

生命環境科学研究科 環境科学専攻 (博士前期課程)
持続性科学・技術・政策 (SUSTEP前期) プログラム

専門基礎科目 (必修科目) 環境科学・英語科目

科目番号	科目名	授業方法	単位数	標準履修年次	実施学期	曜時限	教室	担当教員	授業概要	備考
01AD111	Introduction to Environmental Sciences		1	1.0	1	秋AB	水1	理科系 C103 濱 健夫	This course introduces core issues in environmental sciences and approach them from both natural and social sciences. It aims to foster both global/local and highangle/lowangle views.	01AD112および01AD113と同時履修を原則とする 英語で授業。 01AD005と選択必修
01AD112	Exercises in Environmental Sciences		2	1.0	1	秋AB	水2	理科系 C103 松井 健一, 雷 中方	This course aims to enhance the effectiveness of hands-on knowledge acquisition activities in "Field & Laboratory Practices in Environmental Sciences." Students are expected to master basic research skills, information ethics, group discussion/presentation, and data collection methodologies, including plant identification and waste management.	01AD111および01AD113と同時履修を原則とする 英語で授業。 01AD006と選択必修
01AD113	Field and Laboratory Practices in Environmental Sciences		3	1.0	1	秋AB	水3,4	理科系 C103 松井 健一, 雷 中方	Keeping in mind of global and local environmental problems, this course aims to foster knowledge acquisition and problem-solving skills in practical and clinical settings. Students are expected to engage in field activities and acquire multidisciplinary skills and methods in natural sciences, social sciences and humanities that clarify, describe, solve and explain environmental problems.	01AD111および01AD112と同時履修を原則とする 英語で授業。 01AD004と選択必修

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01AD114	Seminar in Environmental Sciences 1S		2	1.5	1	春ABC	応談	環境科学教員		01AD013と選択必修 英語で授業。
01AD115	Seminar in Environmental Sciences 1F		2	1.5	1	秋ABC	応談	環境科学教員		01AD014と選択必修 英語で授業。
01AD116	Seminar in Environmental Sciences 2S		2	1.5	2	春ABC	応談	環境科学教員		01AD015と選択必修 英語で授業。
01AD117	Seminar in Environmental Sciences 2F		2	1.5	2	秋ABC	応談	環境科学教員		01AD016と選択必修 英語で授業。
01AD118	Thesis Seminar in Environmental Sciences 1F		8	3.0	1	秋ABC	随時	環境科学 研究指導教員		原則として春学期入学者のみ履修可 英語で授業。 01AD036と選択必修
01AD119	Thesis Seminar in Environmental Sciences 2S		8	3.0	2	春ABC	随時	環境科学 研究指導教員		01AD037と選択必修 英語で授業。
01AD120	Thesis Seminar in Environmental Sciences 2F		8	3.0	2	秋ABC	随時	環境科学 研究指導教員		01AD038と選択必修 英語で授業。

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01AD081	International Field Appraisal I		3	1.0	1・2	通年	応談	辻村 真貴, 松井 健一	This course aims to deepen understanding about the cause, and state of environmental problems in overseas to find a potential countermeasure against them.	英語で授業。
01AD082	International Field Appraisal II		3	1.0	1・2	通年	応談	辻村 真貴, 松井 健一	This course aims to foster in-depth analytical skills for monitoring and identifying environmental problems in a local and global context by engaging in hand-on activities overseas.	英語で授業。
01AD222	Soil and Water Environmental Colloid Science		1	2.0	1・2	春AB	集中	生農 B201 足立 泰久	Introductory and fundamental lecture of colloid and interface science is given placing an emphasis on the application to soil and water, and bio and environmental engineering..	「土壌水資源保全論」をコードシェアで登録できます。同科目の履修を希望する場合は本科目を履修してください。4/11, 4/18, 4/25 毎週(土)9:30~15:00。01AB765と同一。 英語で授業。 4/11, 4/18, 4/25

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01AD301	Introduction to Water Environment	1	2.0	1・2	秋AB	木3,4	理科系C502	辻村 真貴	This class aims to foster ability to understand principles of water resources issues in relation with regional issues based on scientific/ anthropogenic knowledge of hydrological cycle and water governance. The class consists of lectures on basics of hydrology and discussion on textbook of water governance/ policy	02AF112と同一。 英語で授業。
01AD302	Integrated Water Science and Technology	1	2.0	1・2	秋AB	月5,6	理科系C502	辻村 真貴, 福島 武彦	This class explains a variety of water issues on forest hydrology, landslide, water treatment, water supply, flood, chemical material risk, and water resources use from the view points of natural sciences, technology and policy.	02AF113と同一。 英語で授業。
01AD303	Ecological Soil Resources	1	2.0	1・2	夏季休業中	集中	理科系C502	田村 憲司	土壌資源は、あらゆる生態系の基盤として、地球上の生命を育む貴重な資源である。本講義では、世界の特徴的な幾つかの異なる生態系における土壌資源、とくに、その分布・生成・性質および機能について詳細に解説すると共に、実際の土壌劣化・荒廃が生じている地域の土壌資源を例に挙げながら、土壌資源の管理・保全について学習する。	英語で授業。
01AD304	Environmental Analytical Chemistry	1	1.0	1・2	秋AB	木5	理科系C502	末木 啓介	我々は、有害なPCB、ダイオキシン、重金属などの数多くの汚染物質にさらされ生活している。そのため環境中における痕跡量の有機物、無機物などをモニターし分析することは非常に重要である。この講義では、これらの成分の測定方法について、その原理と応用を述べる。その他、試料の採取方法や保存法などについても述べる。	英語で授業。
01AD305	Environmental Microbiology	1	2.0	1・2					Microorganisms are an important part of natural environments. Fundamental knowledge on environmental microbiology will be lectured. This lecture deals with the ecological role of microorganisms, the physiological state of microorganisms in the environment, microorganisms in extreme environments and application of microbial functions for conservation of environments.	英語で授業。 2015年度開講せず。
01AD307	Utilization and Recycling of Bio-resources	1	2.0	1・2	秋AB	火1,2	理科系C502	張 振亜, 内海 真生, 雷 中方	Main contents and topics: 1. Basic concepts in bioresource utilization and recycling—bioresource and biomass, wastewater and waste, bioenergy, etc 2. Fundamentals of design for waste(water) utilization and recycling—reactor design and optimization 3. Introduction to main technologies for bioresource utilization and recycling—wastewater, solid waste combustion, gasification, carbonization, methane/hydrogen/ethanol production, etc 4. Case studies—biogasification technologies, strategies and management	02AF114と同一。 英語で授業。
01AD310	Environmental Policy Appraisal	1	2.0	1・2	秋AB	金1,2	理科系C502	氷鮑 揚四郎	In a sustainable society, an optimal trade-off between reduction of environmental loads and economic development should be attained. Evaluation of the environmental policy which pursues such kind of optimality should be comprehensively made focusing on its impacts upon not only the socio-economic system and the natural environment but also the interaction between the two systems focusing on three Balances of Material, Energy, and Value. The purpose of this class is to understand (i) meaning of the three balances for the evaluation, (ii) an interaction model between socio-economic activities and the environment, and (iii) comprehensive environmental policy appraisal method.	02AF115と同一。 英語で授業。
01AD311	Introduction to Waste Management	1	2.0	1・2	春AB	金1,2	理科系C502	ヤバール モスタセロ ヘルムート	One of the greatest challenges modern societies face is finding ways to increase economic growth while minimizing resource consumption and environmental degradation. The highly inefficient use of natural resources, from their extraction to final disposal, is already damaging the planet because most of the extracted resources end up as waste. This class will introduce the main aspects concerning integrated waste management including current waste treatment technologies, strategies, policies and modeling of waste management systems.	英語で授業。

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01AD312	Solid Waste Management Systems Planning		1	2.0	1・2	秋AB	火3,4	理科系 C502	ヤバール モスタセロ ヘルムート	In addition to health and safety concerns, the Planning of waste management systems must also be sustainable i.e. environmentally sound, socially acceptable and economically viable. This class introduces the tools necessary to design integral solid waste management systems. The class provides specific modeling based on life-cycle thinking towards planning of waste management systems through scenario design.	英語で授業。
01AD315	Climate System Study II		1	1.0	1・2	春AB	火6		田中 博	Atmospheric general circulation study is the core of climate system study. The climate system study consists of many climate subsystems of oceanography, sea ice, land surface process, cryosphere, and biosphere with the core of the atmospheric general circulation model. In this class, we study the basic concept of the general circulation of the atmosphere.	01AC245と同一。 英語で授業。
01AD316	Climate System Study I		1	1.0	1・2	春AB	火5		植田 宏昭	Climate system can be defined as being composed of the atmosphere, hydrosphere, land surface and biosphere. The strong interaction among these elements shapes climate as manifested in the Asian monsoon, Intertropical Convergence Zone (ITCZ), Pacific High, Arid region, etc. Among these, HU gives a lecture on the feature of global monsoon, and interactive processes that create and cause them to vary in space and time. This class is code-shared with "KIKOUGAKU KENKYUUHOU (climatological study in geoscience course)".	01AC241と同一。 英語で授業。
01AD317	Introduction to Environmental Policy		1	1.0	1・2	秋AB	金3	理科系 C103	甲斐田 直子	In this course, students learn environmental policy mechanisms and related issues from institutional and socio-economic viewpoints. Topics at the classes cover historical and current policy developments in environmental problems at local, national, regional and global scales as well as engagement of different social actors such as governments and private sectors.	英語で授業。
01AD318	Vegetation Science		1	1.0	1・2	秋A	火1,2	理科系 C103	上條 隆志, 川田 清和, 清野 達之	Vegetation is a major component of our landscape. In this course, students learn concepts of vegetation science, world vegetation, climatic and edaphical factors on distribution of plant communities, vegetation dynamics and human impacts on vegetation. Tropical rainforests, Japanese forests, deserts and grasslands are focused in this course. Students also learn field practices of vegetation survey.	02JZ010と同一。 英語で授業。 01AD432「植生学」、自然保護寄附講座の「植生学」、「Vegetation science」とは重複履修出来ない。
01AD401	Environmental Field Appraisal		3	1.0	1	夏季休業中	集中		松井 健一, 廣田 充, 雷 中方	This course invites students to visit some survey sties in Japan in order to develop analytical and assessment skills and heighten knowledge about some selected environmental science related topics.	英語で授業。
01AD409	Terrestrial Ecology		1	1.0	1・2	春AB	月2		廣田 充	Ecology is the scientific study of interactions of organisms with one another and with the physical and chemical environment. As ever-increasing serious environmental problems at local to global scale, the ecology is recognized as one of the fundamental science, because we have to learn and well-consider various relevant aspects on organisms and environments. I hope that this class will transform your perspective on various environmental problems and the way you view surrounding ecosystem before and after this class.	Who already took 01AD411 cannot take this class. 英語で授業。
01AD419	環境ストレス概論		1	1.0	1・2	秋AB	水3	理科系 B502	松崎 一葉, 斎藤 環, 森田 展彰, 笹原 信一郎, 宇佐見 和哉	環境と人間の相互作用について、主に精神心理学、行動科学の両面から論じる。特に近年問題のなることが多い職場のメンタルヘルスを中心に、認知症や家庭内(アルコール、暴力)など環境との相互作用が大きいトピックを取り上げながら、単に疾病原因論の観点からだけでなく、健康生成説の立場からも、人間がより良く生きるための方策について包括的に学ぶことを目的とする。また、本授業においては、特殊環境下における人間と環境の相互作用の検討として、宇宙医学についても触れる予定である。出席とレポートにて評価を行う。	01E0407と同一。 英語で授業。

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01AD430	Environmental Law	1	2.0	1・2	秋AB	集中		朝賀 広伸	Content and purpose of this lecture is as follows. (1) Understand the principles and basic concepts of Environmental Law and Policy (including international law and domestic law) to solve the environmental problems of domestic and global environmental issues. (2) Outline the "framework of Basic Environment Law" and "Environmental Assessment Law", and other environmental laws. (3) Consider and discuss, for legal measures in developing countries and developed countries. As a result, develop the ability to understand and solve the environmental issues.	英語で授業。 10/4, 10/18, 11/8, 11/15
01AD592	Prevention and Mitigation of Sediment Disaster	1	2.0	1・2	秋AB	火3,4	防災203	堀田 紀文, 水野 秀明	This course provides fundamental understanding of sediment disaster and its mitigations. Students learn sediment related phenomena such as landslide, debris flow, sediment transport and erosion. And, the effective counter measures with the use of constructions such as check dam, slope protection work and channel work and the establishment of warning and evacuation system are introduced referring actual disaster records.	英語で授業。
01AD600	Landscape Planning	1	1.0	1・2					This course aims to develop and refine academic skills that are imperative in analyzing legal, social, and ethical implications of environmental issues. Students are to actively participate in discussing, presenting, critically reading and writing about these issues so that they will be fully prepared for internationally competent career as environmental scientists and leaders.	This course is cancelled in 2015 英語で授業。 2015年度開講せず。
01AD601	Applied Environmental Ethics (Introduction to English Presentation and Debate)	1	2.0	1・2	秋AB	月1,2	理科系C502	松井 健一, 渡邊 和男	This course aims to develop and refine your academic skills that are imperative in analyzing legal, social, and ethical implications of environmental issues. You are asked to actively participate in discussing, presenting, critically reading and writing about these issues so that you will be fully prepared for your internationally competent career as an environmental scientist or leader. Our topics for discussion include (1) environmental leadership/ diplomacy; (2) eco-economy; (3) rights of nature; (4) climate change; (5) LMOs and ELSI; (6) biological diversity and ecological service; (7) global bioethics; (8) cultural diversity and indigenous knowledge; and (9) innovative approaches to environmental ethics. The examination of these wide-ranging topics will not only enrich your knowledge about environmental ethics but also enlarge your academic background as environmental science communicator.	英語で授業。
01AD603	Spatial Information Engineering in Environmental Science	1	1.0	1・2	秋AB	月4	理科系C502	吉野 邦彦	In this class, some of fundamental techniques of spatial data measurement and operation will be taken up with related theories and principles, in order to newly build an environmental GIS database. This class mainly covers basic knowledge of the ordinal surveying, GPS survey, analytical photogrammetry, Geostatistics and Landscape metrics. Moreover, some examples of applications of spatial information analyses are introduced.	英語で授業。

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01AD605	Environmental Health Perspective		1	2.0	1・2	春AB	金3,4	理科系C502	熊谷 嘉人, 新開 泰弘	There are numerous chemical substances in the environment, resulting in some serious effects on the body. However, current molecular studies suggest that illnesses caused by exposure to environmental chemicals are, at least in part, attributable to the interaction with macromolecules like proteins in the organism. This lecture offers an opportunity to learn about a variety of symptoms caused by exposure of humans to environmental chemical and initial response and cellular protection against such chemicals.	01EQ406と同一。 英語で授業。
01AD607	Policy and Planning for Forest Conservation		1	2.0	1・2	秋AB	木1,2	理科系C502	増田 美砂	First, global change in the forest cover and trends in wood production and trade are introduced, and the underlying and proximate causes of deforestation are discussed. Next, some alternatives to conventional forestry are introduced and discussed through case studies in Asia and Africa. As one of the measures, protected area management in the humid regions and the dryland is also introduced.	01AB329と同一。 英語で授業。
01AD610	Cultural Ecology		1	2.0	1・2					アフリカ・アジア地域を中心に、フィールド・ワークによる、自然環境と人間活動との関連性、持続可能で環境調和型の政策のあり方などについて講ずる。	英語で授業。 2015年度開講せず。
01AD614	Simulation of Environmental Policy		1	2.0	1・2	春AB	木1,2	理科系C502	水野谷 剛	In this class, structures of simulation model for comprehensive environmental evaluation and its applications are lectured. Contents of this class specially focus on evaluation of environmental technology and derivation of optimal environmental policy.	英語で授業。