Course Manager

Requisite
Interdisciplinary Program in Life and Environmental Sciences

School of Life and Environmental Sciences

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG02011	Physics	1	1.0	1	FallAB	Thu4	Marcos Antonio das Neves,Mito Kokawa	Introduction to physics for life and environmental sciences. Basic areas of mechanics, thermodynamics, and waves will be covered.	Lectures are conducted in English. face-to-face
EG02021	Mathematics	1	1.0	1	FallAB	Wed2	Ahamed Tofael	Introduction to mathematics for life and environmental sciences covers application of calculus using applied differentiation and integration, logarithmic and exponential functions, first order differential equations, matrix and probability. This course emphasizes to solve problems related to life and environmental sciences using a wide array of mathematical solutions.	Lectures are conducted in English. face-to-face
EG02031	Statistics	1	1.0	2	FallC	Tue2 Fri1	Louis John Irving	Introduction to statistics for life and environmental sciences.	Lectures are conducted in English. face-to-face A part of this lecture is planned as face-to-face. Watch TWINS Bulletin Board and announcements on manaba for schedule of face-to-face classes. The class format and content may be changed due to COVID-19 infection status and other factors.
EG02041	Advanced Mathematics	1	1.0	2	SprAB	Wed2	Ahamed Tofael	In this course, students will have a short review of applied calculus and introduces with the advanced mathematics sections like geometrical meaning of differential equations, solution of ordinary and partial differential equations, numerical analysis and Laplace transformation. These advanced mathematical skills will be invaluable to them to interpret the concepts of modeling of real world problems related to life and environmental sciences.	Lectures are conducted in English. face-to-face
EG02211	Chemistry I	1	1.0	1	FallA	Tue/Fri 6	Seung Won Kang	Introduction to general chemistry for life and environmental sciences.	Lectures are conducted in English. face-to-face
EG02221	Chemistry II	1	1.0	1	FallB	Tue/Fri 6	Seung Won Kang	Introduction to general chemistry for life and environmental sciences.	Lectures are conducted in English. face-to-face
EG02231	Chemistry III	1	1.0	1	FallC	Tue5 Thu6	Seung Won Kang	Introduction to general chemistry for life and environmental sciences.	Lectures are conducted in English. face-to-face
EG03012	Paper Preparation and Presentation	2	1.0	4	FallC	by appointment	Seung Won Kang	Preparation and help in writing the graduation thesis which is required towards the end of your fourth year. Also, preparation for the presentation of your results during the Presentation Meeting of all the graduation theses.	For students who started graduate research in spring semester Lectures are conducted in English. face-to-face Limited to Life and Environmental Sciences Undergraduate Students.

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG03022	Paper Preparation and Presentation	2	1.0	4	SprAB	by appointment	Seung Won Kang	Preparation and help in writing the graduation thesis which is required towards the end of your fourth year. Also, preparation for the presentation of your results during the Presentation Meeting of all the graduation theses.	Lectures are conducted in English. face-to-face Limited to Life and Environmental Sciences Undergraduate Students.

College of Biological Sciences

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EB50171	Animal Systematics II	1	1.0	2, 3	SprAB	Mon3	Hiroshi Wada	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 an even number year. Lectures are conducted in English. Biodiversity course GloBE Course face-to-face Who has credit of EB50121 or EB50131 is ineligible.
EB50211	Plant Taxonomy I	1	1.0	2, 3	SprAB	Fri2	Ken-ichiro Ishida	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. Lectures are conducted in English. Biodiversity course GloBE Course Expected to attend all I, II, III through a year. face-to-face EG20211 credit holders are ineligible.
EB50221	Plant Taxonomy II	1	1.0	2, 3	FallAB	Fri2	Takeshi Nakayama	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. Lectures are conducted in English. Biodiversity course Expected to attend all I, II, III through a year. face-to-face EG30221 credit holders are ineligible.
EB59101	Protistology	1	1.0	2 – 4	FallC	Fri2,3	Takeshi Nakayama,hidekazu kuwayama,Akinori Yabuki,Yosuke Degawa,Takashi Shiratori	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. Lectures are conducted in English. Biodiversity course face-to-face EG39101 credit holders are ineligible.

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EB59141	Vertebrate Morphology	1	1.0	2, 3	FallC	Thu4,5	Daichi Suzuki,十織 矢野,Tatsuya Hirasawa	The morphology of various vertebrates is compared and its evolutionary biological background is explained. In particular, the ancestors of vertebrates, fin morphology of teleosts, morphological evolution associated with terrestrialization, and morphological evolution of land vertebrates are explained from a comparative morphological viewpoint.	Biennially conducted in English (odd-number academic years) or Japanese (even-number academic years). Biodiversity course face-to-face
EB59151	Vertebrate Evolution	1	1.0	2 - 4	FallA FallB	Mon3	Louis John Irving	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. Lectures are conducted in English. Biodiversity course GloBE Course face-to-face EB59131 is ineligible.
EB60014	Programming I	4	1.0	2, 3	FallAB	Thu1	Yukihiko Tokunaga(Toquenaga)	In this lecture, students learn programing techniques for manipulating a variety of data. They will also learn simulation techniques with individual-based models. The programming language used is Ruby.	Lectures are conducted in English. Computational Biology & Bioinformatics Course Online(Synchronous) EG20014 credit holders are ineligible.
EB62011	Genome Biology I	1	1.0	2, 3	SprAB	Tue1	hidekazu kuwayama	Lectures will cover basic knowledge on the structure and function of the genome, as well as technologies for DNA and genome analyses.	Lectures are conducted in English. Computational Biology & Bioinformatics Course GloBE Course face-to-face EG22011 credit holders are ineligible.
EB63111	Molecular Evolution I	1	1.0	2, 3	SprAB	Mon2	Yuji Inagaki	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 Lectures are conducted in English. Online(partially face-to-face) Computational Biology & Bioinformatics Course GloBE Course
EB63141	Evolutionary Developmental Biology	1	1.0	2, 3				This course will focus on how molecular evolution of the genome and evolution of the morphology are related. After learned about several kinds of molecular evolutionary processes, students will learn how the genome construct the 3D morphology during embryogenesis. Combining what they learned about molecular evolution and developmental biology, students will learn several topics where the morphological evolution is linked with the molecular evolution of genome.	Open in an odd number year. Lectures are conducted in English. Computational Biology & Bioinformatics Course face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EB64021	Biometry II	1	1.0	2, 3	FallAB	Fri3	Yukihiko Tokunaga(Toquenaga)	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.	Syllabus or recent information from manaba for detail. Lectures are conducted in English. Computational Biology & Bioinformatics Course Online(Synchronous) EG34021 credit holders are ineligible.
EB64111	Theoretical Ecology	1	1.0	2, 3	SprAB	Thu1	Yukihiko Tokunaga(Toquenaga)	This course illustrates theoretical aspects of ecology with examples of laboratory experiments to connect mathematical expressions with ecological phenomena in nature.	Syllabus or recent information from manaba for detail. Lectures are conducted in English. Computational Biology & Bioinformatics Course Online(Synchronous) EG34111 credit holders are ineligible.
EB71031	Cell Biology III	1	1.0	2, 3	FallAB	Thu3	Tomoki Chiba	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. Lectures are conducted in English. Molecular and Cellular Biology Course GloBE Course face-to-face EB71131 or EG35131 credit holders are ineligible.
EB72121	Developmental Biology II	1	1.0	2, 3	FallAB	Tue3	Ryusuke Niwa,Satoru Kobayashi,Shunsuke Yaguchi,Yasunori Sasakura,naoki okamoto,Yuya Sanaki,Toshiyuki Harumoto	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 shedule of face-to-face classes. Lectures are conducted in English. face-to-face(partially online) Molecular and Cellular Biology Course Human Biology course GloBE Course

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EB72911	Marine Biology I	1	1.0	2, 3	SprAB	Wed3	Hiroaki Nakano,Benjamin Paul Harvey	This course provides an integrated introduction to marine biology, from the historical foundations of the discipline to the diversity of marine organisms and the ecological processes that structure marine ecosystems. Students will learn how physical and chemical ocean environments shape marine life, how organisms adapt to different habitats and lifestyles, and how key ecosystem functions such as primary production, respiration, and biomineralisation support ocean productivity and global biogeochemical cycles. The course concludes with major contemporary human impacts, including climate change, ocean acidification, pollution, overfishing, and biological invasions.	Lectures are conducted in English. Online(partially face-to-face) Molecular and Cellular Biology Course GloBE Course EG22911 credit holders are ineligible.
EB72921	Marine Biology II	1	1.0	2, 3	FallAB	Wed3	Shunsuke Yaguchi,Yasunori Sasakura,Hiroaki Nakano,Benjamin Paul Harvey,Osamu Kagawa	Lecture will provide several topics on marine organisms, including fertilization, cilia and flagella, gene-manupulation, 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. Lectures are conducted in English. Online(partially face-to-face) Molecular and Cellular Biology Course EG32921 credit holders are ineligible.
EB74111	Plant Physiology I	1	1.0	2, 3	SprAB	Fri1	Kenji Miura,Louis John Irving,Jun Furukawa	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.	Lectures are conducted in English. Molecular and Cellular Biology Course GloBE Course face-to-face EG24111 credit holders are ineligible.
EB74131	Plant Physiology II	1	1.0	2, 3	FallAB	Fri1	Takuya Suzaki	This lecture introduces several important topics for your further understanding of plant physiology, which includes recent advances in the research of vegetative and reproductive development, environmental responses, and symbiosis with microorganisms in higher plants.	See Syllabus or recent information from manaba for detail. Plant Physiology II (EB74131) Language is Japanese in odd-numbered years and English in even-numbered years. Molecular and Cellular Biology Course face-to-face
EB74211	Metabolic and Physiological Chemistry I	1	1.0	2, 3	SprC	Intensive	Iwane Suzuki	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. Lectures are conducted in English. 7/10-7/12 Molecular and Cellular Biology Course GloBE Course face-to-face EG24211 credit holders are ineligible.

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EB82131	Chemical Ecology	1	1.0	2, 3	FallAB	Fri4	Tomoyuki Yokoi,Shigeru Matsuyama,Keiko Yamaji,Natsuko Kinoshita,Kazumu Kuramitsu	This lecture introduces chemical aspects of relationships between individual insects, animals, plants and microorganisms of the same (pheromone) or different (allelochemicals) species.	Lectures are conducted in English. Applied Biology course face-to-face EB82131 credit holders are ineligible.

College of Agro-Biological Resource Sciences

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG40012	Agro-Biological Resource Science, Exercises	2	1.0	1, 2	Sum Vac	Intensive	Beiwen Ying	In this course, students improve understanding of future study by exercise and investigation of academic discipline and agenda in agrobiological resource sciences, and presentation of the results.	For English Program Students of the College of Agro-Biological Resource Sciences. Limited to students enrolled since 2020 (excepts students transferred in 2020). Lectures are conducted in English. face-to-face
EG41012	Research Seminar I	2	1.5	4	SprABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who start a graduation research from Spring Semester. Lectures are conducted in English. face-to-face
EG41022	Research Seminar II	2	1.5	4	FallABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who passed EG41012 or EG41032. Lectures are conducted in English. face-to-face
EG41032	Research Seminar I	2	1.5	4	FallABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For Students who start a graduation research from Fall Semester. Lectures are conducted in English. face-to-face
EG41042	Research Seminar II	2	1.5	4	SprABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who passed EG41012 or EG41032. Lectures are conducted in English. face-to-face
EG41052	Research Seminar I	2	2.0	4	SprABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who start the graduation research from Spring Semester. Lectures are conducted in English. face-to-face
EG41062	Research Seminar II	2	2.0	4	FallABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who passed EG41052 or EG41072. Lectures are conducted in English. face-to-face

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EG41072	Research Seminar I	2	2.0	4	FallABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who start a graduation research from Fall Semester. Lectures are conducted in English. face-to-face
EG41078	Graduation Research I	8	3.0	4	SprABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who start the graduation research from Spring Semester. Required a special permission by the Dean of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face
EG41082	Research Seminar II	2	2.0	4	SprABC	by request	Chair and others	Topics in agro-biological resource sciences will be discussed with laboratory members and supervisor.	For students who passed EG41052 or EG41072. Lectures are conducted in English. face-to-face
EG41088	Graduation Research II	8	3.0	4	FallABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who passed EG41098 or EG41078. Required a special permission by the Dean of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face
EG41098	Graduation Research I	8	3.0	4	FallABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For Students who start the graduation research from Fall Semester. Lectures are conducted in English. face-to-face
EG41108	Graduation Research II	8	3.0	4	SprABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who passed EG41098 or EG41078. Lectures are conducted in English. face-to-face
EG41118	Graduation Research I	8	5.0	4	FallABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who start the graduation research from Fall Semester. Required a special permission by the Chair of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face

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EG41128	Graduation Research II	8	5.0	4	FallABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who passed EG41118 or EG41138. Required a special permission by the Chair of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face
EG41138	Graduation Research I	8	5.0	4	SprABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who start the graduation research from Fall Semester. Required a special permission by the Chair of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face
EG41148	Graduation Research II	8	5.0	4	SprABC	by request	Chair and others	Each student engages in research work in laboratory on specific theme under supervisor.	For students who passed EG41118 or EG41138. Required a special permission by the Chair of the college of Agro-Biological Resource Sciences. Lectures are conducted in English. face-to-face
EG50011	World Food and Agriculture	1	1.0	1	SprAB	Mon2	Seung Won Kang	This course introduces crop plants, domestic animals and their production in the world, in relation to economic and environmental issues.	Lectures are conducted in English. face-to-face
EG50041	Biochemistry	1	2.0	2, 3	SprAB	Thu4,5	Keiji Kimura,Miyako Kusano,Norio Takeshita,Hiromi Yanagisawa	Advanced biochemistry covers a wide area including molecular cell biology, molecular genetics, biotechnology, metabolism, and relates all current biological sciences. In this year, experts of three major classes of the organisms (microorganisms, plants, animals) give lectures from the professional points of view. This course provides an introduction to biochemistry for the undergraduates who are able to learn basic to applied knowledge of life and environmental sciences.	Lectures are conducted in English. Online(Asynchronous)
EG50061	Vegetation Ecology	1	1.0	2, 3	FallC	Intensive	Kiyokazu Kawada,Yoshiaki Tsuda,Takashi Kamijo	Vegetation is a basic component that characterizes land areas and needs to be properly understood in order to realize sustainable use of biological resources. The purpose of this lecture is to understand the basics of vegetation and to understand the sustainable use of vegetation. The lecture will cover not only Japanese vegetation but also vegetation throughout the world such as tropical forests and deserts.	Lectures are conducted in English. face-to-face

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EG50163	Fundamental Chemistry Laboratory	3	1.0	2	FallAB	Fri4-6	Kosumi Yamada, Hideyuki Shigemori, Kazuyoshi Ogawa, Akiko Nakagawa-Izumi, Nakao Nomura, Yingnan Yang, Yoko Nagumo, Shunsuke Masuo, Yusaku Miyamae, Syunichi Urayama	Chemical substances are existed around and within us everyday and everywhere. We will provide the students inorganic, physicochemical, and organic chemical property of them through the experiments. The students should be able to 1) separate, isolate, and identify chemical substances, 2) learn physicochemical property of them by analytical equipment, 3) know how to use labware and analytical equipment	Date and venue for orientation of G30: TBA; Number of G30 students are limited to 12. Identical to EC12163. face-to-face
EG50193	Fundamental Biology Laboratory	3	1.0	2	FallBC	Fri4-6	Satoko Nonaka, Shinya Takahashi, Junichi P. Abe, Yutaka Yawata, Hiroaki Daitoku, Hidehiko Hirakawa, Norio Takeshita, Shigeru Matsuyama	生物学の各分野から、生物資源学類に必要な観察・実験の項目を選んで実施し、生命現象の基本について理解させる。	Class enrollment onto TWINS should be done by the end of September. Identical to EC12173. face-to-face
EG60012	Current Topics in Plant Biology	2	1.0	2, 3	FallC	Mon3,4	Natsuko Kinoshita	This class will focus on current developments in plant biology by focusing on current, groundbreaking research shaping the field. Topics will differ each year. Topics may include herbivory stress, abiotic stress, chemical ecology, plant communication, bio imaging, synthetic biology, and precision agriculture. Students will read as well as lead discussions about current literature. Novel experimental techniques used to answer central questions will be emphasized. There will be a final project where students present a topic of personal interest related to the literature covered in the class. This course is recommended for students considering graduate work or independent study in related fields. The class will be taught in Japanese and English in alternate years.	Same as EC31012 The class will be taught in Japanese and English in alternate years. Open in even number years. Open in an even number year. Lectures are conducted in English. face-to-face
EG60022	Seminar in Biosystems Engineering and Technology	2	3.0	3, 4	FallABC	Mon2,3	Ahamed Tofael, Yutaka Kitamura, Marcos Antonio das Neves	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 EC33692. Lectures are conducted in English. distance learning face-to-face
EG60023	International Training of Agriculture III	3	2.0	1 - 3	Annual	by appointment	Nakao Nomura, Chair and others	Field study program in European countries under 3 objectives; 1) To learn overview on agriculture and related industries 2) To discuss current issues related agriculture through seminars with local students 3) Field survey of the agricultural sites in the local areas	(インターンシップ)国外。 Identical to EC41133. Lectures are conducted in English. CDP face-to-face

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EG60033	International Training of Agriculture IV	3	2.0	1 - 3				Field study program in North America under 3 objectives: 1) To learn overview on agriculture and related industries 2) To discuss current issues related agriculture through seminars with local students 3) Field survey of the agricultural sites in the local areas	(インターンシップ)国外。 Open in an odd number year. Identical to EC41143. CDP face-to-face
EG60043	Agricultural Internship Abroad V	3	2.0	1 - 3	Annual	by appointment	Kiyokazu Kawada,Chair and others	乾燥地域の協定校および企業等において、講義・体験実習・野外調査を通じて当該国における農業の特色及び地域性などを学び、さらに現地の学生・教員・企業者との交流を通じて国際的な視野に立ったキャリア意識を育成する。	(インターンシップ)国外。 Open in an even number year. Identical to EC41153. Lectures are conducted in English. face-to-face
EG60053	Agricultural Internship Abroad VI	3	2.0	1 - 3	Annual	by appointment	Junichi P. Abe,Ning Wang,Chair and others	In our partner universities and companies in ASEAN countries and mainly Taiwan, through lectures, practical trainings, and field surveys, students will learn about the characteristics and regional aspects of agriculture in each of these countries. Additionally, through interactions with local students, teachers of our partner university and businesspeople, they will cultivate a career awareness with an international perspective.	(インターンシップ)国外。 Identical to EC41163. Lectures are conducted in English. face-to-face
EG60063	International Training of Agriculture I	3	2.0	1 - 3	Annual	by appointment	Nakao Nomura,Chair and others	Field study program in foreign countries under 3 objectives: 1) To learn overview on agriculture and related industries 2) To discuss current issues related agriculture through seminars with local students 3) Field survey of the agricultural sites in the local areas	(インターンシップ)国外。生物資源学類生優先 Identical to EC41013. Lectures are conducted in English. CDP face-to-face
EG60071	Food Functionality	1	1.0	3, 4	FallC	Tue5,6	Hiroko Isoda,Farhana Ferdousi,Shinya Takahashi	Lectures will cover the topics in advanced food functionality including anti cancer, anti allergy, anti stress, anti obesity, neuronal regulation, melanogenesis regulation and the bioavailability of functional food factors.	Same as EC31391 Lectures are conducted in English. face-to-face
EG60101	Soil Science	1	2.0	3, 4	FallC	Intensive	Maki Asano	Fundamental ascpects of soils with regard to their genesis, physicochemical properties, management and the related environmental issues will be lectured, and the discussion on some selected topics will be treated as more advanced understanding of present status of soils in the changing world.	Same as EC32161 Open in an even number year. Lectures are conducted in English. face-to-face
EG60121	Food Process Engineering	1	1.0	3, 4	SprAB	Wed3	Marcos Antonio das Neves,Mito Kokawa	This course introduces basic principles of fluid flow, heat transfer, and mass transfer phenomena, along with the application of these principles to the unit operations most commonly used in food processing, such as thermal processing, cooling, freezing, centrifugation, filtration, drying, size reduction and emulsification.	Same as EC42021 Lectures are conducted in English. face-to-face
EG60161	Environmental Colloid Engineering	1	1.0	3, 4	SprC	Tue5,6	Motoyoshi Kobayashi,Lester Canque Geonzon	Applications of colloid and interface science to environmental issue and its basis are given. Focus will be placed on the floccuation which is important to control soil and water quality. Current topics related to microbiology and ecosystem will be lectured.	Identical to EC33361. Lectures are conducted in English. face-to-face

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EG60191	Biomass Conversion	1	2.0	3, 4	SprC	Intensive	Yingnan Yang	This course is designed to help you develop and understanding of the complex processes of biomass conversion. Lectures and discussions will focus on biomass sources, biomass conversion technology and process.	Limited to English Program students. Open in odd number year. Lectures are conducted in English. face-to-face
EG60232	Seminar in Applied Biological Chemistry	2	2.0	3, 4				The purpose of the course is to introduce and discuss the applied life sciences related to biochemistry of plant molecules, molecular and developmental biology, biology for gene regulations, ecological molecular microbiology, biomimetic chemistry, bioreaction engineering.	Open in an odd number year. Lectures are conducted in English. face-to-face Not open in 2025
EG60252	Seminar in Agricultural Economics and Sociology	2	2.0	3, 4	Annual	by appointment	Hisato Shuto	This course aims to introduce the present issues of agricultural and forestry economics, and discuss the roles of rural society, farm management and forestry planning.	Students who are supervised by faculties in the Course of Agriculture and Forestry Social Sciences are eligible to enroll. Lectures are conducted in English. face-to-face
EG60272	Seminar in Quantitative Food Economics	2	2.0	2, 3	FallC	Mon3-6	Hisato Shuto	Exercises in estimation of food production and consumption based on economic theories, and discussions are performed to analyze the factors controlling supply and demand of foods.	Lectures are conducted in English. face-to-face
EG60361	Introductory Microbiology	1	1.0	2, 3	FallC	Thu3,4	Andrew S Utada	This course will introduce students to microbiology starting with a historical perspective of their discovery, moving into diversity and classifications of microorganisms. We will discuss bacterial anatomy, growth, metabolism, isolation and culture of environmental organisms and screening. We will explore how microorganisms have been used and are currently used industrially, their role in global element cycles, and bio-remediation. Finally, we will address the central dogma, bacterial genetics and gene regulation, and select topics towards the end of course.	Lectures are conducted in English. face-to-face unless otherwise indicated.
EG60401	Economics of Resource and Environment	1	2.0	3, 4	SprAB	Thu3,4	Hisato Shuto	Lectures will cover the topics in agricultural economy and resouce and environment including forest.	Open in an even number year. Lectures are conducted in English. face-to-face
EG60411	Biomaterial Science	1	1.0	3, 4	FallAB	Tue2	Akiko Nakagawa-Izumi,Eiichi Obataya	Plant-derived biomaterials are overviewed, and then, the physical and chemical properties of wood, the most abundant biomaterial, are introduced.	Lectures are conducted in English. face-to-face
EG60421	Soil and Water Bio-Engineering	1	1.0	3	SprC	Intensive	Tian Yuan,Yasuhisa Adachi	The course will focus on discussing the science,technology and engineering for achieving sustainable soil and water systems. We will also cover several important,emerging topics related to bio-engineering for sustainable soil and water management.	Lectures are conducted in English. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG60491	Elementary Applied Thermodynamics	1	1.0	2, 3	SprAB	Mon4	Andrew S Utada	Thermodynamics is one of the most fundamental subjects with direct implications for biology and the environmental sciences. Through these lectures, we will explore elementary thermodynamics from the perspective of how these ideas can be applied in the life and environmental sciences. Lectures will begin from the concept of equilibrium systems with an example of Brownian motion. Later, we will delve into the first and the second laws of thermodynamics addressing the concept of Gibbs free energy and chemical potential. Many examples will be cited from colloid and interface science. This course will prove useful for those interested in environmental colloid science, biophysics and bioengineering, and applied microbiology.	Lectures are conducted in English. face-to-face unless otherwise indicated.
EG60551	Water Resources Management Engineering	1	1.0	3, 4	SprC	Tue1,2	Atsushi Ishii	This lecture aims to provide a fundamental understandings of water resources by giving introductory hydraulics and hydrology, natures of river flow, water use in various sectors with a special focus on irrigation, water resources development and management, hydrologic statistics, as well as institutional system for water.	Students are graduating on 31 Aug. have to contact an instructor. Lectures are conducted in English. face-to-face interdepartmental course
EG60561	Water Environmental Management Technology	1	1.0	3	SprC	by appointment	Nakao Nomura	Lecture covers ecological technologies to restore water environments in enclosed water bodies with deteriorated sediment and water quality. Lecture also covers a case study of Lake Kasumigaura Water Renovation Project where several research studies was performed to rehabilitate water environment in large scale.	横断領域科目「環境」. 特別聴講学生(CiCプロジェクト参加学生を含む)のみ履修可. Cross-disciplinary subjects 「Environment」.Limited to Exchange Student (Tokubetsu Chokogakusei) including CiC Project. Lectures are conducted in English. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG60571	Introduction to Industrial Ecology	1	1.0	3	SprAB	Tue2	Helmut Friedrich Yabar Mostacero	One of the biggest challenges societies face is decoupling economic growth from environmental pressure within the limits of the earth's carrying capacity. The highly inefficient use of natural resources from extraction to final disposal produces wastes and releases to air, water and soil. This course introduces the mechanisms and tools necessary to overcome this challenge through Industrial Ecology (IE). IE focuses on promoting industrial activities similar to processes in nature. This is achieved by optimizing energy and material resource use while minimizing and/or avoiding waste and pollution release. The course outlines the tools to achieve this goal including resource use optimization through the 3R Initiative, Life Cycle Assessment, and Material Flow Analysis. The course will also address the technical and management aspects including Environmental Management Systems, Cleaner Production and Design for Environment. At the end of the course the student will develop analytical skills and learn the tools necessary to design and implement solutions to the current production and consumption patterns.	Lectures are conducted in English. face-to-face
EG60611	International Agricultural and Forestry Policies I	1	1.0	2, 3	Sum Vac	Intensive	Hisato Shuto	Lectures will cover the topics in policies for agriculture, food, forestry, and environmental management related to agriculture and forestry in the world.	English Program Students who had received credits from EG60201 are not allowed. Open in an even number year. Identical to EC34281. Lectures are conducted in English. Work Experience faculty face-to-face
EG60621	International Agricultural and Forestry Policies II	1	1.0	2, 3				Lectures will cover the topics in policies for agriculture, food, forestry, and environmental management related to agriculture and forestry in the world.	English Program Students who had received credits from EG60201 are not allowed. Open in an odd number year. Identical to EC34381. Lectures are conducted in English. Work Experience faculty face-to-face
EG60661	Renewable Energy and Bioresource Recycling Technologies	1	2.0	3	FallAB	Fri3,4	Marcos Antonio das Neves, Zhongfang Lei, Tian Yuan, Yutaka Kitamura	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)。EC33281、EC33041 を修得済みの者は履修できない。 Identical to EC33651. Lectures are conducted in English. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG60663	Fundamental Environmental Engineering Laboratory	3	1.0	2	SprAB	Fri5,6	Akiko Nakagawa-Izumi,Motoo Utsumi,Motoyoshi Kobayashi,Zhongfang Lei,Takuya Sugimoto,Tian Yuan,Mito Kokawa,Eiichi Obataya,Lester Canque Geonzon	This course aims to provide basic concepts of environmental engineering necessary to analyze various phenomena present in environments, biomass, or bioresources.	生物資源学類生に限る(受入上限数30名)。EC23113、EC23113、EC23123を修得済みの者は履修できない。 Identical to EC23133. face-to-face
EG60671	Food Safety Control and Quality Evaluation	1	2.0	3	FallAB	Wed5,6	Mito Kokawa,Yutaka Kitamura,Marcos Antonio das Neves,Motoo Utsumi	農産物や食品の物理・生化学的特性,健康機能性および加工流通のためのポストハーベスト・食品加工の技術を学習する。また食品の安全安心のための基礎知識やマネージメントシステム,関係法令や認証制度についても解説する。	国立台湾大学とのジョイント講義(一部遠隔授業)。(コース共通)環境工学コース　社会経済学コース Identical to EC35091. face-to-face
EG60681	Contemporary Concepts of Inheritance	1	1.0	3, 4	FallAB	Thu2	Diana Mihaela Buzas	More than a century after Darwin and Mendel, and half a century after the discovery of DNA, the idea that biology is dominated by genes is being challenged. Instead, what is experienced within a generation (“the environment”) could also affect what is carried the next generation, as predicted early on by Lamarck. To create an outlook of the current ideology around inheritance, this course introduces the molecules and operating principles in genetic and epigenetic inheritance while looking at the methodological strategies leading to their discovery (especially role of model systems). The phenomena exemplified will expose a variety of aspects, from technologies currently penetrating into the society (PCR, CRISP CAS9 etc), issues of high interest (human evolution and disease, genetically modified crops etc) all the way to hypothetical views on new areas where epigenetic inheritance plays a role (especially human culture)and ethics.	Students in any departemnt (even outside biology) can take the course. Limited to 30 students. Lectures are conducted in English. face-to-face
EG60691	Systems Biotechnology	1	1.0	3	SprC	Tue3,4	Beiwen Ying,Andrew S Utada,Norio Takeshita	Learn the principles, techniques and applications for quantitatively understanding the behavior of (micro)organisms. Understand the integration of knowledge across disciplines, including biology, engineering, information science, and mathematical statistics.	Lecture is conducted in both Japanese and English. Identical to EC32201. face-to-face
EG60701	Bioprocess Engineering	1	1.0	3	SprAB	Fri3	Nakao Nomura	This lecture will explain the important points when using processes that utilize biological functions such as cultured cells and enzymes in process development, as well as future directions, using developed processes as examples. Existing processes to be introduced include production processes of pharmaceutical proteins using cultured animal cells, development of hybrid artificial organs, water quality purification of enclosed water bodies, pathogen management in high-density aquaculture, and biomass fuel production processes.	EC32071, EC32111, EG60581, EG6111 credits holders are ineligible. Identical to EC32221. Lectures are conducted in English. G-course face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG60706	Laboratory & Exercise in Environmental Colloid Engineering	6	1.0	2 - 4	FallB	Thu4-6	Motoyoshi Kobayashi, Takuya Sugimoto, Lester Canque Geonzon	Students learn the fundamental and applications of colloidal and environmental engineering through experiments and excercise.	It is desirable for participants to take "Environmental Colloid Engineering" beforehand or later. Identical to EC33706. Lectures are conducted in English. face-to-face

College of Geoscience

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG70013	Laboratory Work in Basic Geoscience	3	1.0	1	SprAB	Thu4, 5	Quang Van Doan, Shigehiro Fujino, Umam Rofiqul, Kohei Tanaka, Keisuke Matsui, Akio Yamashita, Kei Ikehata, Atsushi Kyono, Masanori Kurosawa, Teruyuki Maruoka, Atsushi Ikeda	In this experiment, students learn basic methods and techniques for studying the geosciences through practical training in a variety of fields.	英語で授業。 一部オンラインで実施する可能性がある。 Lectures are conducted in English. face-to-face
EG70021	Introduction to Geoenvironmental Science	1	1.0	1	FallAB	Fri1	Tsuyoshi Hattanji, Hiroyuki Kusaka, Masaaki Kureha, Hiroaki Kato, Takehiro Morimoto, Hiroaki Ueda, Umam Rofiqul	Earth's environment is the main topic of this lecture. Emphasis is on the geoscientific aspects and features in the atmosphere, hydrosphere, topography, and human society among others are discussed.	英語で授業。 Face-to-face Lectures are conducted in English. face-to-face
EG70031	Introduction to Earth Evolution Science	1	1.5	1	FallABC	Tue1	Atsushi Kyono, Kohtaro Ujiie, Yuji Yagi, Ryo Okuwaki, Yoshihito Kamata, Toshiaki Tsunogae, Shigehiro Fujino, Teruyuki Maruoka, Kohei Tanaka, Sachiko Agematsu	This lecture introduces 4.6 billion years evolution of the earth, mainly focusing on the evolution of solid earth, and the birth and evolution of life.	Lectures are conducted in English. face-to-face This class is taught by several teachers. This class may be switched from face-to-face to online depending on the spread of infection and immigration status.
EG90211	Natural Hazards	1	1.0	2, 3				This lecture overviews various natural hazards and their triggers, reviews historical and recent hazards and explores future prediction and mitigation against possible hazards.	「地球環境学A」、「地球環境学B」、または「地球進化学A」、「地球進化学B」を履修していること。内容については英語のシラバス参照。 西暦奇数年度開講。 英語で授業。 Open in an odd number year. Lectures are conducted in English. Not open in 2026. face-to-face G-course

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG90313	Internship Program in Geoscience	3	1.0	2 - 4	Annual	by appointment	Hiroaki Kato, Sachiko Agematsu	Students have the opportunity to evaluate their own abilities and aptitudes through experiences at companies, research institutes, non-profit organizations, etc. The conditions for receiving credit include an agreement between the company and the school before the internship begins and a report from the company after the internship is completed. Students should register for the internship program after receiving informal consent from the company.	For Geoscience English program students. Students, who attended EG90303, are not permitted. Lectures are conducted in English. Work Experience faculty face-to-face CDP It is mandatory to enroll in Course B of the JEES personal accident insurance for students pursuing education and research.
EG91011	Lecture on Geographical Information Systems	1	1.0	2, 3	FallC	Thu1,2	Takehiro Morimoto, Akio Yamashita, Jun Tsutsumi	This course introduces fundamentals of Geographical Information Systems and its application to geography.	Open in an even number year. Lectures are conducted in English. face-to-face
EG91081	Environmental Hydrology	1	1.0	2, 3				Basics on the hydrologic cycle are introduced. In addition, hydrologic aspects on environmental problems and ecology are discussed.	Prerequisite: Introduction to Geoenvironmental Science (or permission by the instructor). Priority for degree students of the School of Life and Environmental Sciences. Students who attended EG91091 are not permitted.西暦奇数年度開講。 Open in an even number year. Lectures are conducted in English. Not open in 2026. face-to-face 英語で授業
EG91101	Meteorology and Climatology	1	1.5	2, 3	SprABC	Wed1	Quang Van Doan, Yoichi Kamae	Elementary course about the general circulation of the atomosphere and the energy budget, mechanism of climate and and climate change, weather forecasting and precipitation, interactions of the atmospheric environment and human activities.	Offered in even number years. Students, who attended EG91031, are not permitted. Open in an even number year. Lectures are conducted in English. face-to-face
EG91141	Human and Regional Geography	1	1.5	2, 3	FallABC	Thu4	Kenichi Matsui, Keisuke Matsui, Tomoko Kubo	This course introduces subjects and fundamentals of the human and regional geography by presenting actual examples of Japan and other regions of the world. Following the introduction of basic concepts of human geography, features of various regions will be explained from viewpoints of rural, urban, commercial, political, religious, recreational and ethic geographies.	Students, who attended EG80011, are not permitted. Lectures are conducted in English. face-to-face(partially online)

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG91161	Process Geomorphology	1	1.0	2, 3				This lecture focuses on physical processes that create and maintain landforms. Tectonic, glacial, fluvial and coastal processes, and weathering as well as mass movements are mainly discussed.	Offered in odd number years. Prerequisite: Both of "Introduction to Geoenvironmental Science" and "Introduction to Earth Evolution Science". Open in an odd number year. Lectures are conducted in English. face-to-face(partially online)
EG91171	Basic Analysis of Environmental Dynamics	1	1.5	2, 3	SprABC	Tue5	Bunkei Matsushita,大輔津旨,Yuichi Onda,Hiroaki Kato,Junko Takahashi,Yasunori Igarashi	This lecture provides basic knowledge for analyzing environmental dynamics. In addition, the present state of environmental problems and its analysis methods are discussed.	Offered in even number years. Open in an even number year. Lectures are conducted in English. face-to-face
EG91191	Landslides	1	1.0	2, 3	FallAB	Fri1	Thomas Parkner	This lecture covers the basics of landslides in geomorphic systems including (in)stability concepts and process types. Remote sensing techniques for landslide assessment are also introduced.	Offered in even number years. Open in an even number year. Lectures are conducted in English. face-to-face
EG91203	Field Work in Geoenvironmental Science I	3	1.5	2, 3				The goal of this course is to provide experience and background in a variety of field methods used by researchers in geoenvironmental sciences. The course will focus on hands-on field techniques for data gathering (observation, measurement, and others), mapping, and data analysis.	Offered in 2025. This course is offered every 3 years. Prerequisite: EG70013, EG70021 and EG91081. Permission by teachers. Lecture is conducted in English. 7/12, 7/13, 7/19, 7/20.face-to-face Open every 2 years since 2025. Lectures are conducted in English. Not open in 2026. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG91213	Field Work in Geoenvironmental Science II	3	1.5	2, 3				The goal of this course is to provide experience and background in a variety of field methods used by researchers in geoenvironmental sciences. The course will focus on hands-on field techniques for data gathering (observation, measurement, and others), mapping, and data analysis.	Offered in 2025. This course is offered every 3 years. Permission by teachers. Lecture are conducted in English. Limited undergraduate students who have earned credits of Introduction to Geoenvironmental Science, Introduction to Earth Evolution Science, Laboratory Work in Basic Geoscience. Open every 3 years since 2026. Lectures are conducted in English. Not open in 2026. face-to-face
EG91223	Field Work in Geoenvironmental Science III	3	1.5	2, 3	Annual	Intensive	Tomoko Kubo,Takehiro Morimoto	The goal of this course is to provide experience and background in a variety of field methods used by researchers in geoenvironmental sciences. The course will focus on hands-on field techniques for data gathering (observation, measurement, and others), mapping, and data analysis.	Offered in 2026. This course is offered every 3 years. Permission by teachers. Open every 3 years since 2026. Lectures are conducted in English. face-to-face
EG91233	Field Work in Geoenvironmental Science IV	3	1.5	2, 3	Annual	Intensive	Thomas Parkner		Offered in 2026. This course is offered every 3 years. Prerequisite: EG91161 Process Geomorphology and EG91191 Landslides. Priority for degree students of the School of Life and Environmental Sciences. Others by permission of the instructor. Limited to several students. Open every 2 years since 2026. Lectures are conducted in English. face-to-face
EG91243	Field Work in Geoenvironmental Science V	3	1.5	2, 3				The goal of this course is to provide experience and background in a variety of field methods used by researchers in geoenvironmental sciences. The course will focus on hands-on field techniques for data gathering (observation, measurement, and others), mapping, and data analysis.	Offered in 2027. This course is offered every 3 years. Prerequisite: Human and Regional Geography. Permission by teachers. Lectures are conducted both in English and Japanese. Open every 2 years since 2024. Lectures are conducted in English. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG91253	Field Work in Geoenvironmental Science VI	3	1.5	2, 3				The goal of this course is to provide experience and background in a variety of field methods used by researchers in geoenvironmental sciences. The course will focus on hands-on field techniques for data gathering (observation, measurement, and others), mapping, and data analysis.	Offered in 2027. This course is offered every 3 years. Permission by teachers. Open every 2 years since 2024. Lectures are conducted in English. face-to-face
EG92011	Mineralogy and Petrology	1	1.0	2, 3	FallAB	Wed3	Toshiaki Tsunogae, Masanori Kurosawa	This lecture provides basic knowledge for various minerals and rocks in the earth's surface and interior. Main purposes are to learn classification, basic principles and processes of the formations of the minerals and rocks (mainly igneous and metamorphic rocks) in the earth.	Open in an even number year. Lectures are conducted in English. face-to-face Classes may be switched from face-to-face to online depending on the spread of infection and immigration status.
EG92021	Inorganic Geochemistry	1	1.0	2, 3				This course aims to introduce students to the chemical feature of our planet and basic principles for geochemistry and mineral chemistry.	Open in an odd number year. Lectures are conducted in English. face-to-face
EG92031	Stratigraphy and Paleontology	1	1.0	2, 3	FallAB	Tue2	Kohei Tanaka, Yoshihito Kamata, Shigehiro Fujino	This lecture provides basic knowledge for sedimentology and paleontology and historical geology. Main purposes are to learn interrelationship between life and environment of geological time.	Open in an even number year. Lectures are conducted in English. face-to-face
EG92041	Applied Structural Geology	1	1.0	2, 3				Structural geology and seismology with emphasis on its application side is the main topics of this lecture.	Open in an odd number year. Lectures are conducted in English. face-to-face
EG92093	Field Work in Earth Evolution Science E	3	1.5	2, 3	Annual	Intensive	Sachiko Agematsu, Kohei Tanaka	In this field course students acquire basic field methods on geological science such as field description and mapping in a particular area.	The professor in charge, schedule, and place of the excursion will be announced as soon as they are decided. Prerequisite: Introduction to Geoenvironmental Science, Introduction to Earth Evolution Science, Laboratory Work in Basic Geoscience. Or permission by teachers. Open every 3 years since 2026. Lectures are conducted in English. face-to-face Including field survey

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG92103	Field Work in Earth Evolution Science F	3	1.5	2, 3				In this field course students acquire basic field methods on geological science such as field description and mapping in a particular area.	The professor in charge, schedule, and place of the excursion will be announced as soon as they are decided. Prerequisite: Introduction to Geoenvironmental Science, Introduction to Earth Evolution Science, Laboratory Work in Basic Geoscience. Or permission by teachers. Open every 3 years since 2023. Lectures are conducted in English. face-to-face Including field survey
EG90121	Topics on Earth Evolution Science B	1	1.0	2 - 4				This course introduces knowledge and recent developments on specific topic(s) in Earth Evolution Science.	Scheduled to be offered in 2027. Open every 3 years since 2023. Lectures are conducted in English. face-to-face
EG90131	Topics on Geoenvironmental Science A	1	1.0	2 - 4	Annual	Intensive		This course introduces knowledge and recent developments on specific topic(s) in Geoenvironmental Science.	Offered in 2026. Open every 3 years since 2026. Lectures are conducted in English. face-to-face
EG90141	Topics on Geoenvironmental Science B	1	1.0	2 - 4				This course introduces knowledge and recent developments on specific topic(s) in Geoenvironmental Science.	Offered in 2028. Open every 3 years since 2024. Lectures are conducted in English. face-to-face
EG90151	Topics on Geoscience A	1	1.0	3, 4	SprB	Intensive	Thomas Parkner	Students get in contact with the scientific community by attending the Japan Geoscience Union Meeting 2026 (5/24-29).	For Geoscience English program students only. This course is held hydrid (on-site and online). Lecture is conducted in English. Lectures are conducted in English. face-to-face(partially online)

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG90171	Topics on Geoscience C	1	1.0	2 - 4				This course introduces knowledge and recent developments on specific topic(s) in Geoscience.	Scheduled to be offered in 2027. Priority for Geoscience English program students. Students other than English program by permission of instructor. Up to 20 students. Open every 3 years since 2023. Lectures are conducted in English. face-to-face
EG90181	Topics on Geoscience D	1	1.0	2 - 4	Annual	Intensive	Masaaki Kureha, Jun Tsutsumi, Akio Yamashita	This course introduces knowledge and recent developments on specific topic(s) in Geoscience.	Scheduled to be offered in 2026. Priority for Geoscience English program students. Students other than English program by permission of instructor. Up to 20 students. 2022年度より3年おきに開講。 英語で授業。 Open every 3 years since 2026. Lectures are conducted in English. face-to-face
EG90191	Topics on Geoscience E	1	1.0	2 - 4				This course introduces knowledge and recent developments on specific topic(s) in Geoscience.	Scheduled to be offered in 2028. Priority for Geoscience English program students. Students other than English program by permission of instructor. Up to 20 students. Open every 3 years since 2024. Lectures are conducted in English. face-to-face
EG90303	Internship Program in Geoscience	3	2.0	2 - 4	Annual	by appointment	Hiroaki Kato, Sachiko Agematsu	Students have the opportunity to evaluate their own abilities and aptitudes through experiences at companies, research institutes, non-profit organizations, etc. The conditions for receiving credit include an agreement between the company and the school before the internship begins and a report from the company after the internship is completed. Students should register for the internship program after receiving informal consent from the company.	For Geoscience English program students. Lectures are conducted in English. face-to-face CDP
EG92053	Field Work in Earth Evolution Science A	3	2.0	2, 3	FallC, Spr Vac	Intensive	Yoshihito Kamata	This class is a joint field excursion with students from Chulalongkorn University in Thailand. You observe strata and rocks on the continental block and compare them with Japanese rocks typical of subduction zones.	Open in an even number year. Lectures are conducted in English. face-to-face

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG71002	Seminar on Geoscience A	2	1.5	3	SprC	by appointment	Thomas Parkner	This class provides an overview on all laboratories of the College of Geoscience. Topics on all geoscience desciplines are discussed with members of each laboratory. Students identify 1-2 laboratories of their main interest.	For Geoscience English program students who start their Seminar on Geoscience in spring. Lectures are conducted in English. face-to-face 英語で授業
EG71012	Seminar on Geoscience B	2	1.5	3	FallABC	by appointment	Thomas Parkner	This intensive course is designed to expose undergraduate students in geoscience to two laboratory settings in order to help them choose one laboratory for their graduation research project.	For Geoscience English program students who started their Seminar on Geoscience A in spring. Lectures are conducted in English. face-to-face 英語で授業
EG71022	Seminar on Geoscience A	2	1.5	3	FallC	by appointment	Thomas Parkner	This class provides an overview on all laboratories of the College of Geoscience. Topics on all geoscience desciplines are discussed with members of each laboratory. Students identify 1-2 laboratories of their main interest.	For Geoscience English program students who start their Seminar on Geoscience in fall. Lectures are conducted in English. face-to-face 英語で授業
EG71032	Seminar on Geoscience B	2	1.5	3	SprABC	by appointment	Thomas Parkner	This intensive course is designed to expose undergraduate students in geoscience to two laboratory settings in order to help them choose one laboratory for their graduation research project.	For Geoscience English program students who started their Seminar on Geoscience A in fall. Lectures are conducted in English. face-to-face 英語で授業
EG71102	Research Seminar A	2	1.5	4	SprABC	by appointment	Thomas Parkner,Dean and others	This seminar is the first semester of a two-semester series focusing on developing research skills in undergraduate geoscience students. Students will work on presenting a research proposal and delivering a midterm presentation to showcase their proposed research project. A key component of the course is peer learning, where students will engage in collaborative discussions and provide feedback to one another.	For Geoscience English program students who start their Research Seminar in spring. Lectures are conducted in English. face-to-face 英語で授業
EG71112	Research Seminar B	2	1.5	4	FallABC	by appointment	Thomas Parkner,Dean and others	This seminar is the second semester of a two-semester series focusing on developing research skills in undergraduate geoscience students. Students will work on presenting their final laboratory presentation and a test presentation for the graduation presentation to showcase their proposed research project. A key component of the course is peer learning, where students will engage in collaborative discussions and provide feedback to one another.	For Geoscience English program students. Prerequisite: Research Seminar A. Lectures are conducted in English. face-to-face 英語で授業

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG71122	Research Seminar A	2	1.5	4	FallABC	by appointment	Thomas Parkner,Dean and others	This seminar is the first semester of a two-semester series focusing on developing research skills in undergraduate geoscience students. Students will work on presenting a research proposal and delivering a midterm presentation to showcase their proposed research project. A key component of the course is peer learning, where students will engage in collaborative discussions and provide feedback to one another.	For Geoscience English program students who start their Research Seminar in fall. Lectures are conducted in English. face-to-face 英語で授業
EG71152	Research Seminar B	2	1.5	4	SprAB	by appointment	Thomas Parkner,Dean and others	This seminar is the second semester of a two-semester series focusing on developing research skills in undergraduate geoscience students. Students will work on presenting their final laboratory presentation and a test presentation for the graduation presentation to showcase their proposed research project. A key component of the course is peer learning, where students will engage in collaborative discussions and provide feedback to one another.	For Geoscience English program students. Prerequisite: Research Seminar A. Lectures are conducted in English. face-to-face 英語で授業
EG79018	Graduation Research A	8	3.0	4	SprABC	by appointment	地球学類長	Students undertake research in a laboratory where they become familiar with the most advanced research environments and practices.	For Geoscience English program students who entered by 2020 and start their graduation research in spring. Lectures are conducted in English. face-to-face 英語で授業
EG79038	Graduation Research A	8	3.0	4	FallABC	by appointment	地球学類長	Students undertake research in a laboratory where they become familiar with the most advanced research environments and practices.	For Geoscience English program students who entered by 2020 and start their graduation research in fall. Lectures are conducted in English. face-to-face 英語で授業
EG79068	Graduation Research B	8	3.0	4	SprAB	by appointment	Thomas Parkner,Dean and others	This second semester course is a continuation of the graduation research program, focusing on the implementation, data collection, analysis, and interpretation phases of the student's research project. Students will work closely with their research advisor to conduct their research, troubleshoot challenges, and finalize their research project. The course aims to provide students with hands-on experience in geoscience research and prepare them for successful completion of their graduation project.	Prerequisite: Graduation Research A. Lectures are conducted in English. face-to-face 英語で授業
EG79118	Graduation Research A	8	6.0	4	SprABC	by appointment	Thomas Parkner,Dean and others	This course is the first part of a two-semester intensive program designed to guide undergraduate students in geoscience through the process of developing and proposing their graduation research project. Students will engage in literature reviews, preliminary data collection, methodological planning, and proposal writing under the guidance of research advisors. The course aims to equip students with the necessary skills and knowledge to establish a solid foundation for their graduation research in geoscience.	For Geoscience English program students who start their graduation research in spring. Lectures are conducted in English. face-to-face 英語で授業

Course Number	Course Name	Instructional Type	Credits	Standard Academic Year	Course Offering Term	Weekday and Period	Instructor	Course Overview	Remarks
EG79128	Graduation Research B	8	6.0	4	FallABC	by appointment	Thomas Parkner,Dean and others	This second semester course is a continuation of the geoscience graduation research program, focusing on the implementation, data collection, analysis, and interpretation phases of the student's research project. Students will work closely with research advisors to conduct their research and troubleshoot challenges. The course aims to provide students with hands-on experience in geoscience research and prepare them for successful completion of their graduation project.	For Geoscience English program students. Prerequisite: Graduation Research A. Lectures are conducted in English. face-to-face 英語で授業
EG79138	Graduation Research A	8	6.0	4	FallABC	by appointment	Thomas Parkner,Dean and others	This course is the first part of a two-semester intensive program designed to guide undergraduate students in geoscience through the process of developing and proposing their graduation research project. Students will engage in literature reviews, preliminary data collection, methodological planning, and proposal writing under the guidance of research advisors. The course aims to equip students with the necessary skills and knowledge to establish a solid foundation for their graduation research in geoscience.	For Geoscience English program students who start their graduation research in fall. Lectures are conducted in English. face-to-face 英語で授業
EG79168	Graduation Research B	8	6.0	4	SprAB	by appointment	Thomas Parkner,Dean and others	This second semester course is a continuation of the geoscience graduation research program, focusing on the implementation, data collection, analysis, and interpretation phases of the student's research project. Students will work closely with research advisors to conduct their research and troubleshoot challenges. The course aims to provide students with hands-on experience in geoscience research and prepare them for successful completion of their graduation project.	For Geoscience English program students. Prerequisite: Graduation Research A. Lectures are conducted in English. face-to-face 英語で授業
EG79178	Paper Preparation	8	7.0	4	SprABC	by appointment	Thomas Parkner,Dean and others	This course focuses on the final stages of completing an undergraduate thesis in geoscience guided by the academic advisors. Students will learn essential skills in organizing, structuring, and composing their research findings into a coherent and comprehensive thesis document. Topics covered include thesis formatting, citation styles, editing, revising, and preparing for the thesis presentation at the field-wide graduation presentation meeting.	For Geoscience English program students. Take with Graduation Research B. Lectures are conducted in English. face-to-face 英語で授業
EG79188	Paper Preparation	8	7.0	4	FallABC	by appointment	Thomas Parkner,Dean and others	This course focuses on the final stages of completing an undergraduate thesis in geoscience guided by the academic advisors. Students will learn essential skills in organizing, structuring, and composing their research findings into a coherent and comprehensive thesis document. Topics covered include thesis formatting, citation styles, editing, revising, and preparing for the thesis presentation at the field-wide graduation presentation meeting.	For Geoscience English program students. Take with Graduation Research B. Lectures are conducted in English. face-to-face 英語で授業