

2026

Syllabus
for Study
in Special Course from Asia, Africa and the Pacific Rim

Shikoku Education Consortium

KOCHI UNIVERSITY

(高知大学)

* If time schedule or other items are not specified, ask about them to the lecturer after consulting your advising professor.

(* 開講時期その他の事項が明示されていない場合は、指導教員に相談したうえで授業担当教員に確認すること。)

Course Subject Title (授業題目)

Advanced Agriculture, Forestry, Bioresource and Environmental Sciences I- I
Advanced Agriculture, Forestry, Bioresource and Environmental Sciences I- II

Course Subject Code (申請コード)

1 B H01

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

must take in your first year

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

ICHIURA Hideaki

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Biomaterial chemistry

Professor (Telephone) (担当教員電話)

088-864-5142

Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Bioproduction, Agriculture, Forestry, Bioresource, Environment

Content and Objective (授業テーマと目的)

Understanding the biological production in the ecosystem based on the agricultural, forest and environmental sciences

Teaching Materials (教科書・参考書)

Not decided

Evaluation of Results (成績評価の方法)

Assignment of report on related subjects

Course Subject Title (授業題目)

Advanced Agriculture, Forestry, Bioresource and Environmental Sciences II- I

Advanced Agriculture, Forestry, Bioresource and Environmental Sciences II- II

Course Subject Code (申請コード)

1B H02

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

must take in your first year

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

ICHIURA Hideaki

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Professor (Telephone) (担当教員電話)

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Bioproduction, Agriculture, Forestry, Bioresource, Environment

Content and Objective (授業テーマと目的)

Understanding the biological production through the applications of agricultural, forest and environmental methods

Teaching Materials (教科書・参考書)

Not decided

Evaluation of Results (成績評価の方法)

Assignment of report on related subjects

Course Subject Title(授業題目)

Advanced Horticultural breeding I

Advanced Horticultural breeding II

Course Subject Code(申請コード)

1B H03

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

NAKANO Michiharu

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/ Horticultural Breeding

Professor (Telephone)(担当教員電話)

088-864-5124

Professor (E-Mail)(担当教員)

minakano@kochi-u.ac.jp

Keyword for the subject(キーワード)

Floriculture, Citriculture, Molecular Genetics

Content and Objective(授業テーマと目的)

Molecular genetics of Flowers and sub-tropical fruits

Teaching Materials(教科書・参考書)

Not decided

Evaluation of Results(成績評価の方法)

Assignment of report on related subjects

Course Subject Title (授業題目)

Advanced Local Resources Utilization I

Advanced Local Resources Utilization II

Course Subject Code (申請コード)

1 B H06

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Seminar

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Political Ecology of Natural resource usage, Socio-cultural sphere of Agriculture, Local knowledge,
Conjunction between locality, state, and globalism

Content and Objective (授業テーマと目的)

Transformation of Local Agriculture and Forestry in Environmentalism

Teaching Materials (教科書・参考書)

- 1) Dove, Michael R. 1985, "The Agroecological Mythology of the Javanese and the Political Economy in Indonesia", *Indonesia* (39): 1-36.
- 2) ----- . 1997, "The Epistemology of Southeast Asia's Anthropogenic Grasslands: Issues of Myth, Science and Development", *Southeast Asian Studies* 35 (2): 223-239

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced Animal Science I

Advanced Animal Science II

Course Subject Code (申請コード)

1B H07

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MATSUKAWA Kazutsugu

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Animal science, Reproduction, Breeding, Nutrition

Content and Objective (授業テーマと目的)

Learn academic fields related to livestock production

Teaching Materials (教科書・参考書)

Not decided

Evaluation of Results (成績評価の方法)

Attendance and reports

Course Subject Title(授業題目)

Advanced Crop Science I

Advanced Crop Science II

Course Subject Code(申請コード)

1B H09

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Thursday/3rd

Professor (Lecturer or Instructor)(担当教員名)

MIYAZAKI Akira

Professor (Affiliation/Research field)(担当教員所属)

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Professor (Telephone)(担当教員電話)

088-864-5123

Professor (E-Mail)(担当教員)

miyazaki@kochi-u.ac.jp

Keyword for the subject(キーワード)

Food crop, Rice, Yield component, Crop production, Photosynthesis

Content and Objective(授業テーマと目的)

Physiology and function related with yield production in field crop

Teaching Materials(教科書・参考書)

Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the class

Course Subject Title (授業題目)

Advanced Behavioural Ecology I

Advanced Behavioural Ecology II

Course Subject Code (申請コード)

1 B H13

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

ITO Katsura

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

pests, mites, life history, silk webs, predators, natural enemies, predator-prey interaction

Content and Objective (授業テーマと目的)

To introduce the behaviours and lifestyles of various spider mites that injure crops and other plants and their natural enemies, and learn predator-prey interaction in the agricultural ecosystem

Teaching Materials (教科書・参考書)

(No)

Evaluation of Results (成績評価の方法)

Attendance and reports

Course Subject Title(授業題目)

Advanced Ecological Biochemistry I
Advanced Ecological Biochemistry II

Course Subject Code(申請コード)

1 B H15

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

TEBAYASHI Shin-ichi

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Chemical ecology, Ecology, Biochemistry,

Content and Objective(授業テーマと目的)

In the ecological biochemistry class, students learn about "semiochemicals". Nearly all organisms communicate through chemicals, and students will learn about the structural and functional diversity of these substances, as well as gain an understanding of how they control animal behavior and interact within ecosystems.

Teaching Materials(教科書・参考書)

None

Evaluation of Results(成績評価の方法)

Report

Course Subject Title(授業題目)

Advanced Agricultural Meteorology I

Advanced Agricultural Meteorology II

Course Subject Code(申請コード)

1 B H16

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

MORI Makito

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Agricultural meteorology

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Professor (E-Mail)(担当教員)

morimaki@kochi-u.ac.jp

Keyword for the subject(キーワード)

Micro-meteorology, Local climate

Content and Objective(授業テーマと目的)

Understanding the microclimate in agro-ecosystems as an environmental factor

Teaching Materials(教科書・参考書)

Not decided

Evaluation of Results(成績評価の方法)

Assignment of report on related subjects

Course Subject Title (授業題目)

Advanced Plant Resources and Functional Science I

Advanced Plant Resources and Functional Science II

Course Subject Code (申請コード)

1 B H1 7

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

SAKATA Mitsukazu

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Professor (Telephone) (担当教員電話)

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Keyword for the subject (キーワード)

Genetic Resources, Plant Genetics, Plant Breeding

Content and Objective (授業テーマと目的)

Introduction to utilization and conservation of genetic resources / Introduction to plant genetics and breeding

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced lecture on forest products I

Advanced lecture on forest products II

Course Subject Code (申請コード)

1 B H1 8

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

ICHIURA Hideaki

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Keyword for the subject (キーワード)

Cellulose, Pulp, Paper

Content and Objective (授業テーマと目的)

This lecture is that the science and industrial uses of cellulose produced from forest resources will be introduced.

Teaching Materials (教科書・参考書)

Computer projector,

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title(授業題目)

Advanced lecture on forest engineering I

Advanced lecture on forest engineering II

Course Subject Code(申請コード)

1B H20

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

SUZUKI Yasushi

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Forest engineering, forestry, statistical analysis, engineering mechanics, operational efficiency

Content and Objective(授業テーマと目的)

Basic statistical methods and advanced statistical methods, including design of experiments and analysis of variance (ANOVA), with practical application examples of these methods on data analysis of forestry, forest engineering, and especially forest operation systems. The lecture also focuses on basic engineering mechanics related to forest engineering.

Teaching Materials(教科書・参考書)

Printed synopsis/ Text: Zar, J.H. (1999) Biostatistical analysis, 4th ed. 663 pp, Prentice-Hall Inc., Upper Saddle River, NJ.

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Advanced Food Production Process Technology I

Advanced Food Production Process Technology II

Course Subject Code (申請コード)

1B H23

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Friday/3rd (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor) (担当教員名)

KAWANO Toshio

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Food production process engineering

Professor (Telephone) (担当教員電話)

088-864-5132

Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Food production process, Food analysis, Heat and mass transfer, Chemical engineering

Unit operations

Content and Objective (授業テーマと目的)

Advanced study on the food production process, including physical and chemical reaction during the process

Teaching Materials (教科書・参考書)

F. P. Incropera, D. P. DE WITT: Fundamentals of Heat and Mass Transfer 3rd Ed., John Wiley & Sons Inc.

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced Water Environmental Engineering I

Advanced Water Environmental Engineering II

Course Subject Code (申請コード)

1B H24

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Intensive course in the fall term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor) (担当教員名)

IHARA Masaru

Professor (Affiliation/Research field) (担当教員所属)

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Sustainable Development Goals, Water environment, wastewater treatment technology

Content and Objective (授業テーマと目的)

Understanding sustainable development goals (SDGs) especially for water and sanitation issues

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced Regional Climatology I

Advanced Regional Climatology II

Course Subject Code (申請コード)

1BH25

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

HARA Masayuki

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5291

Professor (E-Mail) (担当教員)

hara.masayuki@kochi-u.ac.jp

Keyword for the subject (キーワード)

Regional meteorology, Regional climatology

Content and Objective (授業テーマと目的)

The aim of this lecture is to understand regional climate and meteorological phenomena, as well as their mechanisms. The lecture also focuses on their relationship with the global climate system and a multifaceted perspective on the characteristics of regional climates.

Teaching Materials (教科書・参考書)

Not decided

Evaluation of Results (成績評価の方法)

Reports

Course Subject Title(授業題目)

Advanced Environmental Water Management Engineering I
Advanced Environmental Water Management Engineering II

Course Subject Code(申請コード)

1B H27

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring Term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

SATO Shushi

Professor (Affiliation/Research field)(担当教員所属)

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Professor (Telephone)(担当教員電話)

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Water environment, Agricultural hydraulic structures, Performance verification method, Stock management

Content and Objective(授業テーマと目的)

Maintenance and Management of method for rural area; water quality management and facilities management for water supplying system

Teaching Materials(教科書・参考書)

Printed synopsis and Computer projector

Evaluation of Results(成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced Environmental Control I
Advanced Environmental Control II

Course Subject Code (申請コード)

1BH28

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

NOMURA Koichi

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/ Environmental control

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Environmental control, greenhouse horticulture, microclimate, crop physio-ecology

Content and Objective (授業テーマと目的)

This course covers the basics of environmental (i.e., microclimate) control in horticultural greenhouses. Students are required to read a textbook and give several presentations on assigned topics.

Teaching Materials (教科書・参考書)

Jones, H.G. (2014) *Plants and Microclimate: A Quantitative Approach to Environmental Plant Physiology* (3rd Edition), Cambridge University Press.

Evaluation of Results (成績評価の方法)

Attendance and presentation

Course Subject Title (授業題目)

Advanced Geographic Information Science I

Advanced Geographic Information Science II

Course Subject Code (申請コード)

1B H29

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

HASHIMOTO Naoyuki

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5166

Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Remote sensing

Content and Objective (授業テーマと目的)

The application of geographic information (remote sensing image, digital map, GNSS data, field survey etc.) for crop land is outlined in connection with the general features of each tool and data.

Teaching Materials (教科書・参考書)

Not decided

Evaluation of Results (成績評価の方法)

Reports

Course Subject Title (授業題目)

Advanced Plant Growth Environmental Science I
Advanced Plant Growth Environmental Science II

Course Subject Code (申請コード)

1B L01

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MORITSUKA Naoki

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Sustainable plant production

Content and Objective (授業テーマと目的)

To discuss how we can achieve sustainable agriculture, this lecture introduces the history of fertilizers and their roles for improving soil fertility.

Teaching Materials (教科書・参考書)

Suitable papers will be provided.

Evaluation of Results (成績評価の方法)

Report (100%)

Course Subject Title(授業題目)

Advanced Plant Nutrition I

Advanced Plant Nutrition II

Course Subject Code(申請コード)

1B L02

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

UENO Daisei

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Plant nutrition, mineral, microelement, uptake, transport, transporter

Content and Objective(授業テーマと目的)

This lecture introduces mechanisms of mineral nutrition in plants particularly focusing on microelement transport.

Teaching Materials(教科書・参考書)

Papers about mineral transport in plants will be appropriately provided.

Evaluation of Results(成績評価の方法)

Report (100%)

Course Subject Title (授業題目)

Advanced Soil Environmental Science I

Advanced Soil Environmental Science II

Course Subject Code (申請コード)

1B L03

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KANG Yumei

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5182

Professor (E-Mail) (担当教員)

kang@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil, environment, pollution, heavy metals

Content and Objective (授業テーマと目的)

Soil properties and contamination affected by the tropical environment will be described in terms of physicochemical viewpoints.

Teaching Materials (教科書・参考書)

Soil in the environment, Elsevier

Evaluation of Results (成績評価の方法)

Class attitude and report quality

Course Subject Title (授業題目)

Advanced Soil Science and Ecology I
Advanced Soil Science and Ecology II

Course Subject Code (申請コード)

1B L04

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TANAKA Sota

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil ecology

Professor (Telephone) (担当教員電話)

088-864-5183

Professor (E-Mail) (担当教員)

sotatnk@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science, Soil ecology, Tropical agriculture

Content and Objective (授業テーマと目的)

Fundamental soil science and ecology in terms of sustainable agriculture, especially the tropical region.

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Advanced Plant Pathology I

Advanced Plant Pathology II

Course Subject Code (申請コード)

1B L06

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KIBA Akinori

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5196

Professor (E-Mail) (担当教員)

akiba@kochi-u.ac.jp

Keyword for the subject (キーワード)

Plant, Pathogen, Interactions, Defense responses

Content and Objective (授業テーマと目的)

Introduction to plant-microbe interactions.

Teaching Materials (教科書・参考書)

Computer projector/OHP/Printed synopsis

Evaluation of Results (成績評価の方法)

Presentation and/or report

Course Subject Title(授業題目)

Advanced Biomaterials Chemistry I

Advanced Biomaterials Chemistry II

Course Subject Code(申請コード)

1B L08

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

ASHIUCHI Makoto

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Tropical bioengineering

Professor (Telephone)(担当教員電話)

088-864-5144

Professor (E-Mail)(担当教員)

ashiuchi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Biomaterials, Polymer chemistry, Bioengineering, Molecular microbiology, Industrial application

Content and Objective(授業テーマと目的)

The aim of this lesson is to enrich the knowledge of advanced biopolymer-materials that benefit to the development of smart (switchable) *meta*-plastics exhibiting biodegradability, catalysis, antimicrobial performance, and so on.

Teaching Materials(教科書・参考書)

PC projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Advanced Protein Science I
Advanced Protein Science II

Course Subject Code (申請コード)

1BL09

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

WAKAMATSU Taisuke

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Protein Science

Professor (Telephone) (担当教員電話)

088-864-5120 (WAKAMATSU Taisuke)

Professor (E-Mail) (担当教員)

t-wakamatsu@kochi-u.ac.jp (WAKAMATSU Taisuke)

Keyword for the subject (キーワード)

Protein, DNA, Gene

Content and Objective (授業テーマと目的)

Introduction to Research in Protein Science

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Advanced Food Functional Chemistry I
Advanced Food Functional Chemistry II

Course Subject Code(申請コード)

1B L11

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Intensive course in the spring term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

KASHIWAGI Takehiro

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Food science

Professor (Telephone)(担当教員電話)

088-864-5184

Professor (E-Mail)(担当教員)

tkashi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Organic chemical classification method, the biosynthetic pathway, and the chemical characteristics

Content and Objective(授業テーマと目的)

This course introduces the organic chemical classification method, the biosynthetic pathway, and the chemical characteristics of bioactive components in functional foods to students taking this course.

Teaching Materials(教科書・参考書)

Computer projector/ Printed synopsis

Evaluation of Results(成績評価の方法)

Your overall grade in the class will be decided based on the following:

- Class attendance and attitude in class: 30%
- Submitting report after the course 80%

Course Subject Title(授業題目)

Advanced Food Chemistry I

Advanced Food Chemistry II

Course Subject Code(申請コード)

1B L12

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

SHIMAMURA Tomoko

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Food science

Professor (Telephone)(担当教員電話)

088-864-5193 (SHIMAMURA Tomoko)

Professor (E-Mail)(担当教員)

tomokos@kochi-u.ac.jp (SHIMAMURA Tomoko)

Keyword for the subject(キーワード)

Food, Heating, Maillard reaction, Reactive oxygen species

Content and Objective(授業テーマと目的)

The interaction between components in foods is discussed in relation with food processing and advanced food processing technology

Teaching Materials(教科書・参考書)

Computer projector /Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Advanced Applied Microbiology I
Advanced Applied Microbiology II

Course Subject Code (申請コード)

1B L14

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MURAMATSU Hisashi

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Applied Microbiology

Professor (Telephone) (担当教員電話)

088-864-5187

Professor (E-Mail) (担当教員)

hmura@kochi-u.ac.jp

Keyword for the subject (キーワード)

Microbiology, Enzymology, Industrial applications of microorganisms and microbial enzymes

Content and Objective (授業テーマと目的)

Screening, characterization, and applications of microorganisms and microbial enzymes

Teaching Materials (教科書・参考書)

Computer projector /Printed synopsis

Evaluation of Results (成績評価の方法)

Evaluating the submitted reports (80%) and the attitude at the lecture (20%)

Course Subject Title (授業題目)

Plant Growth Environmental Science Laboratory I
Plant Growth Environmental Science Laboratory II

Course Subject Code (申請コード)

1B N01

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MORITSUKA Naoki

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5180

Professor (E-Mail) (担当教員)

moritsuka@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science and plant nutrition

Content and Objective (授業テーマと目的)

This lecture tells you how to collect samples from fields, how to analyze them in the laboratory, and how to summarize and/or interpret obtained data.

Teaching Materials (教科書・参考書)

Suitable protocols will be provided.

Evaluation of Results (成績評価の方法)

Reports (100%)

Course Subject Title (授業題目)

Plant Growth Environmental Science Laboratory III

Plant Growth Environmental Science Laboratory IV

Course Subject Code (申請コード)

1B N02

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MORITSUKA Naoki

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5180

Professor (E-Mail) (担当教員)

moritsuka@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science and plant nutrition

Content and Objective (授業テーマと目的)

This lecture tells you how to collect samples from fields, how to analyze them in the laboratory, and how to summarize and/or interpret obtained data.

Teaching Materials (教科書・参考書)

Suitable protocols will be provided.

Evaluation of Results (成績評価の方法)

Reports (100%)

Course Subject Title (授業題目)

Plant Growth Environmental Science Laboratory V

Plant Growth Environmental Science Laboratory VI

Course Subject Code (申請コード)

1B N03

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MORITSUKA Naoki

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5180

Professor (E-Mail) (担当教員)

moritsuka@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science and plant nutrition

Content and Objective (授業テーマと目的)

This lecture tells you how to collect samples from fields, how to analyze them in the laboratory, and how to summarize and/or interpret obtained data.

Teaching Materials (教科書・参考書)

Suitable protocols will be provided.

Evaluation of Results (成績評価の方法)

Reports (100%)

Course Subject Title (授業題目)

Plant Growth Environmental Science Laboratory VII

Plant Growth Environmental Science Laboratory VIII

Course Subject Code (申請コード)

1B N04

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MORITSUKA Naoki

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

088-864-5180

Professor (E-Mail) (担当教員)

moritsuka@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science and plant nutrition

Content and Objective (授業テーマと目的)

This lecture tells you how to collect samples from fields, how to analyze them in the laboratory, and how to summarize and/or interpret obtained data.

Teaching Materials (教科書・参考書)

Suitable protocols will be provided.

Evaluation of Results (成績評価の方法)

Reports (100%)

Course Subject Title(授業題目)

Plant Nutrition Laboratory I

Plant Nutrition Laboratory II

Course Subject Code(申請コード)

1B N05

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

UENO Daisei

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/

Professor (Telephone)(担当教員電話)

088-864-5179

Professor (E-Mail)(担当教員)

daisei_u@kochi-u.ac.jp

Keyword for the subject(キーワード)

Plant culture, hydroponics, mineral deficiency or excess treatment, harvest index

Content and Objective(授業テーマと目的)

Learning how to

- culture plants in nutrient solution and soil.
- treat plants to mineral deficiency or excess.
- calculate harvest index.

Teaching Materials(教科書・参考書)

Manuals will be appropriately provided.

Evaluation of Results(成績評価の方法)

Report (100%)

Course Subject Title(授業題目)

Plant Nutrition Laboratory III

Plant Nutrition Laboratory IV

Course Subject Code(申請コード)

1B N06

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

UENO Daisei

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/

Professor (Telephone)(担当教員電話)

088-864-5179

Professor (E-Mail)(担当教員)

daisei_u@kochi-u.ac.jp

Keyword for the subject(キーワード)

DNA, mRNA, extraction, sequencing, real time RT-PCR

Content and Objective(授業テーマと目的)

Learning how to

- extract genomic DNA and total RNA from plant tissue.
- amplify DNA or cDNA fragments using PCR.
- sequence PCR products using DNA sequencer.
- quantify mRNA level of some gene using real time RT-PCR.

Teaching Materials(教科書・参考書)

Manuals will be appropriately provided.

Evaluation of Results(成績評価の方法)

Report (100%)

Course Subject Title (授業題目)

Plant Nutrition Laboratory V

Plant Nutrition Laboratory VI

Course Subject Code (申請コード)

1B N07

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

UENO Daisei

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

088-864-5179

Professor (E-Mail) (担当教員)

daisei_u@kochi-u.ac.jp

Keyword for the subject (キーワード)

Chlorophyll, photosynthesis, atomic absorption spectrometry (AAS), inductively coupled plasma atomic emission spectroscopy (ICP-AES)

Content and Objective (授業テーマと目的)

Learning how to determine

- chlorophyll concentration in leaves
- photosynthetic rate
- mineral concentration in plant tissue using AAS or ICP-AES

Teaching Materials (教科書・参考書)

Manuals will be appropriately provided.

Evaluation of Results (成績評価の方法)

Report (100%)

Course Subject Title(授業題目)

Plant Nutrition Laboratory VII

Plant Nutrition Laboratory VIII

Course Subject Code(申請コード)

1B N08

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

UENO Daisei

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/

Professor (Telephone)(担当教員電話)

088-864-5179

Professor (E-Mail)(担当教員)

daisei_u@kochi-u.ac.jp

Keyword for the subject(キーワード)

plasmid construction, transformation, heterologous expression

Content and Objective(授業テーマと目的)

Learning how to

- construct plasmid for various experiment.
- introduce plasmid into bacteria and plants
- study gene function using heterologous expression system.

Teaching Materials(教科書・参考書)

Manuals will be appropriately provided.

Evaluation of Results(成績評価の方法)

Report (100%)

Course Subject Title (授業題目)

Soil Environmental Science Laboratory I

Soil Environmental Science Laboratory II

Course Subject Code (申請コード)

1B N09

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KANG Yumei

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil environmental science

Professor (Telephone) (担当教員電話)

088-864-5182

Professor (E-Mail) (担当教員)

kang@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil, moisture, clay, silt sand, aggregate

Content and Objective (授業テーマと目的)

Learn analyzing methods of physical parameters and understand soil physical properties

Teaching Materials (教科書・参考書)

Methods of Soil Analysis: Part 1 Physical and Mineralogical Methods, 5.1 ; SSSA Book Series

Evaluation of Results (成績評価の方法)

Experiment attitude and report quality

Course Subject Title (授業題目)

Soil Environmental Science Laboratory III

Soil Environmental Science Laboratory IV

Course Subject Code (申請コード)

1B N10

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KANG Yumei

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil environmental science

Professor (Telephone) (担当教員電話)

088-864-5182

Professor (E-Mail) (担当教員)

kang@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil, organic matter, CEC, cation, anion

Content and Objective (授業テーマと目的)

Learn analyzing methods of chemical parameters and understand soil chemical properties

Teaching Materials (教科書・参考書)

Methods of Soil Analysis: Part 3 Chemical Methods, 5.3; SSSA Book Series

Evaluation of Results (成績評価の方法)

Experiment attitude and report quality

Course Subject Title (授業題目)

Soil Environmental Science Laboratory V

Soil Environmental Science Laboratory VI

Course Subject Code (申請コード)

1B N11

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KANG Yumei

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil environmental science

Professor (Telephone) (担当教員電話)

088-864-5182

Professor (E-Mail) (担当教員)

kang@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil, water, contamination, heavy metals

Content and Objective (授業テーマと目的)

Learn analyzing methods of heavy metals and understand heavy metal's dynamic in soil

Teaching Materials (教科書・参考書)

Heavy Metals in Soils: Trace Metals and Metalloids in Soils and their Bioavailability. Springer

Evaluation of Results (成績評価の方法)

Experiment attitude and report quality

Course Subject Title (授業題目)

Soil Environmental Science Laboratory VII

Soil Environmental Science Laboratory VIII

Course Subject Code (申請コード)

1B N12

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KANG Yumei

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil environmental science

Professor (Telephone) (担当教員電話)

088-864-5182

Professor (E-Mail) (担当教員)

kang@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil, water, plant, ecosystem, remediation

Content and Objective (授業テーマと目的)

Learn analyzing methods of environmental materials and understand remediation techniques for environment and ecosystem

Teaching Materials (教科書・参考書)

Phytoremediation of Soil and Water Contaminants, Amer Chemical Society

Evaluation of Results (成績評価の方法)

Experiment attitude and report quality

Course Subject Title (授業題目)

Soil Science Laboratory I

Soil Science Laboratory II

Course Subject Code (申請コード)

1B N13

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TANAKA Sota

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil ecology

Professor (Telephone) (担当教員電話)

088-864-5183

Professor (E-Mail) (担当教員)

sotatnk@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science, Soil chemical analysis, Soil physical analysis

Content and Objective (授業テーマと目的)

Soil physicochemical analyses required for soil characterization and fertility assessment

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Soil Science Laboratory III

Soil Science Laboratory IV

Course Subject Code (申請コード)

1B N14

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TANAKA Sota

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

088-864-5183

Professor (E-Mail) (担当教員)

sotatnk@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science, Soil chemical analysis, Soil physical analysis

Content and Objective (授業テーマと目的)

Soil physicochemical analyses required for soil characterization and fertility assessment

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Soil Science Laboratory V

Soil Science Laboratory VI

Course Subject Code (申請コード)

1B N15

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TANAKA Sota

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

088-864-5183

Professor (E-Mail) (担当教員)

sotatnk@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science, Soil chemical analysis, Soil physical analysis

Content and Objective (授業テーマと目的)

Soil physicochemical analyses required for soil characterization and fertility assessment

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Soil Science Laboratory VII

Soil Science Laboratory VIII

Course Subject Code (申請コード)

1B N16

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TANAKA Sota

Professor (Affiliation/Research field) (担当教員所属)

Kochi University / Soil ecology

Professor (Telephone) (担当教員電話)

088-864-5183

Professor (E-Mail) (担当教員)

sotatnk@kochi-u.ac.jp

Keyword for the subject (キーワード)

Soil science, Soil chemical analysis, Soil physical analysis

Content and Objective (授業テーマと目的)

Soil physicochemical analyses required for soil characterization and fertility assessment

Teaching Materials (教科書・参考書)

Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Plant Pathology Laboratory I

Plant Pathology Laboratory II

Course Subject Code (申請コード)

1B N21

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KIBA Akinori

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5196

Professor (E-Mail) (担当教員)

akiba@kochi-u.ac.jp

Keyword for the subject (キーワード)

Plant, Pathogen, Interactions, Defense responses

Content and Objective (授業テーマと目的)

Plant-microbe interactions.

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Presentation and/or report

Course Subject Title (授業題目)

Plant Pathology Laboratory III

Plant Pathology Laboratory IV

Course Subject Code (申請コード)

1B N22

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KIBA Akinori

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5196

Professor (E-Mail) (担当教員)

akiba@kochi-u.ac.jp

Keyword for the subject (キーワード)

Plant, Pathogen, Interactions, Defense responses

Content and Objective (授業テーマと目的)

Plant-microbe interactions.

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Presentation and/or report

Course Subject Title (授業題目)

Plant Pathology Laboratory V

Plant Pathology Laboratory VI

Course Subject Code (申請コード)

1B N23

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KIBA Akinori

Professor (Affiliation/Research field) (担当教員所属)

Kochi University

Professor (Telephone) (担当教員電話)

088-864-5196

Professor (E-Mail) (担当教員)

akiba@kochi-u.ac.jp

Keyword for the subject (キーワード)

Plant, Pathogen, Interactions, Defense responses

Content and Objective (授業テーマと目的)

Plant-microbe interactions.

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Presentation and/or report

Course Subject Title (授業題目)

Plant Pathology Laboratory VII

Plant Pathology Laboratory VIII

Course Subject Code (申請コード)

1B N24

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

KIBA Akinori

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Professor (Telephone) (担当教員電話)

088-864-5196

Professor (E-Mail) (担当教員)

akiba@kochi-u.ac.jp

Keyword for the subject (キーワード)

Plant, Pathogen, Interactions, Defense responses

Content and Objective (授業テーマと目的)

Plant-microbe interactions.

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Presentation and/or report

Course Subject Title(授業題目)

Biomaterials Chemistry Laboratory I

Biomaterials Chemistry Laboratory II

Course Subject Code(申請コード)

1B N29

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

ASHIUCHI Makoto

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Tropical bioengineering

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088-864-5144

Professor (E-Mail)(担当教員)

ashiuchi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Biomaterials, Polymer chemistry, Bioengineering, Molecular microbiology, Industrial application

Content and Objective(授業テーマと目的)

Guidance of technical skills in advanced biopolymer-materials that benefit to the development of smart (switchable) *meta*-plastics exhibiting biodegradability, catalysis, antimicrobial performance, and so on.

Teaching Materials(教科書・参考書)

PC projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Biomaterials Chemistry Laboratory III

Biomaterials Chemistry Laboratory IV

Course Subject Code(申請コード)

1B N30

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

ASHIUCHI Makoto

Professor (Affiliation/Research field)(担当教員所属)

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088-864-5215

Professor (E-Mail)(担当教員)

ashiuchi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Biomaterials, Polymer chemistry, Bioengineering, Molecular microbiology, Industrial application

Content and Objective(授業テーマと目的)

Guidance of technical skills in advanced biopolymer-materials that benefit to the development of smart (switchable) *meta*-plastics exhibiting biodegradability, catalysis, antimicrobial performance, and so on.

Teaching Materials(教科書・参考書)

PC projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Biomaterials Chemistry Laboratory V

Biomaterials Chemistry Laboratory VI

Course Subject Code(申請コード)

1B N31

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

ASHIUCHI Makoto

Professor (Affiliation/Research field)(担当教員所属)

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088-864-5215

Professor (E-Mail)(担当教員)

ashiuchi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Biomaterials, Polymer chemistry, Bioengineering, Molecular microbiology, Industrial application

Content and Objective(授業テーマと目的)

Guidance of technical skills in advanced biopolymer-materials that benefit to the development of smart (switchable) *meta*-plastics exhibiting biodegradability, catalysis, antimicrobial performance, and so on.

Teaching Materials(教科書・参考書)

PC projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Biomaterials Chemistry Laboratory VII

Biomaterials Chemistry Laboratory VIII

Course Subject Code(申請コード)

1B N32

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

ASHIUCHI Makoto

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Tropical bioengineering

Professor (Telephone)(担当教員電話)

088-864-5215

Professor (E-Mail)(担当教員)

ashiuchi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Biomaterials, Polymer chemistry, Bioengineering, Molecular microbiology, Industrial application

Content and Objective(授業テーマと目的)

Guidance of technical skills in advanced biopolymer-materials that benefit to the development of smart (switchable) *meta*-plastics exhibiting biodegradability, catalysis, antimicrobial performance, and so on.

Teaching Materials(教科書・参考書)

PC projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Protein Science Laboratory I

Protein Science Laboratory II

Course Subject Code (申請コード)

1BN33

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

WAKAMATSU Taisuke

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Protein Science

Professor (Telephone) (担当教員電話)

088-864-5120

Professor (E-Mail) (担当教員)

t-wakamatsu@kochi-u.ac.jp

Keyword for the subject (キーワード)

Biochemistry, Enzymology, Microbial ecology

Content and Objective (授業テーマと目的)

Instructions for the screening, functional analyses, and three-dimensional structural analyses of novel and/or useful proteins

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Protein Science Laboratory III

Protein Science Laboratory IV

Course Subject Code (申請コード)

1BN34

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

WAKAMATSU Taisuke

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5120

Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Biochemistry, Enzymology, Microbial ecology

Content and Objective (授業テーマと目的)

Instructions for the screening, functional analyses, and three-dimensional structural analyses of novel and/or useful proteins

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Protein Science Laboratory V

Protein Science Laboratory VI

Course Subject Code (申請コード)

1BN35

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

WAKAMATSU Taisuke

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5120

Professor (E-Mail) (担当教員)

t-wakamatsu@kochi-u.ac.jp

Keyword for the subject (キーワード)

Biochemistry, Enzymology, Microbial ecology

Content and Objective (授業テーマと目的)

Instructions for the screening, functional analyses, and three-dimensional structural analyses of novel and/or useful proteins

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Protein Science Laboratory VII

Protein Science Laboratory VIII

Course Subject Code (申請コード)

1BN36

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

WAKAMATSU Taisuke

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5120

Professor (E-Mail) (担当教員)

t-wakamatsu@kochi-u.ac.jp

Keyword for the subject (キーワード)

Biochemistry, Enzymology, Microbial ecology

Content and Objective (授業テーマと目的)

Instructions for the screening, functional analyses, and three-dimensional structural analyses of novel and/or useful proteins

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Food Functional Chemistry Laboratory I
Food Functional Chemistry Laboratory II

Course Subject Code(申請コード)

1B N41

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Intensive course in the fall term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

KASHIWAGI Takehiro

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Food science

Professor (Telephone)(担当教員電話)

088-864-5184

Professor (E-Mail)(担当教員)

tkashi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Extraction, normal/reversed phase column chromatography, and bioassay

Content and Objective(授業テーマと目的)

This course introduces theory related to the basic technology necessary for exploring the functionality of food to students taking this course.

For example

- Method of extracting the target ingredient from food
- Various chromatographic theories for isolating the active ingredient from the extract
- Various enzyme test cell test and other bioassay
- Actual application examples

Evaluation of Results (成績評価の方法)

Your overall grade in the class will be decided based on the following:

- Class attendance and attitude in class: 30%
- Presentation 80%

Course Subject Title(授業題目)

Food Functional Chemistry Laboratory III

Food Functional Chemistry Laboratory IV

Course Subject Code(申請コード)

1B N42

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Intensive course in the spring term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

KASHIWAGI Takehiro

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Food science

Professor (Telephone)(担当教員電話)

088-864-5184

Professor (E-Mail)(担当教員)

tkashi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Molecular structure analysis of low molecular weight compounds

Content and Objective(授業テーマと目的)

This course introduces instrumental analysis methods for identifying ingredients involved in food functionality to students taking this course.

Ultraviolet-visible absorption spectrum

Infrared absorption spectrum

Gas chromatography-mass spectrometry

¹H- / ¹³C Nuclear Magnetic Resonance Spectrum

Teaching Materials(教科書・参考書)

Computer projector/ Printed synopsis

Evaluation of Results(成績評価の方法)

Your overall grade in the class will be decided based on the following:

- Class attendance and attitude in class: 20%

- Practice problem: 80%

Course Subject Title(授業題目)

Food Functional Chemistry Laboratory V

Food Functional Chemistry Laboratory VI

Course Subject Code(申請コード)

1B N43

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Fall term

Day/Period(時間割)

Intensive course in the fall term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

KASHIWAGI Takehiro

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Professor (Telephone)(担当教員電話)

088-864-5184

Professor (E-Mail)(担当教員)

tkashi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Extraction, normal/reversed phase column chromatography, and bioassay

Content and Objective(授業テーマと目的)

This course introduces theory related to the basic technology necessary for exploring the functionality of food to students taking this course.

For example

- Method of extracting the target ingredient from food
- Various chromatographic theories for isolating the active ingredient from the extract
- Various enzyme test cell test and other bioassay
- Actual application examples

Teaching Materials(教科書・参考書)

Computer projector/ Printed synopsis

Evaluation of Results(成績評価の方法)

Your overall grade in the class will be decided based on the following:

- Class attendance and attitude in class: 30%
- Presentation 80%

Course Subject Title(授業題目)

Food Functional Chemistry Laboratory VII

Food Functional Chemistry Laboratory VIII

Course Subject Code(申請コード)

1B N44

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Spring term

Day/Period(時間割)

Intensive course in the spring term (Contact the lecturer to confirm the availability of the course.)

Professor (Lecturer or Instructor)(担当教員名)

KASHIWAGI Takehiro

Professor (Affiliation/Research field)(担当教員所属)

Kochi University/Food science

Professor (Telephone)(担当教員電話)

088-864-5184

Professor (E-Mail)(担当教員)

tkashi@kochi-u.ac.jp

Keyword for the subject(キーワード)

Molecular structure analysis of low molecular weight compounds

Content and Objective(授業テーマと目的)

This course introduces instrumental analysis methods for identifying ingredients involved in food functionality to students taking this course.

Ultraviolet-visible absorption spectrum

Infrared absorption spectrum

Gas chromatography-mass spectrometry

¹H- / ¹³C Nuclear Magnetic Resonance Spectrum (including 2D NMR)

Teaching Materials(教科書・参考書)

Computer projector/ Printed synopsis

Evaluation of Results(成績評価の方法)

Your overall grade in the class will be decided based on the following:

- Class attendance and attitude in class: 20% -

-Presentation 80%

Course Subject Title (授業題目)

Food Chemistry Laboratory I

Food Chemistry Laboratory II

Course Subject Code (申請コード)

1B N45

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

SHIMAMURA Tomoko

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Food science

Professor (Telephone) (担当教員電話)

088-864-5193 (SHIMAMURA Tomoko)

Professor (E-Mail) (担当教員)

tomokos@kochi-u.ac.jp (SHIMAMURA Tomoko)

Keyword for the subject (キーワード)

Food analysis, Food science, Food chemistry, Functional food

Content and Objective (授業テーマと目的)

Instruction of recent chemical and instrumental analyses of natural products

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Food Chemistry Laboratory III

Food Chemistry Laboratory IV

Course Subject Code (申請コード)

1B N46

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

SHIMAMURA Tomoko

Professor (Affiliation/Research field) (担当教員所属)

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088-864-5193 (SHIMAMURA Tomoko)

Professor (E-Mail) (担当教員)

tomokos@kochi-u.ac.jp (SHIMAMURA Tomoko)

Keyword for the subject (キーワード)

Food analysis, Food science, Food chemistry, Functional food

Content and Objective (授業テーマと目的)

Instruction of recent chemical and instrumental analyses of natural products

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Food Chemistry Laboratory V

Food Chemistry Laboratory VI

Course Subject Code (申請コード)

1B N47

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

SHIMAMURA Tomoko

Professor (Affiliation/Research field) (担当教員所属)

Kochi University/Food science

Professor (Telephone) (担当教員電話)

088-864-5193 (SHIMAMURA Tomoko)

Professor (E-Mail) (担当教員)

tomokos@kochi-u.ac.jp (SHIMAMURA Tomoko)

Keyword for the subject (キーワード)

Food analysis, Food science, Food chemistry, Functional food

Content and Objective (授業テーマと目的)

Instruction of recent chemical and instrumental analyses of natural products

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Submitting report after the course

Course Subject Title(授業題目)

Food Chemistry Laboratory VII

Food Chemistry Laboratory VIII

Course Subject Code(申請コード)

1B N48

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Experiment

Year of commencement(履修開始年次)

2nd year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

SHIMAMURA Tomoko

Professor (Affiliation/Research field)(担当教員所属)

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Professor (Telephone)(担当教員電話)

088-864-5193 (SHIMAMURA Tomoko)

Professor (E-Mail)(担当教員)

tomokos@kochi-u.ac.jp (SHIMAMURA Tomoko)

Keyword for the subject(キーワード)

Food analysis, Food science, Food chemistry, Functional food

Content and Objective(授業テーマと目的)

Instruction of recent chemical and instrumental analyses of natural products

Teaching Materials(教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results(成績評価の方法)

Submitting report after the course

Course Subject Title (授業題目)

Applied Microbiology Laboratory I

Applied Microbiology Laboratory II

Course Subject Code (申請コード)

1B N53

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MURAMATSU Hisashi

Professor (Affiliation/Research field) (担当教員所属)

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Professor (Telephone) (担当教員電話)

088-864-5187

Professor (E-Mail) (担当教員)

hmura@kochi-u.ac.jp

Keyword for the subject (キーワード)

Microbiology, Enzymology, Industrial applications of microorganisms and microbial enzymes

Content and Objective (授業テーマと目的)

Instruction of screening, characterization, and application of microorganisms and microbial enzymes

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Evaluating the submitted reports (80%) and the attitude at the lecture (20%)

Course Subject Title (授業題目)

Applied Microbiology Laboratory III

Applied Microbiology Laboratory IV

Course Subject Code (申請コード)

1B N54

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MURAMATSU Hisashi

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Keyword for the subject (キーワード)

Microbiology, Enzymology, Industrial applications of microorganisms and microbial enzymes

Content and Objective (授業テーマと目的)

Instruction of screening, characterization, and application of microorganisms and microbial enzymes

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Evaluating the submitted reports (80%) and the attitude at the lecture (20%)

Course Subject Title (授業題目)

Applied Microbiology Laboratory V

Applied Microbiology Laboratory VI

Course Subject Code (申請コード)

1B N55

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MURAMATSU Hisashi

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Keyword for the subject (キーワード)

Microbiology, Enzymology, Industrial applications of microorganisms and microbial enzymes

Content and Objective (授業テーマと目的)

Instruction of screening, characterization, and application of microorganisms and microbial enzymes

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Evaluating the submitted reports (80%) and the attitude at the lecture (20%)

Course Subject Title (授業題目)

Applied Microbiology Laboratory VII

Applied Microbiology Laboratory VIII

Course Subject Code (申請コード)

1B N56

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Experiment

Year of commencement (履修開始年次)

2nd year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

MURAMATSU Hisashi

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Keyword for the subject (キーワード)

Microbiology, Enzymology, Industrial applications of microorganisms and microbial enzymes

Content and Objective (授業テーマと目的)

Instruction of screening, characterization, and application of microorganisms and microbial enzymes

Teaching Materials (教科書・参考書)

Computer projector/Printed synopsis

Evaluation of Results (成績評価の方法)

Evaluating the submitted reports (80%) and the attitude at the lecture (20%)

Course Subject Title(授業題目)

Advanced Aquatic Environmental Science I

Advanced Aquatic Environmental Science II

Course Subject Code(申請コード)

1B P04

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Spring term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

ADACHI Masao

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Harmful algal blooms, red tides, shellfish poisoning, Plankton

Content and Objective(授業テーマと目的)

In this lecture, physiology, ecology and molecular biology of phytoplankton HAB (harmful algal bloom) species are introduced.

Teaching Materials(教科書・参考書)

Computer projector

Evaluation of Results(成績評価の方法)

Submitting paper (report) after the course

Course Subject Title (授業題目)

Advanced Coastal Ecology and Conservation I
Advanced Coastal Ecology and Conservation II

Course Subject Code (申請コード)

1B P05

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

IKEJIMA Kou

Professor (Affiliation/Research field) (担当教員所属)

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Coastal ecosystems, ecology, aquatic resources, reading scientific articles

Content and Objective (授業テーマと目的)

Understanding basics of ecological processes in coastal ecosystems, and issues for conservation and sustainable use of coastal environment and aquatic resources. Further, developing a better understanding of these issues based on reading of scientific papers and discussion.

Teaching Materials (教科書・参考書)

Printed synopsis, scientific papers and articles.

Evaluation of Results (成績評価の方法)

Short presentations, report and participation in discussion.

Course Subject Title(授業題目)

Advanced Marine Biotechnology I

Advanced Marine Biotechnology II

Course Subject Code(申請コード)

1B P 10

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

ADACHI Kohsuke

Professor (Affiliation/Research field)(担当教員所属)

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Biochemistry, biotechnology, marine products

Content and Objective(授業テーマと目的)

Efficient utilization for fisheries products

Teaching Materials(教科書・参考書)

Not decided

Evaluation of Results(成績評価の方法)

Attendance and report

Course Subject Title (授業題目)

Advanced Fish Ecology I
Advanced Fish Ecology II

Course Subject Code (申請コード)

1B P11

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

NAKAMURA Yohei

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Professor (E-Mail) (担当教員)

ynakamura@kochi-u.ac.jp

Keyword for the subject (キーワード)

Species identification, gut content analysis, otolith analysis

Content and Objective (授業テーマと目的)

Students will learn methods of fish species identification and analysis of fish diet and growth, and gain essential knowledge and skills in fish conservation and management.

Teaching Materials (教科書・参考書)

Nakamura et al. (2003) Food habits of fishes in a seagrass bed on a fringing coral reef at Iriomote Island, southern Japan. *Ichthyological Research*, 50, 15-22.

Nakamura et al. (2010) Interspecific variations in age and size at settlement of 8 emperor fishes (Lethrinidae) at the southern Ryukyu Islands, Japan. *Fisheries Science*, 76(3), 503–510

Evaluation of Results (成績評価の方法)

Students will be evaluated on their attitude in class (40%) and their answers to questions about the subject (60%).

Course Subject Title (授業題目)

Advanced Fish Nutrient Physiology I
Advanced Fish Nutrient Physiology II

Course Subject Code (申請コード)

1B P12

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Fall term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

FUKADA Haruhisa

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Fish, nutrition, Metabolism, Hormone, Growth

Content and Objective (授業テーマと目的)

Introduction to nutritional physiology of fish

Teaching Materials (教科書・参考書)

Computer projector, digital slides

Evaluation of Results (成績評価の方法)

Submitting paper (report) after the course

Course Subject Title(授業題目)

Advanced Aquatic Microbial Ecology I
Advanced Aquatic Microbial Ecology II

Course Subject Code(申請コード)

1B P13

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

YAMAGUCHI Haruo

Professor (Affiliation/Research field)(担当教員所属)

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Professor (E-Mail)(担当教員)

yharuo@kochi-u.ac.jp

Keyword for the subject(キーワード)

Microorganisms, Phytoplankton, Bacteria, Dissolved organic matters, carbon cycle

Content and Objective(授業テーマと目的)

To understand sustainable development of aquatic biological production, we learn the ecological processes of aquatic microorganisms.

Teaching Materials(教科書・参考書)

Marine Ecological Processes (Valiela Ed) Springer, 1995

Evaluation of Results(成績評価の方法)

Report (100%)

Course Subject Title(授業題目)

Advanced Physiology and Biochemistry of Marine Organisms I
Advanced Physiology and Biochemistry of Marine Organisms II

Course Subject Code(申請コード)

1B P28

Credits (Units)(単位数)

1×2

Class Work Type(授業種別)

Lecture

Year of commencement(履修開始年次)

1st year

Semester(履修期間)

Fall term

Day/Period(時間割)

Not decided

Professor (Lecturer or Instructor)(担当教員名)

KUBOTA Satoshi

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Professor (E-Mail)(担当教員)

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Keyword for the subject(キーワード)

Biochemistry, Physiology, Marine Invertebrate

Content and Objective(授業テーマと目的)

Physiological, Biochemical and Molecular Biological Analysis of Marine Organisms

Teaching Materials(教科書・参考書)

Related documents are provided.

Evaluation of Results(成績評価の方法)

On-line Examination

Course Subject Title (授業題目)

Advanced Microbiology I

Advanced Microbiology II

Course Subject Code (申請コード)

1B P32

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term (First semester, intensive)

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

TERAMOTO Maki

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Microbiology, Molecular Biology

Content and Objective (授業テーマと目的)

Students learn microbiology and principles behind molecular biology techniques, which is necessary for microbiology research.

Teaching Materials (教科書・参考書)

Not particularly.

Evaluation of Results (成績評価の方法)

Students are expected to give presentations for the topics, and are evaluated by the presentation and understanding the topics.

Course Subject Title (授業題目)

Advanced Molecular Pharmacology I
Advanced Molecular Pharmacology II

Course Subject Code (申請コード)

1B P33

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

NAMBA Takushi

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Professor (E-Mail) (担当教員)

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Keyword for the subject (キーワード)

Molecular Pharmacology, cell biology

Content and Objective (授業テーマと目的)

Learn the basics of pharmacology. Understanding the molecular mechanism of effect of drugs.

Teaching Materials (教科書・参考書)

The Cell

Evaluation of Results (成績評価の方法)

Report

Course Subject Title (授業題目)

Advanced Molecular Microbiology I

Advanced Molecular Microbiology II

Course Subject Code (申請コード)

1B P37

Credits (Units) (単位数)

1×2

Class Work Type (授業種別)

Lecture

Year of commencement (履修開始年次)

1st year

Semester (履修期間)

Spring term

Day/Period (時間割)

Not decided

Professor (Lecturer or Instructor) (担当教員名)

ULANOVA Dana

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Keyword for the subject (キーワード)

Molecular Microbiology, biosynthesis

Content and Objective (授業テーマと目的)

Students will learn basic of microbial primary and secondary metabolite biosynthesis. Students will understand how different metabolites contribute to microbial interactions and ecosystem functioning.

Teaching Materials (教科書・参考書)

Materials will be provided.

Evaluation of Results (成績評価の方法)

Report