Program in Medical Sciences
OAJME04	Biomaterials	1.0	1, 2	FallAB	Mon2	Taguchi Tetsushi, Chen Guoping	The lecture introduces the basis of the synthesis and characteristics of metal, ceramics, polymers, and biological body-derived biomedical materials that have direct contact with the living body tissue. These all have a mutual influence on biomedical materials and cells, a biocompatibility and bioabsorbable property, surface-modification, adhesive agent, a drug delivery system, tissue replacement and shakeout, and system engineering. These topics will all be reviewed.	Lecture is conducted in English, Online(Synchronous)			Master's Program in Engineering Sciences
OAL5409	Data Engineering I	2.0	1, 2	FallAB	Tue3, 4	3Z0110 Amagasa Toshiyuki, Shiokawa Hiroaki, Bou Savong	In this course, the students will learn the basics and recent topics in data engineering. First, the students will review the fundamental technology of database systems, followed by learning major techniques in data mining and graph processing and its related topics. The students will understand basic approaches of data engineering in the area of database and data mining, as well as recent trends in the area, i.e., graph processing. The lecture is given in English.	Lecture is conducted in English, face-to-face (partially online) Conducted in a combination of online (asynchronous) and face-to-face			Degree Programs in Systems and Information Engineering