

Appended Form 1

Specifications for Major Program

Name of School (Program) [School of Science (Department of Biological Science)]

| | |
|-------------------------|----------|
| Program name (Japanese) | 生物学プログラム |
| (English) | Biology |

1. Degree to be obtained: Bachelor of Science

2. Overview

The Biology Program aims to contribute to the progress of mankind through both educational activities that develop human resources who can understand biological phenomena from various angles ranging from molecular & cellular levels to individual & crowd levels, and research activities to explore biological phenomena. To understand and explore biological phenomena, it is necessar/MCID 18 q42 BDC G[(l)5(s)-76(t)5(o)-79(i)5(ndi)-5(v)11(i)5(dual

This Program is designed to educate engineers who have knowledge and practical experience in biology and who engage in basic research and applications, and human resources who can play an active role in the front line in various related fields such as practical work in the industrial world and science education, as well as human resources who can function internationally with presentation abilities.

We will award a bachelor degree in science to students who have acquired the knowledge and skill listed below and the standard number of credits specified in the curriculum based on a comprehensive judgment of their education level and expertise, as well as the results of their graduation research.

- The degree recipient can understand biological phenomena from various angles ranging from molecular & cellular levels to individual & crowd levels, and research activities to explore biological phenomena.

- The degree recipient has knowledge and skills in liberal arts education subjects and specialized education subjects.

- The degree recipient has basic knowledge and skills in English for specialized area in the biology field.

- The degree recipient has practical skills in biological sciences and ability to take initiative in solving the problems in the biology field.

- The degree recipient can describe the opinion related to the biology field and make a presentation.

4. Curriculum policy (policy for organizing and implementing the curriculum)

To achieve the goals described in the Diploma policy, this Program offers educational programs that take into account the concept and methods of modern biology, inheriting the traditions of the Imperial University Teachers College, and the concept and methods of modern biology, inheriting the traditions of the Imperial University Teachers College, and the concept and methods of modern biology, inheriting the traditions of the Imperial University Teachers College.

Specifically, the four-year curriculum is structured so that students can complete their liberal arts education subjects in the first and second years, and take specialized class subjects in their second and third years. Most of these class subjects are selectively required, and students are recommended to study them independently.

supplementary education.

Subjects: English, Mathematics, Physics, Chemistry, and Biology

Although the Biology Program is open to all students at the University, the requirements for students outside the Department of Biological Science to select this Program shall be separately specified based on the regulations on transferring to a different School or transferring a different Department.

6. Obtainable qualifications

1. Teaching Licenses

(1) Type-1 Junior High School Teaching License (science)

(2) Type-1 High School Teaching License (science)

2. Qualification as a curator.

7. Class subjects and their contents

* For the class subjects, refer to the subject table in Attachment 1.

* For the details of the class subjects, refer to the syllabus that is published for each academic year.

8. Academic achievement

At the end of each semester, evaluation criteria will be shown with a clear indication of attainment standards according to the evaluation items for academic achievements.

The evaluation criteria are calculated by adding the weighted values to numerically converted evaluations of their academic achievements (S = 4, A = 3, B = 2, and C = 1) in each subject being evaluated.

| Evaluation of academic achievement | Converted value |
|------------------------------------|-----------------|
| S (90 or more points) | 4 |
| A (80 – 89 points) | 3 |
| B (70 – 79 points) | 2 |
| C (60 – 69 points) | 1 |

| Academic achievement | Evaluation criteria |
|----------------------|---------------------|
| Excellent | 3.00 |

* Refer to the relationship between evaluation items and evaluation criteria described in Attachment 2.

* Refer to the relationship between evaluation items and class subjects described in Attachment 3.

* Refer to the curriculum map in Attachment 4.

destinations. Through that experience, they will absorb the latest knowledge focusing on the relevant research field, and acquire advanced skills. Also, they will learn how to advance their research and refine their capabilities as an engineer or a researcher with originality, aspiration, patience, a spirit of cooperation, and flexibility, and will acquire abilities that they can use in a graduate school or in corporate or social activities. They will enhance their presentation skills through daily discussions and seminars in their laboratory. In completing the Program, they will be able to gain confidence from summarizing the content of their one-year graduation research into a graduation thesis, and by giving a poster presentation on their thesis.

2. Outline of research

An outline of each laboratory is introduced on the official website of the Department of Biological Science. It is also possible to gain information on the activities of laboratory by talking with faculty members qualified to give guidance on graduation research, and/or with students from a graduate school or of the School of Science who belong to a laboratory. Please refer to the explanation on the research content of each laboratory given in the attached table that will be offered in the third year.

3. Time and Method of assignment

Time of assignment: Students will receive their assignment at the beginning of the fourth year. However, target students must be interested in the research content of each laboratory (discussed with the faculty members of the Department of Biological Science and the students of the School of Science.)

Method of assignment: For graduation thesis, students are basically assigned to the laboratory where they carry out "Practice for Fundamental Biology IV" during the second semester of the third academic year. In order to assign in which laboratory they carry out "Practice for Fundamental Biology IV", the students will be assigned to the laboratory after completion of the first semester of the third academic year. If the number of applicants exceeds the capacity of a given laboratory, priority will be given to students with higher academic achievements.

10. Responsibility

(1) Responsibility for PDCA (plan, do, check, and act) cycle

The Dean of the Department will be responsible for the overall management of the program. The Dean of the Department will be responsible for the overall management of the program. The Dean of the Department will be responsible for the overall management of the program.

The Dean of the Department will be responsible for the overall management of the program. The Dean of the Department will be responsible for the overall management of the program. The Dean of the Department will be responsible for the overall management of the program.

(2) Evaluation of the program

1. Criteria for program assessment

- (1) gV j V h proficiency levels
- (2) Hj cih g hd[hV h[Vi dc
- (3) V j a n b b Wgh g hd[hV h[Vi dc
- (4) Achievements in graduate research

2. Implementing the assessment

- (1) Graduates will make an external assessment.
- (2) Enrollees and graduates will respond to a questionnaire on the assessment of the entire Program.
- (3) Faculty members will respond to a questionnaire on the assessment of the entire Program.
- (4) Graduates will respond to a questionnaire on their achievements in graduate research.

3. The idea and method of feedback for students

With Hj cih-dg ci : j V dc V hour basic principle, we will comprehensively review the results of the external assessments by graduates and the questionnaire on the assessment responded to by enrollees and graduates in each fiscal year to identify any problems with the Program. The structure of the Program and the class content will be modified by the Faculty Council in Charge of Major Program in Biology as required.

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Academic achievements of Biology Program

Relationships between the evaluation items and evaluation criteria

| Academic achievements | | | Evaluation criteria | | |
|-----------------------------|-----|--|---|--|--|
| Evaluation items | | | Excellent | Very Good | Good |
| Knowledge and Understanding | (1) | Studying to understand liberal arts, peace, foreign languages, culture and society. | Superbly being able to understand. | Being able to understand well. | Being able to understand. |
| | (2) | Understanding and learning basic knowledge in scientific fields. | Superbly being able to understand and learn. | Being able to understand and acquire. | Being able to understand and acquire. |
| | (3) | To understand and acquire advanced knowledge on specialties in biology. | Superbly being able to understand and learn. | Being able to understand and acquire. | Being able to understand and acquire. |
| Abilities and Skills | (1) | To acquire abilities to understand information security compliance, to collect and evaluate data. | Superbly being able to understand the information security compliance, collect data, and assess them. | Being able to understand well about information security compliance and collect data and evaluate it. | To be able to collect and evaluate data by understanding Information Security Compliance. |
| | (2) | Acquiring ability to apply basic knowledge to biological issues and reading comprehension of English theses. | Superbly being able to solve several biological issues and read English theses. | Being able to sufficiently solve various biology issues, read english avademic articles. | To be able to solve physiological problems and to understand English academic papers. |
| | (3) | Based on basic knowledge which is already acquired, to obtain the following experimental skills in order to practice research: 1) Basic observation skills and skills to manage experiments. 2) Ability to record observed natural phenomena. 3) Ability to collect and assess data. | Superbly being able to acquire the ability of experiments | Being able to acquire experimental capability | To acquire skills for experiments. |
| Comprehensive Abilities | (1) | Understanding rudimentary matters for biological research such as observation of animals plants and ways of experiments and writing reports through observation of research objects, collection, consideration, discussion and presentation. | To sufficiently understand elementary items needed to handle biological research, and to be able to proactively work on it. | To understand elementary items needed to handle biological research, and to be able to proactively work on it. | To understand elementary items needed to handle biological research, and to be able to proactively work on it. |
| | (2) | To absorb cutting-edge knowledge, acquire high-level skills, learn how to conduct research, improve presentation ability through discussion, summarize research results as a graduation thesis, | Superbly being able to tackle with research, integrate and announce it. | Being able to sufficiently address a research and summarize it and make a presentation | Being able to tackle with research, summarize, and make a presentation. |

Placement of Liberal Arts Education in the Major Program

Relationships between the evaluation items and class subjects

| Subject Classification | Subject Name | Credits | Type of course registration | Grade | Evaluation items | | | | | | | | | | | | | | | | | | Total weighted values of evaluation items in the subject |
|------------------------|--|---------|-----------------------------|-------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-----|--|
| | | | | | Knowledge and Understanding | | | | | | Abilities and Skills | | | | | | Comprehensive Abilities | | | | | | |
| | | | | | (1) | | (2) | | (3) | | (1) | | (2) | | (3) | | (1) | | (2) | | | | |
| | | | | | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | | |
| Liberal Arts Education | Peace Science Courses | 2 | Elective/required | 1-2T | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Introduction to University Education | 2 | Required | 1-1T | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Introductory Seminar for First-Year Students | 2 | Required | 1-2T | | | | | | | | | | | | | 100 | 2 | | | | 100 | |
| Liberal Arts Education | Area Courses | 12 | Elective/required | 1-2 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Basic English Usage I | 1 | Required | 1 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Basic English Usage II | 1 | Required | 2 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Communication I | 2 | Required | 1 | 100 | 2 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Communication II | 2 | Required | 2 | 100 | 2 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Foreign Languages: Basic Studies I | 1 | Free elective | 1 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Foreign Languages: Basic Studies II | 1 | Free elective | 1 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Foreign Languages: Basic Studies III | 1 | Free elective | 2 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Foreign Languages: Basic Studies IV | 1 | Free elective | 2 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Exercise in Information Literacy | 2 | Required | 1-1T | | | | | | | 100 | 2 | | | | | | | | | | 100 | |
| Liberal Arts Education | Social Cooperation Courses | 0 | Free elective | 1-2 | 100 | 1 | | | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Experimental Methods and Laboratory Work in Biology I | 2 | Required | 2-3T | | | | | | | | | | | 100 | 2 | | | | | | 100 | |
| Liberal Arts Education | Experimental Methods and Laboratory Work in Biology II | 2 | Required | 2-4T | | | | | | | | | | | 100 | 2 | | | | | | 100 | |
| Liberal Arts Education | General Chemistry | 2 | Elective/required | 1-1T | | | 100 | 1 | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Fundamental Physical Chemistry | 2 | Elective/required | 2-3T | | | 100 | 1 | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Statistical Data Analysis | 2 | Elective/required | 1-1T | | | 100 | 1 | | | | | | | | | | | | | | 100 | |
| Liberal Arts Education | Experimental Methods and Laboratory Work in Physics I | 2 | Elective/required | 2-3T | | | | | | | | | | | 100 | 1 | | | | | | 100 | |
| Liberal Arts Education | Experimental Methods and Laboratory Work in Physics II | 2 | Elective/required | 2-4T | | | | | | | | | | | 100 | 1 | | | | | | 100 | |

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| Subject Classification | Subject Name | Credits | Type of course registration | Grade | Evaluation items | | | | | | | | | | | | | | | | Total weighted values of evaluation items in the subject | |
|------------------------|--|---------|-----------------------------|-------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|--|
| | | | | | Knowledge and Understanding | | | | | | Abilities and Skills | | | | | | Comprehensive Abilities | | | | | |
| | | | | | (1) | | (2) | | (3) | | (1) | | (2) | | (3) | | (1) | | (2) | | | |
| | | | | | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | | Weighted values of evaluation items in the subject |
| Specialized Education | Animal Physiology B | 2 | Elective/required | 5-2T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Plant Physiology B | 2 | Elective/required | 4-4T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Plant Ecology B | 2 | Elective/required | 4-3T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Endocrinology・Immunology | 2 | Elective/required | 5-1T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Genome Biology | 2 | Elective/required | 5-2T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Systems Biology | 2 | Elective/required | 5-1T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Regeneration Biology | 2 | Elective/required | 5-1T | | | | | | 100 | 2 | | | | | | | | | | | 100 |
| Specialized Education | Seminar for Developmental Biology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Cell Biology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Molecular Physiology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Plant Taxonomy and Ecology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Plant Physiological Chemistry | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Plant and Microbial Molecular Genetics | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Molecular Genetics | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Molecular Plant Biology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Gene Chemistry | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Evolution and Development | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Island Biology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Plant Genetic Resources | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Seminar for Amphibian Biology | 2 | Elective/required | 8 | | | | | | | | | 100 | 2 | | | | | | | | 100 |
| Specialized Education | Summer Course for Marine Biology A | 1 | Elective/required | 3 | | | | | | | | | | | 100 | 2 | | | | | | 100 |
| Specialized Education | Practice for Phytogeography | 1 | Elective/required | 3 | | | | | | | | | | | 100 | 2 | | | | | | 100 |
| Specialized Education | Practice for Ecology | 1 | Elective/required | 4 | | | | | | | | | | | 100 | 2 | | | | | | 100 |
| Specialized Education | Summer Course for Marine Biology B | 1 | Free elective | 5 | | | | | | | | | | | 100 | 2 | | | | | | 100 |

| Subject Classification | Subject Name | Credits | Type of course registration | Grade | Evaluation items | | | | | | | | | | | | | | | | Total weighted values of evaluation items in the subject |
|------------------------|---|---------|-----------------------------|-------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|--|--|
| | | | | | Knowledge and Understanding | | | | | | Abilities and Skills | | | | | | Comprehensive Abilities | | | | |
| | | | | | (1) | | (2) | | (3) | | (1) | | (2) | | (3) | | (1) | | (2) | | |
| | | | | | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | Weighted values of evaluation items | Weighted values of evaluation items in the subject | | |
| Specialized Education | Marine Biological Course | 2 | Free elective | 3 | | | | | | | | | | | 100 | 2 | | | | | 100 |
| Specialized Education | Marine course for marine biological education | 1 | Free elective | 1-2 | | | | | | | | | | | 100 | 2 | | | | | 100 |
| Specialized Education | Biology Internship | 1 | Free elective | 5 | | | | | | | | | 100 | 2 | | | | | | | 100 |

Curriculum Map of Biology Program

| Academic achievements Evaluation items | 1st grade | | 2nd grade | | 3rd grade | | 4th grade | |
|--|--|--|-----------------------------------|-------------------------------------|------------------------------|--|-----------------|--|
| | Spring semester | Fall semester | Spring semester | Fall semester | Spring semester | Fall semester | Spring semester | Fall semester |
| According to liberal arts, peace, foreign languages, culture and society. | Communication IA (◎) | Communication IIA (◎) | | | | | | |
| | Communication IB (◎) | Communication IIB (◎) | | | | | | |
| | Foreign Languages: Basic Studies I (△) | Foreign Languages: Basic Studies III (△) | | | | | | |
| | Foreign Languages: Basic Studies II (△) | Foreign Languages: Basic Studies IV (△) | | | | | | |
| | Basic English Usage I (◎) | Basic English Usage II (◎) | | | | | | |
| | Area Courses (○) | Area Courses (○) | | | | | | |
| | Social Cooperation Courses (△) | Social Cooperation Courses (△) | | | | | | |
| | Peace Science Courses (◎) | | | | | | | |
| | Introduction to University Education (◎) | | | | | | | |
| Understanding and learning basic knowledge in scientific fields. | General Chemistry (○) | Fundamental Physical Chemistry (○) | | | | | | |
| | Statistical Data Analysis (○) | | | | | | | |
| | Introduction to Mathematics (○) | Introduction to Information Mathematics (○) | | | | | | |
| | Introduction to Physics A (○) | Introduction to Physics B (○) | | | | | | |
| | Introduction to Chemistry A (○) | Introduction to Chemistry B (○) | | | | | | |
| | Introduction to Biological Sciences A (○) | Introduction to Biological Sciences B (○) | | | | | | |
| | Introduction to Earth and Planetary Sciences A (○) | Introduction to Earth and Planetary Sciences B (○) | | | | | | |
| | Basic Biological Science A (◎) | Genetics A (○) | Microbiology (○) | Developmental Biology A (○) | Cell Biology B (○) | Advanced Chemistry (○) | | |
| Understanding and acquire advanced knowledge specialties in biology. | Basic Biological Science B (◎) | Biochemistry A (○) | Plant Ecology A (○) | Plant Physiology A (○) | Developmental Biology B (○) | Advanced Earth and Planetary Science (○) | | |
| | | | Cell Biology A (○) | Biological Informatics (○) | Biochemistry B (○) | | | |
| | | | Molecular Genetics A (○) | Molecular Genetics B (○) | Genetics B (○) | | | |
| | | | Plant Taxonomy (○) | Animal Physiology A (○) | Molecular Cell Biology (○) | | | |
| | | | | Regulation of Animal Morphology (○) | Animal Physiology B (○) | | | |
| | | | | Plant Physiology B (○) | Comparative Embryology (○) | | | |
| | | | | Plant Ecology B (○) | Plant Morphology (○) | | | |
| | | | | Advanced Physics (○) | Advanced Mathematics (○) | | | |
| | | | | | Endocrinology・Immunology (○) | | | |
| | | | | | Advanced Biology (○) | | | |
| Acquire abilities to understand information security compliance, to collect and evaluate data. | Exercise in Information Literacy (◎) | | | | | | | |
| | | English Seminar on Biological Science (◎) | Seminar on Biological Science (◎) | | Biology Internship (△) | | | Seminar for Developmental Biology (○) Seminar for Cell Biology (○) Seminar for Molecular Physiology (○) Seminar for Plant Taxonomy and Ecology (○) Seminar for Plant Physiological Chemistry (○) Seminar for Plant and Microbial Molecular Genomics (○) Seminar for Molecular Genetics (○) Seminar for Molecular Plant Biology (○) Seminar for Gene Chemistry (○) Seminar for Evolution and Development (○) Seminar for Island Biology (○) Seminar for Plant Genetic Resources (○) Seminar for Amphibian Biology (○) |
| Requiring ability to apply basic knowledge to biological issues and reading comprehension of English theses. | | | | | | | | |
| | | | | | | | | |

| Academic achievements Evaluation items | | 1st grade | | 2nd grade | | 3rd grade | | 4th grade | | |
|--|--|--|---|---|--|---|---------------------|-----------------|----------------------------------|----------------------------------|
| | | Spring semester | Fall semester | Spring semester | Fall semester | Spring semester | Fall semester | Spring semester | Fall semester | |
| Based on basic knowledge which is already acquired, to obtain the following experimental skills in order to practice research: 1) Basic observation skills and skills to manage experiments. 2) Ability to record observed natural phenomena. 3) Ability to collect and assess data. | | Experimental Methods and Laboratory Work in Biology I (㊟) | Experimental Methods and Laboratory Work in Earth Sciences I (○) | | | | | | | |
| | | Experimental Methods and Laboratory Work in Biology II (㊟) | Experimental Methods and Laboratory Work in Earth Sciences II (○) | | | | | | | |
| | | Experimental Methods and Laboratory Work in Physics I (○) | Practice for Fundamental Biology I (㊟) | Practice for Fundamental Biology II (㊟) | Practice for Fundamental Biology III (㊟) | Practice for Fundamental Biology IV (㊟) | | | | |
| | | Experimental Methods and Laboratory Work in Physics II (○) | Summer Course for Marine Biology A (○) | Practice for Ecology (○) | Summer Course for Marine Biology B (Δ) | | | | | |
| | | Experimental Methods and Laboratory Work in Chemistry I (○) | Practice for Phytogeography (○) | | | | | | | |
| | | Experimental Methods and Laboratory Work in Chemistry II (○) | Marine Biological Course (Δ) | | | | | | | |
| | Marine course for marine biological education (Δ) | | | | | | | | | |
| | | | | | | | | | | |
| Comprehensive Abilities | Understanding rudimentary matters for biological research such as observation of animals・plants and ways of experiments and writing reports through observation of research objects, collection, consideration, discussion and presentation. | Introductory Seminar for First-Year Students (㊟) | | | | | | | | |
| | | | | | | | | | | |
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| | To absorb cutting-edge knowledge, acquire high-level skills, learn how to conduct research, improve presentation ability through discussion, summarize research results as a graduation thesis, and deliver presentations. | | | | | | | | | |
| | | | | | | | | | Special Study for Graduation (㊟) | Special Study for Graduation (㊟) |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | Liberal Arts Education Subjects | Basic Specialized Subjects | Specialized Education Subjects | Graduation Thesis | ㊟)Required | ○)Elective/required | Δ)Free elective | | |