

Attachment Form 1

Description of Major Program

Name of Faculty (Department) [School of Applied Biological Science (Department of Applied Biological Science)]

|   |                                    |
|---|------------------------------------|
| Name of Program                                   | Applied Biological Science Program |
| 1. Degree to be obtained: Bachelor of Agriculture |                                    |

2. Overview

The School of Applied Biological Science aims to educate students to acquire a wide range of knowledge and understanding in the realms of the natural and social sciences related to applied biology. Specifically, we provide education that allows students to acquire basic knowledge regarding food production, biotic resources, and biotechnology, gain experience in field science, understand

organizations for agriculture and fisheries, or in fields of business related to agriculture, foods, and chemical-pharmaceutical products.

3. Diploma policy (policy for degree conferment and target to be achieved in the program)

In the Applied Biological Science Program, students are required to take subject classes provided in English or Japanese



for each student.

#### 5. Start time and acceptance conditions

The School of Applied Biological Science holds the entrance examination collectively for the Department of Applied Biological Science. For the Applied Biological Science Program, students' wishes in terms of allocation are considered at an early stage in the 1st semester of the 1st academic year. Then selection of students is conducted based on their grades (principally for English) when the student entered the university, as well as the score of an external test of English language ability. From the first semester of the first academic year onward, students take special liberal arts subjects that mainly consist of subjects provided in English that are directed towards studying abroad for a short time (seminar for developing intelligence, Peace Science Courses, Introduction to University Education, Information Courses, disciplinary subjects, and subjects regarding health & sports). They take specialized fundamental subjects along with liberal arts subjects in order to acquire the basic knowledge that is common to the various academic areas studied in the School of Applied Biological Science. From the second semester of the second academic year onward, students take subjects provided in English in order to study specialized areas studied at the School of Applied Biological Science, crossing the borders between them. In addition to this, they study under a curriculum that is tailor-made for each student by combining specialized subjects provided for the four core areas with lectures, exercises, and task-based research at the overseas partner university.

#### 6. 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.

#### 7. Academic achievement

The evaluation criteria are specified for each academic achievement evaluation item, and the achievement level against the criteria is determined at the end of the semester.

The evaluation score for each evaluation item is converted to a numerical value (S = 4, A = 3, B = 2, and C = 1), and the evaluation standard for academic achievement, from when the student entered the university to the end of the semester, is determined using these values while applying weightings. The evaluation standards consist of three levels, i.e. Excellent, Very Good, and Good.

| Study achievement | Evaluation standard |
|-------------------|---------------------|
| Excellent         | 3.00 - 4.00         |
| Very Good         | 2.00 - 2.99         |
| Good              | 1.00 - 1.99         |

| Achievement evaluation           | Numerical conversion |
|----------------------------------|----------------------|
| S (Excellent: 90 or more points) | 4                    |
| A (Very good: 80 - 89 points)    | 3                    |
| B (Good: 70 - 79 points)         | 2                    |
| C (Passed: 60 - 69 points)       | 1                    |

\* 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.

#### 8. Graduation thesis (graduation research) (meaning, student allocation, timing, etc.)

##### (1) Purpose

The graduation research in this program (Graduate Thesis) aims to allow the student to dedicate himself/herself to cutting-edge research in order to systematically gain understanding of problems and their background in the field of applied biological science, as well as to acquire comprehensive capabilities while analyzing and considering the obtained results and presenting the results in English both orally and in writing.

##### (2) Overview and meaning

Students conduct the graduate research under the guidance of their supervisor. Through their graduation research, students engage with the process consisting of understanding the situation (comprehension ability and intelligence), identification of problems (analysis ability and insight), and presentation of the results (proposal and execution ability), and, by doing so, they acquire the capability and skills required to work as experts after their graduation.

Students learn the basic concepts and attitude fundamentally required for research activities, establish a plan for their research, study methods for the research and experiments, and carry out

## 9. Responsibility

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

The education affairs committee of school and the faculty members who provide the lectures are engaged in the processes of "plan" and "do"

The faculty committee of the program plans and executes the major program on their own responsibility. A chief faculty member is designated as the supervisor of the program.

The education affairs committee of the school exercises control over the major programs provided in the school.

The education affairs committee of the department consists of members who are elected for each program, a chairman who is chosen by the school, and another member.

The education reform promotion committee is engaged in the process of "check."

The education reform promotion committee consists of members who are elected in each program, a chairman who is chosen by the school, the chairman of the education affairs committee of the school, an assistant chief of the graduate course, and the other member(s).

The education reform promotion committee reviews and evaluates the major programs provided in each program, reports the results to the education affairs committee of the school and the programs, and provides advice and recommendations.

The faculty committee of the program that takes the responsibility for execution of the major program is engaged in the process of "act."

The faculty committee of the program and the education affairs committee of the school prepare and execute a plan for improvement taking the report, advice, and recommendations that are provided by the education reform promotion committee after the check process into consideration.

A tutor is designated for each program to provide direction regarding study and life.

A supervisor is designated in to each student in the program to provide guidance regarding the graduation thesis. The mentor guides the students through the process of the graduation research until they graduate.

The faculty committee of the program, the education affairs committee of the school, and the education reform promotion committee cooperate with each other to execute their roles with responsibility in the cycle of "plan", "do", "check", and "act" to improve the education provided at the school.

### (2) Evaluation of program

Viewpoints for evaluation of program

The Fisheries Biology Program is evaluated from the viewpoints of "educational effectiveness" and "social effectiveness."

The "educational effectiveness" is evaluated by effects of the program execution on educational achievement in students.

The "social effectiveness" is evaluated by effects of the educational achievement in the program on the society.

Evaluation method

In this program, the achievement in the program is evaluated from the viewpoints described above for students in the second semester of the fourth year. For the "educational effectiveness", the

results and achievement of the students who took the program are evaluated comprehensively by the group of faculty members who are engaged in the execution of the program. Also, the level of achievement of all the students is evaluated and reviewed. The "social effectiveness" is evaluated based on such things as the rate of employment in corporations that have a close connection with the contents of this program and the pass rate in public servant examinations. We regularly request a human resources staff member of a company that employs mainly students of this program to evaluate this program. In addition to that, we request graduates of this program to evaluate both their own achievement and that of the program. The staff in the company and graduates are requested to provide evaluation and advice regarding whether the class subjects and their contents in this program were effective for social activities, whether the contents of class appropriately corresponded to the changes in science, technology, and society, and any class subjects that would be required for the future.

#### Policy and method for feedback to students

The education reform promotion committee regularly conducts inquiries and interviews for students to review and evaluate the program, improve the contents of the program, and provide advice and recommendations for improvement.





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|-------------------|
| General Chemistry |
|-------------------|

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4 subjects from  
“Experimental  
Methods and  
Laboratory Work in  
Physics I”,  
“Experimental  
Methods and  
Laboratory Work in  
Physics II”,  
“Experimental  
Methods and  
Laboratory Work in

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d

Note 1: The year indicated with a circle mark represents that in which students typically take the subject. The year with a double circle mark indicates the year in which students are highly recommended to take the subject. Students are allowed to take the subject in any year after that indicated with a circle or double circle mark. It is required to confirm the semester in which the subject is provided in the class schedule for liberal arts education subjects in the Students' Handbook because some subjects might be provided in different semester from that which is provided in this document.

Table of Registration Standards(Specialized Fundamental Subjects)

(Applied Biological Science Program)

| Type                 | Subject type                     | Required No. of credits | Class subjects                               | No. of credits | Year in which the subject is taken |      |                       |      |                       |      |                       |      |  |  |  |  |
|----------------------|----------------------------------|-------------------------|--|----------------|------------------------------------|------|-----------------------|------|-----------------------|------|-----------------------|------|--|--|--|--|
|                      |                                  |                         |  |                | 1 <sup>st</sup> grade              |      | 2 <sup>nd</sup> grade |      | 3 <sup>rd</sup> grade |      | 4 <sup>th</sup> grade |      |  |  |  |  |
|                      |                                  |                         |  |                | Springs                            | Fall | Springs               | Fall | Springs               | Fall | Springs               | Fall |  |  |  |  |
| Specialized Subjects | Specialized Fundamental Subjects | 24                      | Introduction to Applied Biological Science I | 2              | ○                                  |      |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Introduction to Microbiology                 | 2              | ○                                  |      |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Introduction to Molecular Biochemistry       | 2              |                                    | ○    |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Agricultural Production Resources            | 2              |                                    | ○    |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Physics for Applied Biological Science       | 2              |                                    | ○    |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Ethics of Science and Technology             | 2              |                                    | ○    |                       |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Statistics in Biology                        | 2              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Environmental Sciences for Bioproduction     | 2              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Laboratory Work in General Biology I         | 1              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Laboratory Work in General Biology II        | 1              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Laboratory Work in General Chemistry         | 1              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Laboratory Work in General Physics           | 1              |                                    |      | ○                     |      |                       |      |                       |      |  |  |  |  |
|                      |                                  |                         | Required Subjects: Total 20 credits          |                |                                    |      |                       |      |                       |      |                       |      |  |  |  |  |

|   |  |  |     |                       |                       |  |  |                       |  |  |
|---|--|--|-----|-----------------------|-----------------------|--|--|-----------------------|--|--|
|   |  | Introduction to Applied Biological Science II      | 2   | <input type="radio"/> |                       |  |  |                       |  |  |
|   |  | Seminar in Field Science                           | 2   | <input type="radio"/> |                       |  |  |                       |  |  |
|   |  | Research Front of Applied Biological Sciences      | 2   | <input type="radio"/> |                       |  |  |                       |  |  |
|   |  | Overseas Exercise of Applied Biological Science I  | 2   |                       | <input type="radio"/> |  |  |                       |  |  |
|   |  | Overseas Exercise of Applied Biological Science II | 1~2 |                       | <input type="radio"/> |  |  |                       |  |  |
|   |  | Introduction to Physiology                         | 2   |                       | <input type="radio"/> |  |  |                       |  |  |
|   |  | Public Health                                      | 2   |                       |                       |  |  | <input type="radio"/> |  |  |
| <p>Elective Required Subjects</p> <p>Take 4 credits from above subjects</p> <p>(Redundant credits over 4 credits move to Elective Subjects in Applied Biological Science Program)</p> |  |  |     |                       |                       |  |  |                       |  |  |

| Type  | Subject type         | Required No. of credits | Class subjects  | No. of credits                              | Year in which the subject is taken |      |           |      |                       |      |        |      |  |  |  |
|---|----------------------|-------------------------|---|---|------------------------------------|------|-----------|------|-----------------------|------|--------|------|--|--|--|
|   |                      |                         |   |   | 1 <sup>st</sup> grade              |      |           |      | 1 <sup>st</sup> grade |      |        |      |  |  |  |
|   |                      |                         |   |   | Spings                             | Fall | Spings    | Fall | Spings                | Fall | Spings | Fall |  |  |  |
| Specialized Subjects                                    | Specialized Subjects | 56                      | Packaged subjects provided in overseas partner university (Note1) | 12  |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | Specialized subjects packaged for each area (Note2)               | 10  |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | Graduate Thesis I   | 2   |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | Graduate Thesis II  | 2   |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | Graduate Thesis III   | 2   |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | Graduate Thesis IV  | 2   |                                    |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         | a e a a o   |   |                                    |      | 30credits |      |                       |      |        |      |  |  |  |
|   |                      |                         | Specialized English subject group (Note3)                         | Global Environmental Issues and Managements | 3                                  |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         |   | Modern Food Science                         | 3                                  |      |           |      |                       |      |        |      |  |  |  |
|   |                      |                         |   | Insect Science                              | 3                                  |      |           |      |                       |      |        |      |  |  |  |
| Fish Production   | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Plankton Biology  | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Animal Science and Technology                           | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Physiology of Field Crop Production                     | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Introduction Physiology of Domestic Animals             | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Molecular-level Understanding of Functionality of Foods | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Resource Management                                     | 3                    |                         |   |   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Elective Required Subjects                              |                      |                         |   | 18credits                                   |                                    |      |           |      |                       |      |        |      |  |  |  |
| Elective Subjects                                       |                      |                         |   | 8credits(Note4 7)                           |                                    |      |           |      |                       |      |        |      |  |  |  |

|  |       |   |
|--|-------|---|
|  |       | <p>(Note 1) For the "Packaged subjects provided in overseas partner university," students are required to select a specific subject by themselves to earn the credit in the destination university.</p> <p>(Note 2) "Specialized subjects packaged for each area" are composed as a subject group that consists of subjects selected from core disciplines for each of the 4 major programs (Integrated Hydrosphere Science, Applied Animal &amp; Plant Sciences, Food Science, and Molecular Agricultural and Life Science) according to the study plan prepared by the mentor. Subject groups consist of different subjects for each student.</p> <p>(Note 3) For "Specialized English subject group," it is required to take 3 unit subjects that include the exercise class for foreign students in AIMS program and earn 18 credits for 6 subjects or more. Note that the classes of the subject are provided from the last 10 days of September to the end of December.</p> <p>(Note 4) Any credit for a specialized subject for the four other major programs is accepted as a credit for elective subject.</p> <p>(Note 5) Any credit for an elective required subject among specialized fundamental subjects is accepted as a credit for elective subject.</p> <p>(Note 6) Any credit for a subject in the specialized English subjects group that is earned beyond the requirement of 18 credits is accepted as a credit for elective subject.</p> <p>(Note 7) It is not allowed to include liberal arts subjects and subjects in the teacher training courses.</p> |
|  | Total | 124   |

[Credits required for graduation] 124 credits (44 credits for liberal arts education subjects + 24 credits for specialized fundamental subjects + 56 credits for specialized subjects)

## Results of study in Applied Biological Science Program

## Relation between evaluation items and evaluation criteria

| Study achievement   |     | Evaluation criteria   |  |   |  |
|---|-----|---|--|---|--|
| Evaluation items  |     | Excellent   | Very Good  | Good  |  |
| u<br>n<br>K<br>d<br>n<br>e<br>o<br>r<br>w<br>s<br>l<br>t<br>e<br>a<br>d<br>n<br>g<br>d<br>e<br>i<br>n<br>&<br>g | (1) | Ability for comprehensive and cross-disciplinary thinking and knowledge / understandings required to see a phenomena from a broad, top-down perspective and to take action for solving problems regarding the specialized area. | Has superior ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a broad, top-down perspective and to take action for solving problems regarding the specialized area.   | Has sufficient ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a broad, top-down perspective and to take action for solving problems regarding the specialized area.  | Has basic ability for comprehensive and cross-disciplinary thinking and capability to see a phenomenon from a broad, top-down perspective and to take action for solving problems regarding the specialized area.      |
|   | (2) | Basic knowledge and understanding required for acquiring expertise  | Has fundamental knowledge and profound understanding required for acquiring expertise, and is capable of explaining this knowledge while associating it with items related to other areas.   | Has fundamental knowledge and profound understanding required for acquiring expertise, and is capable of sufficiently explaining this knowledge while associating it with items related to other areas.   | Has fundamental knowledge and profound understanding required for acquiring expertise, and is capable of providing basic explanation of this knowledge while associating it with items related to other areas.         |
|   | (3) | Knowledge and understanding regarding applied biological sciences   | Has fundamental knowledge of areas regarding integrated hydrosphere science, applied animal & plant science, food science, and molecular agricultural and life science that are related to applied biological science, and is capable of fully understanding, explaining, and applying this knowledge. | Has fundamental knowledge of areas regarding integrated hydrosphere science, applied animal & plant science, food science, and molecular agricultural and life science that are related to applied biological science, and is capable of fully understanding and explaining this knowledge. | Has fundamental knowledge of areas regarding integrated hydrosphere science, applied animal & plant science, food science, and molecular agricultural and life science that are related to applied biological science. |





Role of liberal arts education in this program

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|----------------------|---|------|-------------------|-----------------------------|----|---|-----|---|-----|---|--|--|--|-----|---|--|--|----|----|----|----|----|-----|-----|
| Specialized subjects | Research Front of Applied Biological Sciences             | 2    | Elective required | 2nd semester                | 50 | 1 |     |   |     |   |  |  |  |     |   |  |  | 50 | 1  |    |    |    | 100 |     |
| Specialized subjects | Overseas Exercise of Applied Biological Science I         | 2    | Elective required | 3rd semester                |    |   | 50  | 1 |     |   |  |  |  |     |   |  |  | 50 | 1  |    |    |    | 100 |     |
| Specialized subjects | Overseas Exercise of Applied Biological Science II        | 1月2日 | Elective required | 3rd semester                |    |   | 50  | 1 |     |   |  |  |  |     |   |  |  | 50 | 1  |    |    |    | 100 |     |
| Specialized subjects | Introduction to Physiology                                | 2    | Elective required | 3rd semester                |    |   | 100 | 1 |     |   |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Public Health   | 2    | Elective required | 6th semester                |    |   | 100 | 1 |     |   |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Global Environmental Issues and Managements               | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Modern Food Science                                       | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Insect Science  | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Fish Production   | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Plankton Biology  | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Animal Science and Technology                             | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Physiology of Field Crop Production                       | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Introduction physiology of Domestic Animals               | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Molecular-level Understanding of Functionality of Foods   | 3    | Elective required | 4th semester                |    |   |     |   | 100 | 1 |  |  |  |     |   |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Packaged subjects provided in overseas partner university | 12   | Required          | 4th, 6th, and 8th semesters |    |   |     |   |     |   |  |  |  |     |   |  |  | 80 | 1  |    | 20 | 1  | 100 |     |
| Specialized subjects | Specialized subjects packaged for each area               | 10   | Required          | 5th - 8th semesters         |    |   |     |   |     |   |  |  |  | 100 | 1 |  |  |    |    |    |    |    | 100 |     |
| Specialized subjects | Graduate Thesis I   | 2    | Required          | 5th semester                |    |   |     |   |     |   |  |  |  |     |   |  |  |    | 20 | 1  | 80 | 1  | 100 |     |
| Specialized subjects | Graduate Thesis II  | 2    | Required          | 6th semester                |    |   |     |   |     |   |  |  |  |     |   |  |  |    |    | 20 | 1  | 80 | 1   | 100 |
| Specialized subjects | Graduate Thesis III                                       | 2    | Required          | 7th semester                |    |   |     |   |     |   |  |  |  |     |   |  |  |    |    | 20 | 1  | 80 | 1   | 100 |
| Specialized subjects | Graduate Thesis IV  | 2    | Required          | 8th semester                |    |   |     |   |     |   |  |  |  |     |   |  |  |    |    | 20 | 1  | 80 | 1   | 100 |

# Attachment 4

## Curriculum map for Applied Biological Science Program

| Study achievement<br>Study achievement  |   | 1st year  |  | 2nd year   |              | 3rd year     |              | 4th year          |              |  |
|---|---|---|--|--|--------------|--------------|--------------|-------------------|--------------|--|
|   |   | 1st semester                                      | 2nd semester                               | 3rd semester   | 4th semester | 5th semester | 6th semester | 7th semester      | 8th semester |  |
| Knowledge and understanding required to see a phenomenon from a broad, top-down perspective and for action based on comprehensive and cross-disciplinary thinking | Peace Science Courses (☉)   | Research Front of Applied Biological Sciences (○) |  |  |              |              |              |                   |              |  |
|   | Seminar for developing intelligence (☉)                             |   |  |  |              |              |              |                   |              |  |
|   | Introduction to University Education (☉)                            |   |  |  |              |              |              |                   |              |  |
|   | Area Courses subjects (○)   |   |  |  |              |              |              |                   |              |  |
|   | Basic knowledge and understandings required for acquiring expertise | Basic Calculus / Elements of Calculus (☉)         | Organic Chemistry (☉)                      | Statistics in Biology (☉)                              |              |              |              | Public Health (○) |              |  |
|   |   | General Chemistry (☉)                             | Cell Science (☉)                           | Environmental Sciences for Bioproduction (☉)           |              |              |              |                   |              |  |
|   |   | Introduction to Applied Biological Science I (☉)  | Species Biology (☉)                        |  |              |              |              |                   |              |  |
|   |   | Introduction to Microbiology (☉)                  | Introduction to Molecular Biochemistry (☉) | Introduction to Physiology (○)                         |              |              |              |                   |              |  |
|   |   |   | Agricultural Production Resources (☉)      | Overseas Exercise of Applied Biological Science I (○)  |              |              |              |                   |              |  |
|   |   |   | Physics for Applied Biological Science (☉) | Overseas Exercise of Applied Biological Science II (○) |              |              |              |                   |              |  |
|   | Introduction to Applied Biological Science II (○)                   |   |  |  |              |              |              |                   |              |  |

Knowledge & understanding

|                                |   |  |   |   |   |  |  |  |  |
|--------------------------------|---|--|---|---|---|--|--|--|--|
| Knowledge & understanding Know |   | Ethics of Science and Technology (©)       |   |   |   |  |  |  |  |
|                                |   | Introduction to Molecular Biochemistry (©) |   |   |   |  |  |  |  |
|                                |   | Seminar in Field Science (O)               |   |   |   |  |  |  |  |
|                                | Knowledge and understanding regarding applied biological sciences |  |   |   | Global Environmental Issues and Managements (O) |  |  |  |  |
|                                |   |  |   |   | Modern Food Science (O)                         |  |  |  |  |
|                                |   |  |   |   | Insect Science (O)                              |  |  |  |  |
|                                |   |  |   |   | Fish Production (O)                             |  |  |  |  |
|                                |   |  |   |   | Plankton Biology (O)                            |  |  |  |  |
|                                |   |  |   |   | Animal Science and Technology (O)               |  |  |  |  |
|                                |   |  |   |   | Physiology of Field Crop Production (O)         |  |  |  |  |
|                                |   |  |   | Introduction physiology of Domestic Animals (O) |   |  |  |  |  |
|                                |   |  | Molecular-level Understanding of Functionality of Foods (O) |   |   |  |  |  |  |

|                          |  |   |  |  |   |  |   |  |   |  |
|--------------------------|--|---|--|--|---|--|---|--|---|--|
| Ability & skills         | Basic communication, information processing, and physical activities   | Foreign Languages (O)(◎)                                    |  |  |   |  |   |  |   |  |
|                          |  | Information Courses (◎)                                     |  |  |   |  |   |  |   |  |
|                          |  | Health and Sports Courses (O)                               |  |  |   |  |   |  |   |  |
|                          | Basic experiment abilities and skills required for acquiring expertise                                       | "Experimental Methods and Laboratory Work in Physics I"     |  |  |   |  |   |  |   |  |
|                          |  | "Experimental Methods and Laboratory Work in Chemistry I"   |  |  |   |  |   |  |   |  |
|                          |  | "Experimental Methods and Laboratory Work in Biology I" and |  |  |   |  |   |  |   |  |
|                          |  |   |  | Laboratory Work in General Biology I & II (◎)          |   |  |   |  |   |  |
|                          |  |   |  | Laboratory Work in General Chemistry (◎)               |   |  |   |  |   |  |
|                          |  |   | Laboratory Work in General Physics (◎) |  |   |  |   |  |   |  |
|                          | Intellectual ability and skills for research areas regarding applied biological sciences                     | Specialized subjects packaged for each area (◎)             |  |  |   |  |   |  |   |  |
|                          |  |   |  |  |   |  |   |  |   |  |
|                          | Scientific English ability required for reading specialized treatises and providing presentations in English |   |  | Overseas Exercise of Applied Biological Science I (O)  | Packaged subjects provided in overseas partner university (◎) |  | Packaged subjects provided in overseas partner university (◎) |  | Packaged subjects provided in overseas partner university (◎) |  |
|                          |  |   |  | Overseas Exercise of Applied Biological Science II (O) |   |  |   |  |   |  |
| Foreign Languages (O)(◎) |  |   |  |  |   |  |   |  |   |  |

|                          |  |  |   |  |   |                       |   |                         |   |
|--------------------------|--|--|---|--|---|-----------------------|---|-------------------------|---|
| Comprehensive capability | Ability to collect information related to peripheral disciplines to complement the knowledge regarding the specialized area and consider issues regarding applied biological science from diversified points of view   |  | Research Front of Applied Biological Sciences (O) |  |   | Graduate Thesis I (◎) | Graduate Thesis II (◎)  | Graduate Thesis III (◎) | Graduate Thesis IV (◎)  |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          | Ability to organize own ideas, demonstrate an apprehension based on those ideas, logically represent own conclusion orally or in writing, and exchange ideas in English regarding areas of applied biological sciences in which themes in integrated hydrosphere science, applied animal & plant science, food science, and molecular agricultural and life science are discussed from diverse points of view. |  |   |  |   | Graduate Thesis I (◎) | Graduate Thesis II (◎)  | Graduate Thesis III (◎) | Graduate Thesis IV (◎)  |
|                          |  |  |   |  | Packaged subjects provided in overseas partner university (◎) |                       | Packaged subjects provided in overseas partner university (◎) |                         | Packaged subjects provided in overseas partner university (◎) |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          |  |  |   |  |   |                       |   |                         |   |
|                          |  |  |   |  |   |                       |   |                         |   |

(Example) Liberal arts subjects Specialized fundame Specialized subjects Graduation thesis (◎) Required subject (O) Elective require (Δ) Elective subjects



# Attachment 5

## List of Faculty Members of the Applied Biological Science Program

The curriculum for this program is composed to allow students studying beyond borders between the major programs, i.e. the Integrated Hydrosphere Science Program, Applied Animal & Plant Science Program, Food Science Program, and Molecular Agricultural and Life Science Program. Therefore, faculty members of this program consist of the chief tutors of each grade and chiefs of each program.

In addition to that, faculty members who are engaged in tutorials for graduation theses may join as faculty members of this program.

The list of the faculty members of the program is separately provided to students who are allocated to the program.

| Name of faculty | Name of program and position                             | Extension number | Laboratory | Mail address |
|-----------------|--|------------------|------------|--------------|
|                 | Chief tutor  |                  |            |              |
|                 | Chief of Integrated Hydrosphere Science Program          |                  |            |              |
|                 | Chief of Applied Animal & Plant Sciences Program         |                  |            |              |
|                 | Chief of Food Science Program                            |                  |            |              |
|                 | Chief of Molecular Agricultural and Life Science Program |                  |            |              |
|                 |  |                  |            |              |
|                 |  |                  |            |              |
|                 |  |                  |            |              |