Curriculum Policy of the Graduate School of Agricultural Science

Master's Program

Based on the Kobe University Curriculum Policy, the Graduate School of Agricultural Science organizes its curriculum in accordance with the following policies.

1) In order to impress upon students a sense of "humanity," "creativity", "international awareness" and "specialization" necessary for enrollees of the Graduate School of Agricultural Science, we have established common courses to be taken by all students, including special topics in Advanced Science and Technology, agricultural sciences related to food, the environment and healthy life (in Japanese or English), and other subjects deemed mandatory.
2) In order to foster deeper knowledge and cultivate expertise, and to enable students to acquire "specialization", the Graduate School of Agriculture has established lecture courses and provides research guidance for the master's thesis. In addition, throughout the program, both a primary supervisor and a secondary supervisor provide research guidance under a guidance system. Students are offered guidance related to conducting their research and preparing their master's theses, for example when they present their research progress in the second year.
3) In the global master course that was established especially for international students, all classes are taught in English. In order to further develop students' "specialization" and "international awareness", both the master's theses and their presentations are given in English.

Degree: Master of Agriculture

<u>Agricultural Engineering course in the Department of Agricultural Engineering and Socio-economics</u>

- Students are encouraged to acquire "the ability to understand advanced knowledge concerning food- and agriculture-related engineering fields" via lecture courses that are deemed necessary.
- Students acquire " high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related engineering fields and to formulate tasks appropriately" via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agricultural engineering and socio-economics, as well as receiving research guidance for their master's theses, in order to acquire "the ability to appropriately conduct experiments and investigations

based on expertise in engineering fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and "the ability to both present and apply the results of their own research conducted in the fields of engineering related to food and agriculture towards academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Food and Environmental Economics course in the Department of Agricultural Engineering and Socio-economics

- Students are encouraged to acquire "the ability to understand advanced knowledge concerning food- and agriculture-related fields of socio-economics" via specialized courses that are deemed necessary.
- Students acquire " high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related socio-economics fields and to formulate tasks appropriately." via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agricultural engineering and socio-economics, as well as receiving research guidance for their master's theses, in order to acquire "the ability to appropriately collect information and conduct social surveys based on expertise in socio-economics fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and "the ability to present and utilize the results of their own research conducted in the fields of socio-economics related to food and agriculture towards academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Animal Science course in the Department of Bioresource Science

- Students are encouraged to acquire "the ability to understand advanced knowledge concerning food- and agriculture-related animal science fields" via specialized courses that are deemed

necessary.

- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related animal science fields and to formulate tasks appropriately “ via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agrobioscience, as well as receiving research guidance for their master's theses, in order to acquire " the ability to appropriately conduct experiments and observations based on expertise in animal science fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them." and " the ability to both present and apply the results of their own research conducted in the fields of animal science related to food and agriculture towards academic progress and the resolution of social issues ".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Plant Science course in the Department of Bioresource Science

- Encouraging students to acquire "the ability to understand advanced knowledge concerning food- and agriculture-related fields of plant science " via specialized courses deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related plant science fields and to formulate tasks appropriately” via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agrobioscience, as well as receiving research guidance for their master's theses, in order to acquire " the ability to appropriately conduct experiments and observations based on expertise in plant science fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both present and apply the results of their own research conducted in the fields of plant science related to food and agriculture towards academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Chemistry in Bioscience course in the Department of Agrobioscience

- Encouraging students to acquire "the ability to understand advanced knowledge concerning food-, agriculture- and life science-related fields of applied chemistry " via specialized courses that are deemed necessary.
- Students acquire “high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related applied chemistry fields and to formulate tasks appropriately” via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agrobioscience, as well as receiving research guidance for their master's theses, in order to acquire "the ability to appropriately collect information and conduct experiments based on expertise in applied chemistry fields related to food, agriculture and life science, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and "the ability to both present and apply the results of their own research conducted in the fields of applied chemistry related to food and agriculture towards academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Biology course in the Department of Agrobioscience

- Encouraging students to acquire "the ability to understand advanced knowledge concerning the fields of applied biology related to food and agriculture" via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related applied biology fields and to formulate tasks appropriately” via exercises in subject development and special subjects.
- Students undertake specific special subject and presentation exercises on agrobioscience, as well as receiving research guidance for their master's theses, in order to acquire “the ability to appropriately conduct experiments and surveys based on expertise in applied biology fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them” and “the ability to both present and apply the results of their own research conducted in the fields of applied biology related to food and agriculture towards academic progress and the resolution of social issues”.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Doctoral Program

Based on the Kobe University Curriculum Policy, the Graduate School of Agricultural Science organizes its curriculum in accordance with the following policies.

1) In order to impress upon students a sense of "humanity," "creativity", "international awareness" and "specialization", the Graduate School of Agriculture has established specialized courses and provides research guidance for doctoral dissertations. In addition, throughout the course, both a primary supervisor and a secondary supervisor provide research guidance under a multipleguidance system. Students are offered guidance related to conducting their research and preparing their doctoral dissertation at various stages, for example when they present their research progress in the first and second year, and their research presentation in the final year.
2) In the global doctoral course, all class subjects are taught in English, and both master's thesis and doctoral dissertation presentations are given in English in order to further develop "specialization" and "international awareness".

Degree: Doctor of Philosophy in Agricultural Science

<u>Agricultural Engineering course in the Department of Agricultural Engineering and Socio-economics</u>

- Encouraging students to acquire "the ability to understand and apply advanced knowledge concerning food- and agricultural-related fields of engineering " via specialized courses that are deemed necessary.
- Students acquire " high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related engineering fields and to formulate original tasks appropriately" via special research.
- Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and investigations based on expertise in engineering fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and " the ability to both publicize and apply the systematic results of their own research conducted

in the fields of engineering related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Food and Environmental Economics course in the Department of Agricultural Engineering and Socio-economics

- Encouraging students to acquire "the ability to understand and apply advanced knowledge concerning food- and agriculture-related fields of socio-economics " via specialized courses that are deemed necessary.
- Students acquire " high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related socio-economics fields and to formulate original tasks appropriately" via special research.
- Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly collect awide range of precise information and conduct social surveys based on expertise in socio-economics fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and "the ability to both publicize and apply the systematic results of their own research conducted in the fields of socio-economics related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Animal Science course in the Department of Bioresource Science

- Encouraging students to acquire "the ability to understand and apply advanced knowledge concerning food- and agriculture-related fields of animal science " via specialized courses that are deemed necessary.
- Students acquire " high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related animal science fields and to formulate original tasks appropriately" via special research.

・Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and observations based on expertise in animal science fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and “the ability to both publicize and apply the systematic results of their own research conducted in the fields of animal science related to food and agriculture towards important academic progress and the resolution of social issues”.

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Plant Science course in the Department of Bioresource Science

・Encouraging students to acquire "the ability to understand and apply advanced knowledge corncerning food- and agriculture-related fields of plant science " via specialized courses that are deemed necessary.
・Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related plant science fields and to formulate original tasks appropriately” via special research.
・Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and observations based on expertise in plant science fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of plant science related to food and agriculture towards importantacademic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Chemistry in Bioscience course in the Department of Agrobioscience

・Encouraging students to acquire "the ability to understand and apply advanced knowledge corncerning fields of applied chemistry related to food, agriculture and life science " via

specialized courses that are deemed necessary.

- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture- and life science-related applied chemistry fields and to formulate original tasks appropriately”” via special research .
- Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and collect information based on expertise in applied chemistry fields related food, agriculture and life science, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of applied chemistry related to food, agriculture and life science towards important academic progress and the resolution of social issues.".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Biology course in the Department of Agrobioscience

- Encouraging students to acquire "the ability to understand and apply advanced knowledge concerning fields of applied biology related to food and agriculture " via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related applied biology fields and to formulate original tasks appropriately”via special research.
- Students undertake special research and research guidance fordoctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and surveys based on expertise in applied biology fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and "the ability to both publicize and apply the systematic results of their own research conducted in the fields of applied biology related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Degree: Doctor of Philosophy

Agricultural Engineering course in the Department of Agricultural Engineering and Socio-economics

- Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge in the fields of engineering for food and agriculture " via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related engineering fields and to formulate original tasks appropriately"via special research.
- Students undertake special research and research guidance for doctoral dissertations, in order to acquire "the ability to correctly conduct a wide range of experiments and investigations based on expertise in engineering fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them" and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of engineering related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Food and Environmental Economics course in the Department of Agricultural Engineering and Socio-economics

- Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge concerning the fields of socio-economics related to food and agriculture " via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related socio-economics fields and to formulate original tasks appropriately" via special research.
- Students undertake special research and research guidance fortheir doctoral dissertations, in order to acquire "the ability to properly collecta wide range of precise information and conduct social surveys based on expertise in socio-economics fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new

conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of socio-economics related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Animal Science course in the Department of Bioresource Science

- Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge cocnerningfields of animal science related to food and agriculture " via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related animal science fields and to formulate original tasks appropriately”” via special research.
- Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and observations based on expertise in animal science fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of animal science related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Plant Science course in the Department of Bioresource Science

- Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge concerning fields of plant science related to food and agriculture " via specialized courses that are deemed necessary.
- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related plant science fields and to formulate original tasks appropriately”via special research.

・Students undertake special research and research guidance for their doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and observations based on expertise in plant science fields related to food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the field of plant science related to food and agriculture towards importantacademic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Chemistry in Bioscience course in the Department of Agrobioscience

・Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge concerning fields of applied chemistry related to food, agriculture and life science " via specialized courses that are deemed necessary.

・Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related applied chemistry fields and to formulate original tasks appropriately" via special research .

・Ustudents undertake special research and research guidance for their doctoral dissetations, in order to acquire "the ability to properly conduct a wide range of experiments and collect information based on expertise in applied chemistry fields related food, agriculture and life science, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research in the fields of applied chemistry related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.

Applied Biology course in the Department of Agrobioscience

・Encouraging students to acquire "the ability to understand and apply advanced and interdisciplinary knowledge concerning fields of applied biology related to food and agriculture

" via specialized courses that are deemed necessary.

- Students acquire "high ethical standards and a sense of mission that enables them to critically review research in food- and agriculture-related applied biology fields and to formulate original tasks appropriately" via special research.
- Students undertake special research and research guidance fortheir doctoral dissertations, in order to acquire "the ability to properly conduct a wide range of experiments and surveys based on expertise in applied biology fields related food and agriculture, in addition to being able to discuss and inquire into the analysis of the results and draw new conclusions from them " and " the ability to both publicize and apply the systematic results of their own research conducted in the fields of applied biology related to food and agriculture towards important academic progress and the resolution of social issues".

Furthermore, these courses are often combined with active learning or experience-based learning in the form of lectures, practical learning and physical education courses.

Learning outcomes are evaluated via multiple comprehensive methods according to the learning objectives.