

Course List for Undergraduate program (Courses conducted in English)

as of 14 June 2024

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

Course Number	Course Name	Instru- ctional Type	Credi- ts	stand- ard regis- trati- on year	Term	Meeting Days, Per- iod etc.	Classro- om	Instructor	Course Overview	Remarks	Credited Auditors	Application conditions	Subjects Areas or Course offering Schools/Colleges
9901061	Museum Exhibition I	1	1.0	2, 3	SprAB	Fri5		MCLEOD Roderick	美術館における展示の歴史、展示メディア、展示による教育活動、展示の諸形態などについて、理論的および実践的な知識や技術を獲得し、美術館の作品展示機能についての基礎的な能力を養う。	Lecture is conducted in English. Work Experience faculty. Online (Asynchronous)			Museum related subjects
AB90A31	Introduction to Phonetics	1	1.0	1	SprAB	Thu4		Kyung Hwang Hyun	This course provides an introduction to the study of human speech sounds. Various aspects of speech production and perception will be discussed, involving articulatory apparatus, phonetic transcription, and basic acoustics of speech.	Lecture is conducted in English. Online (Synchronous)			College of Humanities
AB90A51	Introduction to Phonetics-b	1	1.0	1	Fall AB	Thu4		Kyung Hwang Hyun	This course focuses on the acoustic nature of speech, with special attention to the source-filter theory and the relation between airflow and turbulence.	Lecture is conducted in English. Online (Synchronous)			College of Humanities
AB90A61	Introduction to Phonetics-c	1	1.0	2-4	Fall C	Intensive		Kyung Hwang Hyun	Beyond segments, this course covers suprasegmentals of speech sounds and their acoustic correlates. Perceptual aspects of prosody will be also addressed.	Lecture is conducted in English. Online (Synchronous)			College of Humanities
AB91A11	Experimental Phonetics	1	1.0	2, 3	SprAB	Thu5	1C206	Kyung Hwang Hyun	This course provides training in designing and running a basic phonetic experiment, analyzing quantitative speech data and interpreting the results.	Lecture is conducted in English. face-to-face			College of Humanities
AB91A21	Experimental Linguistics	1	1.0	2, 3	Fall AB	Thu5	1C206	Kyung Hwang Hyun	This course introduces a range of experimental research across different domains in linguistics, and provide the basics of experimental approaches. Students are expected to be able to make empirical observations for theoretical generalizations.	Lecture is conducted in English. face-to-face			College of Humanities
AB91A71	Experimental Linguistics and Phonetics	1	1.0	2, 3	Fall C	Intensive		Kyung Hwang Hyun	This course provides advanced analytic skills including Praat scripting and statistical analyses. Each student will carry out a research project in experimental phonetics/linguistics.	Lecture is conducted in English. face-to-face			College of Humanities
AC50F61	Introduction to One-Planet Relational Studies in Literature and Culture	1	1.0	1, 2	SprAB	Tue3	2B207	Heselhaus, Herrad	This class introduces the basic concepts and methods of "One-Planet Relational Studies": stewardship and mindfulness, critical thinking and problem solution, agency and discourse, relational and planetary approaches to our common world.	Lecture is conducted in English. face-to-face (partially online)			College of Comparative Culture
AC61A31	Anglo-American Studies IV	1	1.0	3, 4	SprAB	Wed2	2C101	TSAI TSUNG-HAN	This seminar pays exclusive attention to Virginia Woolf's 1925 novel, Mrs Dalloway.	Lecture is conducted in English. face-to-face AC61121の単位取得者は履修できない。 シラバスは英語版を見てください			College of Comparative Culture
AC61A41	Anglo-American Studies V	1	1.0	3, 4	Fall AB	Wed2	2D306	TSAI TSUNG-HAN	This course focuses on Oscar Wilde's Lady Windermere's Fan and Arthur Miller's The Crucible.	Lecture is conducted in English. face-to-face AC61141の単位取得者は履修できない。 シラバスは英語版を見てください			College of Comparative Culture
AC61B61	Gender Studies: Special Topic	1	1.0	3, 4	SprAB	Thu1	2B208, 2B209	TSAI TSUNG-HAN	This class explores the rich representations of women from classical civilizations to the twenty-first century and considers critical issues surrounding gender and representation.	Lecture is conducted in English. face-to-face ジェンダー研究特講 (AC61221) ないし Media and Gender (BE22741) の単位取得者は履修できない。 シラバスは英語版を見てください			College of Comparative Culture
AC61C02	Seminar in Anglo-American Studies I	2	1.0	3, 4	Fall AB	Thu2	2B206	TSAI TSUNG-HAN	This course introduces students to a selection of English and American poems and various interpretative approaches to analysing their significance.	Lecture is conducted in English. face-to-face AC61042の単位取得者は履修できない。 シラバスは英語版を見てください			College of Comparative Culture
AC63J11	One-Planet Relational Studies in Literature and Culture (lecture) II	1	1.0	2-4	Fall AB	Mon5	2B206	Heselhaus, Herrad	Advanced lecture in "One-Planet Relational Studies": case study and overview. (Key words: stewardship and mindfulness, critical thinking and problem solution, agency and discourse, relational and planetary approaches.)	Open in even number academic years. Lecture is conducted in English. face-to-face			College of Comparative Culture
AC63K22	One-Planet Relational Studies in Literature and Culture (seminar) III	2	1.0	2-4	SprAB	Tue2	2B207	Heselhaus, Herrad	This class focuses on changing historical conceptualizations and discourses in global issues and crises.	Open in even number academic years. Lecture is conducted in English. face-to-face (partially online)			College of Comparative Culture
AC63K32	One-Planet Relational Studies in Literature and Culture (seminar) IV	2	1.0	2-4	Fall AB	Tue2	2B206	Heselhaus, Herrad	This class discusses practical and theoretical issues of "One-Planet Relational Studies".	Open in even number academic years. Lecture is conducted in English. face-to-face			College of Comparative Culture
BB28771	European Legal History	1	1.0	3, 4	Fall C	Wed6, by appointment	1C305	Wataru Miyasaka	This course provides students with introductory overview of European Legal History. This year I would like to focus on the ancient Roman Law, which is the basis of legal systems not only in European continent countries, but also in many countries all over the world influenced from the former countries.	The class will be held in 7th period as well. Students who have earned credits of BB21581 or BB28761 are not permitted to take this class. Open in even number academic years. Identical to BE22491. Lecture is conducted in English. face-to-face			College of Social Sciences

BB41541	Economic History	1	2.0	2 - 4	Fall IAB	Mon3.4	1C405	Takahashi Hidenao	The purpose of this lecture is to examine both the basic discussion of the history of economic development in Europe and the development of the Japanese economy from the 19th century to the present. Please acquire the attitude of examining contemporary characteristics from a historical perspective.	This class will be lectured in English. Identical to BE2241. Lecture is conducted in English. face-to-face			College of Social Sciences
BC51071	International Economics	1	2.0	1	SprAB	Wed3.4	3A202	Kurokawa Yoshinori	This course will introduce students to basic international economic theories and their applications to real world data mainly about Japan's international trade and finance. I will emphasize the usefulness of basic international economic theories in understanding international economic issues. This course does NOT require BC51061 Introductory Microeconomics or BC51081 Intro-Intermediate Macroeconomics as a prerequisite. In class, I will explain all necessary background to understand this course.	Limited to students in the School of Social and International Studies. Identical to BE21201. Lecture is conducted in English. face-to-face	△	学類の基礎科目であるので受講者が多すぎる時には受講を制限することがある	College of International Studies
BC51081	Intro-Intermediate Macroeconomics	1	2.0	2	Fall IAB	Thu1.2	3B202	Naito Hisahiro	This course covers the basic concepts in macroeconomics. Topics include the IS-LM model, aggregate demand, aggregate supply and the Phillips curve, monetary and fiscal policy, rational expectations, real business cycle models, micro foundations, and long-run economic growth.	Identical to BE21231. Lecture is conducted in English. face-to-face Only those who are able to participate in face-to-face classes are eligible.	△	学類の基礎科目であるので受講者が多すぎる時には受講を制限することがある	College of International Studies
BC51161	Media Politics	1	2.0	1 - 3	Fall IAB	Wed3.4	3A308	Kawasaki Leslie Tkach	From "traditional" media, such as newspapers and television, to new media formats including websites, blogs and social media channels, in this course, students will examine the intersection between media and politics from historical and theoretical perspectives. Special emphasis is placed on the use of the internet and "new media" by political actors for the purpose of effecting political outcomes.	Identical to BE21241. Lecture is conducted in English. face-to-face	△	学類の基礎科目であるので受講者が多すぎる時には受講を制限することがある	College of International Studies
BC51181	Statistics	1	2.0	1 - 3	Fall IAB	Tue1.2	3A409	YU ZHENGFEI	This course is a formal introduction to Statistics. No prior knowledge of probability and statistics is required as all concepts will be developed from the ground up. We will cover a range of topics including descriptive statistics, basics of probability, random variables, distribution and density functions, sampling distributions, point estimation, confidence intervals, and hypothesis testing. If time allows, a preview of the regression analysis will be provided. The details of regression analysis will be covered in Introductory Econometrics, which is a continuation of this course.	2016年度までのBC12031「統計科学」の単位を取得した者は履修不可。 Identical to BE22321. Lecture is conducted in English. face-to-face			College of International Studies
BC51191	Data Science for Social Sciences	1	2.0	1, 2	SprAB	Wed1.2	3A312	RAMDANI Fatwa	This course is Data Science for Social Sciences. This course will provide an understanding of the fundamental principles and applications of Data Science. A special focus of the course will be to illustrate the utility of Data Science in Social Science studies. Basic techniques for data obtaining, wrangling, curating, managing, processing, exploring, questioning, analysing, and communicating the result will be introduced. Ethical and reproducibility issues will also be discussed.	Lecture is conducted in English. face-to-face			College of International Studies
BC11121	International Politics	1	2.0	2 - 4	Fall IAB	Tue5.6	3A202	Ohtomo Takafumi	This course examines various theories and cases to understand the dynamics of international politics.	Identical to BE22071. Lecture is conducted in English. face-to-face			College of International Studies
BC11511	Linguistic Anthropology	1	2.0	2 - 4	SprAB	Tue1.2	3A304	Ide Risako	An introduction to linguistic anthropology, this course explores the relationship between language and culture, especially on how language reflects culture and how culture creates language. Through the lectures, required readings, group discussions, and student projects, we will learn the roles and functions of language in creating universal as well as cultural-specific worldviews.	First period only in Room 3A403 Identical to BE22501. Lecture is conducted in English. face-to-face (partially online) (former Anthropological Linguistics)			College of International Studies
BC11881	Japanese Economy	1	2.0	2 - 4	Fall IAB	Mon5.6	3A203	Kurokawa Yoshinori	The main purpose of this course is to understand basic historical facts about the Japanese Economy. We analyze those facts both empirically and theoretically and relate most Japanese issues to those in the U.S. The goal of this course for Japanese students is to explain to foreign people about the Japanese economy in English, and that for international students is to be more interested in Japan. As a prerequisite, this course requires BC51061 Introductory Microeconomics and BC51071 International Economics, or equivalent.	Identical to BE22221. Lecture is conducted in English. face-to-face	△	Depends on if there is a margin for the number of students or classrooms	College of International Studies
BC11961	Japan and the World	1	2.0	2 - 4	Fall IAB	Mon3.4	3A403	Pan Liang	This course focuses on the history of Japan's domestic politics and foreign relations from the end of the Second World War till the end of 1970s.	Open in even number academic years. Identical to BE22021. Lecture is conducted in English.			College of International Studies
BC16311	Politics and International Relations in South Asia	1	2.0	2 - 4	SprAB	Fri1.2	3A416	CHOTANI MAI VINDU	Politics and International Relations in South Asia is designed to introduce students to the history, politics and international relations of South Asia. The course pays the greatest attention to the region's largest country, India, but will also incorporate the experiences of Pakistan, Sri Lanka, Bangladesh, and Nepal in substantial measure.	Open in even number academic years. Lecture is conducted in English. face-to-face No background in South Asia is necessary to take this course, but previous participation in IR foundation courses is recommended.			College of International Studies

BC12061	Econometrics	1	2.0	2-4	SprAB	Tue1,2	3A305	YU ZHENGFEI	This course is an introduction to econometrics. We will begin with the linear regression model and its estimation and inference. Then we will cover linear models with endogeneity, linear panel models, limited dependent variables, and models used in program evaluations. This course requires Introductory Statistics.	Identical to BE22231. Lecture is conducted in English. face-to-face			College of International Studies
BC12121	Contemporary Issues in Developing Countries	1	2.0	2-4	Fall IAB	Fri4,5	3K102	Nakano Yuko	The goal of this course is to understand contemporary and important economic and social issues in developing countries. We also analyze statistical data related to the topics.	Identical to BB41401 and BE22871. Lecture is conducted in English.			College of International Studies
BC12221	Social Development	1	2.0	2-4	Fall IAB	Wed1,2	3A312	Matsushima Midori	People's well-being cannot be achieved by economic growth alone, and the important role of social development has become widely recognised in international development practice. This course is offered for students firstly to increase understandings of why and how social development became a main stream of development by learning historical background and development theory. Secondly, we focus on some key concept and practice including human development, capability approach, participatory approach, and social capital. In the latter half of the course, we learn social development in relation to important development topics namely, poverty, human capital, labour and employment, micro finance, social protection, and human rights and human security. With some examples of on-going development programmes, students will discuss significance and applications of social development in practical field, and how we can improve development programmes towards sustainable development.	Open in even number academic years. Identical to BE22451. Lecture is conducted in English. face-to-face Course in 2022. Biennial Course (offered in odd years)			College of International Studies
BC12291	Social Anthropology	1	2.0	2-4	Fall IIC	Intensive	3B302	Yamada Toru	In this course, you will learn the basic concepts and ideas of anthropology. Anthropology involves the systematic, comparative study of groups of people from all over the world and the knowledge those groups have that defines their cultures. We will draw on what we learn about other cultures to learn something about our own culture(s) and about ourselves.	Lecture is conducted in English. face-to-face (partially online) 原則対面実施だが、オンライン実施の日程もあり。授業実施についてはmanabaにて連絡			College of International Studies
BC12951	Introduction to Geographic Information Systems	1	2.0	2-4	Fall IAB	Thu3,4	3A305	RAMDANI Fatwa	This course provides basic understanding of the fundamental concepts, principles, functions, and applications of Geographic Information Systems (GIS) in the domain of social science. A special focus of the course will be to illustrate the utility of GIS in applied studies such as data acquiring, inputting, storing, managing, analysing, and mapping geospatial data. We will cover widely used database such as Landsat-8 and Sentinel-2, nighttime imagery, global impervious surface area, and world land cover. We will learn using free and open-source GIS software like QGIS and GeoDa for case-based focus on real-world applications. There is no prerequisites course to take this course, however basic understanding of statistic is an advantage. This course will be conducted in English.	Lecture is conducted in English. face-to-face			College of International Studies
EB09113	Seminar in Biology I: Field Guide to Snow Land Animals in Winter	3	1.0	1, 2	Spr Vac	Intensive	Sugadaira	Yahata Kensuke, Sato Yukie, 藤田 麻里	A five-day residential course held at the Sugadaira Research Station. The aim of this course, through animal tracking, bird watching, collecting insects, is to provide genuine experience of the qualities of nature and wild animals in snowy areas.	Lecture is conducted in English. 2/24-2/28 Students must be enrolled in Gakkensai.. face-to-face EB09103 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB09213	Seminar in Biology II: Guide to Seashore Animals and Plants	3	1.0	1, 2	Spr Vac	Intensive	Shimoda	Yaguchi Shunsuke, Nakano Hiroaki, Agostini Sylvain, Leonard Georges	In this course at Shimoda Marine Research Center, students will survey marine animals on a rocky reef, and conduct field collections of planktonic and benthic animals. This will be followed by lectures and laboratory observations, providing a deeper understanding of marine life.	Lecture is conducted in English. 3/10-3/14 Students must be enrolled in Gakkensai.. face-to-face EB09203 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB11851	Introduction to Plant Physiology	1	1.0	1, 2	SprAB	Thu4	2B208, 2B209	Iwai Hiroaki, Oguchi Taichi, Ono Michiyuki, Kikuchi Akira, Suzaki Takuya, Suzaki Iwane, Miura Kenji, Watanabe Kazuo	This lecture describes the fundamentals of plant physiology, focusing on major physiological responses and their controlling factors in plants that cause various physiological responses by various environmental stimulus.	This lecture is planned as face-to-face, but it may be changed to online depending on the situation. See Syllabus or recent information from manaba for detail. Lecture is conducted in English. face-to-face	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB12012	Technical English AI	2	1.0	2	SprAB	Wed4	2B206, 2B207, 2B411, 2C101, 2C107	Wood Matthew, Christopher, Okamoto naoki, CascoRobles Martin, Miguel, Nakayama Takuro, Nosaki Shohei	This course encourages students to take a more active and assertive approach to their studies and provides an opportunity to develop practical skills in information searching and oral presentation.	for Students in Biology. See Syllabus or recent information from manaba for detail. Lecture is conducted in English. face-to-face	△	CBS students only.	College of Biological Sciences

EB13114	Science Communication I	4	1.0	2	Fall	AB	Thu2	2B208, 2B209	Wood Matthew Christopher	To communicate science effectively it is important to have a clear understanding, in broad fundamental terms, of what science actually is, and how it is conducted. In this course we will confirm our own understanding of science, its strengths, and its limitations. We will then look at how science is presented to the general public, specifically how it is portrayed in the news and in other fictional media, and consider how this may affect public understanding and attitudes toward science. Students will be encouraged to develop their own ideas and opinions toward these complex topics.	For Students in Biology. See Syllabus or recent information from manaba for detail. Lecture is conducted in English. face-to-face	△	OBS students only.	College of Biological Sciences
EB13124	Science Communication II	4	1.0	3	Spr	AB	Thu2	2B208, 2B209	Wood Matthew Christopher	This course will explore informal learning environments and their importance for science communication. We will discuss the merits and pitfalls of some new media formats for communicators and researchers to share their science.	For Students in Biology. See Syllabus or recent information from manaba for detail. Lecture is conducted in English. face-to-face	△	OBS students only.	College of Biological Sciences
EB50171	Animal Systematics II	1	1.0	2, 3	Fall	C	Wed4, 5	2B208, 2B209	Wada Hiroshi	Students will learn the methodology to understand the diversity of multicellular animals from the viewpoint of evolutionary biology. In particular, learn in detail the origin of the metazoans, the evolution of the diploblasts, mollusks, echinoderms, and chordates, and learn how to reconstruct the evolutionary history by comparing modern animals.	See Syllabus or recent information from manaba for detail. Open in even number academic years. Lecture is conducted in English. Biodiversity course. GloBE Course. face-to-face Who has credit of EB50121 or EB50131 is ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB50211	Plant Taxonomy I	1	1.0	2, 3	Spr	AB	Fri2	2B508	Ishida Ken-ichiro	Diversity, classification, morphology, ultrastructure, life history and phylogeny of non-green algae – glaucophytes, rhodophytes, cryptophytes, chlorarachniophytes, euglenophytes, dinoflagellates, haptophytes, and stramenopiles.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Biodiversity course. GloBE Course. Expected to attend all I, II, III through a year.. face-to-face EB20211 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB50221	Plant Taxonomy II	1	1.0	2, 3	Fall	AB	Fri2	2B508	Nakayama Takeshi	Diversity, classification, morphology, ultrastructure, life history and phylogeny of green plants, including chlorophytes and land plants.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Biodiversity course. Expected to attend all I, II, III through a year.. face-to-face EG30221 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB59101	Protistology	1	1.0	2 - 4	Fall	C	Fri2, 3	2B412	Ishida Ken-ichiro, Kuwayama Hidekazu, Degawa Yosuke, Nakayama Takeshi, Yabuki Akinori	Topics in protistology. Cellular evolution, cell biology, sex and reproduction, phylogeny and ecology of protists will be the subjects of this lecture.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Biodiversity course. face-to-face EG39101 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB59151	Vertebrate Evolution	1	1.0	2 - 4	Fall	AB	Mon3	2B208, 2B209	Irving Louis John	This course looks at the major transitions during vertebrate evolution, particularly focussing on the transition between water and land, and the adaptations which facilitated that transition. The diversification of animal life on land, and the subsequent return of some groups to water will be studied. This course will have a strong evolutionary biology focus.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Biodiversity course. GloBE Course. face-to-face EB59131 is ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB60014	Programming I	4	1.0	2, 3	Fall	AB	Thu1		Tokunaga (Toquenaga) Yukihiko	In this lecture, students learn programming techniques for manipulating a variety of data. They will also learn simulation techniques with individual-based models. The programming language used is Ruby.	Lecture is conducted in English. Computational Biology & Bioinformatics Course. Online(Synchronous) EB20014 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB62011	Genome Biology I	1	1.0	2, 3	Spr	AB	Tue1	2B412	Kuwayama Hidekazu	Lectures will cover basic knowledge on the structure and function of the genome, as well as technologies for DNA and genome analyses.	Lecture is conducted in English. Computational Biology & Bioinformatics Course. GloBE Course. face-to-face EG22011 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences

EB63111	Molecular Evolution I	1	1.0	2.3	SprAB	Mon2	Inagaki Yuji	Molecular evolution is a research field that aims to elucidate the evolution of organisms based on information macromolecules such as DNA and proteins. In this lecture, the basic concepts of molecular evolution and the basics of molecular phylogenetic methods will be explained.	履修に際し、適宜、最新のシラバスやmanaba等の情報を確認してください Lecture is conducted in English. Computational Biology & Bioinformatics Course. GloBE Course. Online (partially face-to-face)	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB64021	Biometry II	1	1.0	2.3	Fall IAB	Fri 13	Tokunaga (Toquenaga) Yukihiro	This lecture introduces the dark side of statistics. Starting with randomization techniques, students learn relationships among different domains of statistical ideas: parametric, nonparametric, null hypothesis significance testing, information-theoretic methods, and the Bayesian methods.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Computational Biology & Bioinformatics Course. Online (Synchronous) EG34021 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB64111	Theoretical Ecology	1	1.0	2.3	SprAB	Thu1	Tokunaga (Toquenaga) Yukihiro	This course illustrates theoretical aspects of ecology with examples of laboratory experiments to connect mathematical expressions with ecological phenomena in nature.	Lecture is conducted in English. Computational Biology & Bioinformatics Course. Online (partially face-to-face). Online (Synchronous) EG34111 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB71031	Cell Biology III	1	1.0	2.3	Fall IAB	Thu3	2B508 Chiba Tomoki	Proteins are in a dynamic state, which is regulated by protein synthesis and degradation pathways. Each protein is degraded in a degree of selectivity, and its regulation is essential for the cell homeostasis and viability. In this class, we will learn the latest findings on the molecular mechanism of selective protein degradation and its physiological importance.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Molecular and Cellular Biology Course. GloBE Course. face-to-face EB71131 or EG35131 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB72121	Developmental Biology II	1	1.0	2.3	Fall IAB	Tue3	2B508 Niwa Ryusuke, Kobayashi Satoru, Sasakura Yasunori, Yaguchi Shunsuke, Okamoto Naoki, Sanaki Yuya	A goal of this course is to understand several important topics about animal developmental biology. Lectures in this course particularly focus on sex determination, gametogenesis, metamorphosis, axis specification, neural development, and diseases.	Watch TWINS Bulletin Board and announcements on manaba for schedule of face-to-face classes. Lecture is conducted in English. Molecular and Cellular Biology Course. Human Biology course. GloBE Course. face-to-face (partially online)	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB72911	Marine Biology I	1	1.0	2.3	SprAB	Wed3	2B508 Inaba Kazuo, Agostini Sylvain, Leonard Georges	Lecture will give you several topics on physical, chemical and biological properties of ocean to understand the physiology, reproduction, development, biodiversity and ecology of marine invertebrates and fish. This class will especially focus on the following aspects of marine life: life cycle, locomotion, sensory reception, biomineralization, biogeochemical distribution, photosynthesis, respiration, calcification, nitrogen fixation and the impact of climate change. We will give examples of marine organisms under planktonic and benthic conditions and coral reef. The history and present situation of marine biology research will be also included.	Lecture is conducted in English. Molecular and Cellular Biology Course. GloBE Course. face-to-face EG22911 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB72921	Marine Biology II	1	1.0	2.3	Fall IAB	Wed3	2B508 Inaba Kazuo, Sasakura Yasunori, Yaguchi Shunsuke, Shiba Kogiku, Nakano Hiroaki, Wada Shigeki, Agostini Sylvain, Leonard Georges	Lecture will provide several topics on marine organisms, including fertilization, cilia and flagella, gene-manipulation, development, self-non-self recognition, evolution, animal behavior, population ecology and marine environment. The teaching staff of Shimoda Marine Research Center will tell you about recent progress of their own research.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Molecular and Cellular Biology Course. Online (partially face-to-face) EG32921 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB73151	Animal Physiology I	1	1.0	2.3	SprAB	Tue2	2B309 Vogt Kaspar	Basics of neurophysiology. 1. Introduction and electrochemical gradients. 2. Passive properties of membranes and cytoplasm. 3. Action potentials. 4. Voltage-gated ion channels. 5. Ligand-gated ion channels. 6. The synapse and synaptic release. 7. Basic circuits - the spinal cord and basic reflexes. 8. Sensory systems. 9. Synaptic plasticity, learning and memory. 10. The nervous system in waking and sleep.	Open in even number years. Lecture is conducted in English. Open in even number academic years. Lecture is conducted in English. Molecular and Cellular Biology Course. GloBE Course. face-to-face	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences

EB74111	Plant Physiology I	1	1.0	2, 3	SprAB	Fri1	2B411	Irving Louis John, Furukawa Jun, Miura Kenji, Ono Michiyuki	In this lecture, the relationship between various physiological phenomena and the environmental factors in the life history of higher plant will be overviewed for the understanding from the viewpoint at whole plant to cell levels with adding the latest molecular biological findings.	Lecture is conducted in English. Molecular and Cellular Biology Course. GloBE Course. face-to-face EG24111 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB74211	Metabolic and Physiological Chemistry I	1	1.0	2, 3	SprAB	Thu1	2B508	Suzuki Iwane	The main topics for this course will be photosynthetic energy conversion, primary and secondary carbon metabolism including C3, C4 and CAM metabolisms, photorespiration, and mitochondrial respiration.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Molecular and Cellular Biology Course. GloBE Course. face-to-face EG24211 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB74221	Metabolic and Physiological Chemistry II	1	1.0	2, 3	FallAB	Thu1	2B508	Minoda Ayumi, Irving Louis John	This course provides an overview of metabolism, which supports all life activities. In the first part of the course, we will discuss the following four topics: (1) Catabolism and Anabolism, (2) Energy conversion, (3) Nutrient transport and Assimilation, (4) Regulation of metabolic pathways. At the latter part, we will explore the environmental regulation of photosynthesis (light response, CO2 response) with the goal of understanding plant adaptations to different environments. We are welcome the students who did not take Metabolic Biochemistry Course I.	See Syllabus or recent information from manaba for detail. Lecture is conducted in English. Molecular and Cellular Biology Course. face-to-face Who has credit of EB74231 or EG34231 or EG34221 is ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB82131	Chemical Ecology	1	1.0	2, 3	FallAB	Fri4	2C107	Yokoi Tomoyuki, Matsuyama Shigeru, Yamaji Keiko, Kinoshita Natsuko, Kuramitsu Kazumu	This lecture introduces chemical aspects of relationships between individual insects, animals, plants and microorganisms of the same (pheromone) or different (allelochemicals) species.	Lecture is conducted in English. Applied Biology course. face-to-face EB82131 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB83141	Plant Biotechnology I	1	1.0	2, 3	SprC	Intensive	2B309	Watanabe Kazuo, Kikuchi Akira, Ono Michiyuki	Lectures will cover topics on plant biotechnology including control of flowering time, circadian rhythms, photoperiodic responses, organ size and responses to environmental stresses.	See Syllabus or recent information from manaba for detail. Open in even number academic years. Lecture is conducted in English. 7/8, 7/10 Applied Biology course. Online (Asynchronous), Online (Synchronous) Who has credit of EB83111 or EG33111 is ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB09113	Seminar in Biology I: Field Guide to Snow Land Animals in Winter	3	1.0	1, 2	Spr Vac	Intensive	Sugadaira	Yahata Kensuke, Sato Yukie, 藤田 麻里	A five-day residential course held at the Sugadaira Research Station. The aim of this course, through animal tracking, bird watching, collecting insects, is to provide genuine experience of the qualities of nature and wild animals in snowy areas.	Lecture is conducted in English. 2/24-2/28 Students must be enrolled in Gakkensai.. face-to-face EB09103 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB09213	Seminar in Biology II: Guide to Seashore Animals and Plants	3	1.0	1, 2	Spr Vac	Intensive	Shimoda	Yaguchi Shunsuke, Nakano Hiroaki, Agostini Sylvain, Leonard Georges	In this course at Shimoda Marine Research Center, students will survey marine animals on a rocky reef, and conduct field collections of planktonic and benthic animals. This will be followed by lectures and laboratory observations, providing a deeper understanding of marine life.	Lecture is conducted in English. 3/10-3/14 Students must be enrolled in Gakkensai.. face-to-face EB09203 credit holders are ineligible.	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EB11851	Introduction to Plant Physiology	1	1.0	1, 2	SprAB	Thu4	2B208, 2B209	Iwai Hiroaki, Oguchi Taichi, Ono Michiyuki, Kikuchi Akira, Suzuki Takuya, Suzuki Iwane, Miura Kenji, Watanabe Kazuo	This lecture describes the fundamentals of plant physiology, focusing on major physiological responses and their controlling factors in plants that cause various physiological responses by various environmental stimulus.	This lecture is planned as face-to-face, but it may be changed to online depending on the situation. See Syllabus or recent information from manaba for detail. Lecture is conducted in English. face-to-face	△	Permission in advance by the course instructor required due to limited facilities etc.	College of Biological Sciences
EG32111	Environmental Ecological Engineering	1	1.0	3	FallAB	Wed3	2C404	Nomura Nakao	Lecture covers eco-engineering technologies to restore deteriorated environments including following major existing issues: 1) Rehabilitation of enclosed water bodies in terms of water and sediment quality improvement, 2) Biomass energy as a renewable energy and its effect on reduction of green house gas emission, 3) Impact of aquacultural industries on coastal environment including mangrove forest.	横断領域科目「環境」 Identical to EG60111. Lecture is conducted in English. face-to-face			College of Agro-Biological Resource Sciences
EG33651	Renewable Energy and Bioresource Recycling Technologies	1	2.0	3	FallAB	Fri3, 4	2D307	Kitamura Yutaka, Neves Marcos, Antonio, Lei Zhongfang, Nakajima Mitsutoshi, Yuan Tian	As a part of advanced use for biological resources, we will explain the conversion and utilization technology of biomass to energy and materials. We will also overview the latest technologies and diffusion trends on renewable energy and consider constructing a resource recycling society utilizing renewable energy.	国立台湾大学とのジョイント講義(一部遠隔授業)。「バイオマス資源管理工学」(EG33281)及び「グリーンエネルギー工学」(EG33041)を修得済みの者は履修できない。 Identical to EG60661. Lecture is conducted in English. face-to-face			College of Agro-Biological Resource Sciences

EC33692	Seminar in Biosystems Engineering and Technology	2	3.0	3, 4	Fall/ABC	Mon2, 3	2D307	Kitamura Yutaka, Neves Marcos Antonio, Tofael Ahamed, Nakajima Mitsutoshi	生物資源の利活用における技術や工学の体系すなわちBiosystems Engineeringに関する専門的かつ最新の研究や知見を、論文の概要作成やプレゼンテーションなどの演習を通じて学習する。	授業の多くを京都大学・国立台湾大学との共同・オンライン（英語）により行う。EC33682を修得済みの者は履修できない。Identical to EG6002Z. Lecture is conducted in English. distance learning. face-to-face			College of Agro-Biological Resource Sciences
FE12801	Basic English in Chemistry	1	3.0	2	Annual	Mon1	1E203	Lee Vladimir Yaroslavovitch	英語に親しみを持ち、内容を正しく理解することと重点を置く。教材は専門授業にも参考となる化学的に興味を持てるものを使用する。	Lecture is conducted in English. face-to-face	△	It depends on decision of the class instructor	College of Chemistry
FE13701	Advanced Reading of Foreign Literature in Chemistry	1	3.0	3	Annual	Mon3	1E203	Lee Vladimir Yaroslavovitch	化学の専門分野における英語の解読書、論文などを講読し、化学の専門知識を学ぶ。同時に化学における英語での表現法を学ぶ。	Lecture is conducted in English. face-to-face	△	It depends on decision of the class instructor	College of Chemistry
FF20051	Technical English 1	1	1.0	3	SprAB	Fri1	3A410	Sellaiyan Selvakumar	Improve reading and writing skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF20061	Technical English 2	1	1.0	3	Fall/AB	Fri3	3A410	TRAORE ABOULAYE	Improve presentation skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF20071	Technical English 3	1	1.0	3	Fall/BC	Fri6		Tsuruta Ryohei	e-ラーニングシステムを使い、英語表現に慣れ親しむ。ヒヤリング能力、読解力、表現力の養成を目指す。	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. Online(Asynchronous)			College of Engineering Sciences
FF30051	Technical English 1	1	1.0	3	SprAB	Fri3	3A305	Sellaiyan Selvakumar	Improve reading and writing skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF30061	Technical English 2	1	1.0	3	Fall/AB	Fri1	3A305	Sharmin Sonia	Improve presentation skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF30071	Technical English 3	1	1.0	3	Fall/BC	Fri6		Mannen Tomoyuki	e-ラーニングシステムを使い、英語表現に慣れ親しむ。ヒヤリング能力、読解力、表現力の養成を目指す。	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. Online(Asynchronous)			College of Engineering Sciences
FF40051	Technical English 1	1	1.0	3	SprAB	Wed1	3A305	Islam Monirul Muhammad	Improve reading and writing skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF40061	Technical English 2	1	1.0	3	Fall/AB	Wed3	3A408	TRAORE ABOULAYE	Improve presentation skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF40071	Technical English 3	1	1.0	3	Fall/BC	Fri6		Yamaguchi Seira	e-ラーニングシステムを使い、英語表現に慣れ親しむ。ヒヤリング能力、読解力、表現力の養成を目指す。	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. Online(Asynchronous)			College of Engineering Sciences
FF50051	Technical English 1	1	1.0	3	SprAB	Tue3	3A305	JUNG Mincher I	Improve reading and writing skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF50061	Technical English 2	1	1.0	3	Fall/AB	Wed1	3A305	Sharmin Sonia	Improve presentation skills related to technical English.	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. face-to-face			College of Engineering Sciences
FF50071	Technical English 3	1	1.0	3	Fall/BC	Fri6		Tasaki Wataru	e-ラーニングシステムを使い、英語表現に慣れ親しむ。ヒヤリング能力、読解力、表現力の養成を目指す。	専門基礎科目 必修科目 Lecture is conducted in English. Major required course. G-course. Online(Asynchronous)			College of Engineering Sciences
GB13614	Computer Science in English A	4	2.0	3	SprAB	Mon1, 2		Igarashi Yasuhiko, Bou Savong	本講義では、基礎的な情報科学を題材にした英語の学術資料を用いて、英語の学術資料を理解し、学習に役立てるため、講義・演習を行う。	Lecture is conducted in English. Online(Asynchronous)			College of Information Science
GB13624	Computer Science in English B	4	2.0	3	Fall/AB	Wed5, 6	3B302	Aranha, Claus, Ye Xiucai	The course provides an introduction to elementary concepts of mathematics for computer science. Topics include: formal logic notation, induction, sets and relations, permutations and combinations, counting principles, discrete probability.	一館の説明を日本語 2020年度までに開設された「Mathematics for Computer Science」(GB13604)の単位を修得した者の履修は認めない。Lecture is conducted in English. face-to-face			College of Information Science

GE50722	English for Specialized Subjects B-2	2	1.0	3	SprAB	Mon4	7A102	Kim SunKyoung	This course aims to make students familiar with academic English. Students will learn how to read and write research papers. Also, students will practice making a presentation and listening to others' research presentations. This course is designated for undergraduate students and will be based on entire activities of conducting research.	Lecture is conducted in English. face-to-face (partially online) 知識情報システム主専攻生対象。			College of Knowledge and Library Sciences
GE62401	Machine Learning and Information Retrieval	1	2.0	3, 4	Fall IAB	Tue1, 2	7A103	Yu Haitao	Machine learning is playing a fundamental role in our daily life from the way we check emails right down to the way we search online. This course will introduce a number of representative machine learning methods, and show how to utilize them to solve the ranking problem in the field of information retrieval.	Identical to GC55301 and GE72701. Lecture is conducted in English. G-course, face-to-face (partially online) 情報メディア創成学類生はGC55301を、知識情報システム主専攻生はGE72701を、それ以外の学生はGE62401を履修すること。			College of Knowledge and Library Sciences
GE72601	Human-computer Interaction	1	2.0	3, 4	Fall IIC	Mon/Thu, 3, 4	7A205	Kim SunKyoung	This course introduces basic concepts in the theory and practice of Human-Computer Interaction (HCI). The course will help students acquire knowledge about fundamental principles, techniques, and methods for designing, prototyping, and evaluating user interfaces.	Identical to GC55401. Lecture is conducted in English. G-course, face-to-face (partially online) 情報メディア創成学類生はGC55401を、それ以外の学生はGE72601を履修すること。			College of Knowledge and Library Sciences
HE22031	Mastering the TOEFL Test	1	1.0	2	SprAB	Thu2		Florescu Cosmin Mihail	The course will allow students to practice useful skills to improve their TOEFL ITP scores. Additionally, students will also be able to enhance their communication skills and get a better understanding of English vocabulary and grammar.	Only Medical Sciences students. Lecture room 4B209. Lecture is conducted in English. face-to-face	△	Contact the instructor in advance (cosmin@md.tsukuba.ac.jp)	College of Medical Sciences
HE40161	Topics in Vascular Biology	1	1.0	3, 4	Fall IAB	Intensive	4B119	Yanagisawa Hiromi, YAMASHIRO YOSHITO, KIMURA KENICHI, Ishii Ryutaro, Erna Raja, 浅野 恵一	To provide basic knowledge and understanding of vascular biology, ranging from normal vascular development and physiology to molecular mechanisms of vascular diseases, as well as novel diagnostic and therapeutic approaches. The course aims to solicit active participation of students in lectures and journal clubs.	Only Medical Sciences students. Lecture is conducted in English. Details will be announced. face-to-face			College of Medical Sciences
YAL1012	Fundamental Studio Work: Graphic Tools	2	1.0	1, 2	SprC	Thu5, 6		Academic Computing and Communications Center B205, Academic Computing and Communications Center B206	Learn how to use Adobe Creative Suite through four production tasks.	人数制限あり Lecture is conducted in English. Work Experience faculty. Online (Asynchronous)	△	Cannot accept more students due to the limited number of educational equipment available	School of Art and Design
YAL1022	Fundamental Studio Work: Digital Photography	2	1.0	1-4	SprA	Tue5, 6	6A208	MCLEOD Roderick	Using a digital camera (with manual controls), learn basic photography techniques including lighting. We will also learn about image processing.	Required equipment (e.g. Digital camera) will be explained in the first class. Lecture is conducted in English. Work Experience faculty. face-to-face (partially online)	△	本学出身者又は本学大学院在学中の者に限る	School of Art and Design
YBL1712	Workshops on Contemporary Photography	2	2.0	3	Fall IAB	Tue2, 3	6A208	MCLEOD Roderick	Explore contemporary approaches to photography with analogue and digital photomedia. Develop knowledge of photographic processes and produce a photo project on a theme or topic of interest.	Lecture is conducted in English. Work Experience faculty. face-to-face			School of Art and Design
YBL2042	Workshops on Visual Design B	2	1.0	2	Fall IAB	Fri3		MCLEOD Roderick	Learn how to give shape to ideas in visual design through practical assignments.	Lecture is conducted in English. Work Experience faculty. Online (Asynchronous)	△	Depends on if there are enough facilities and educational equipment	School of Art and Design