

Doctoral Program in Agricultural Sciences

Name of the degree to be conferred	Doctor of Philosophy in Agricultural Science
Educational purpose	Highly specialized professionals/researchers who acquire a broad knowledge in agricultural sciences comprehensively, and issue-pursuing and problem-solving abilities, and the capability to independently conduct research, providing grounds for solving problems related to agriculture, food, environment on a global scale.
Vision of human resources development	Through this program, the human resources who can propose/implement internationally consistent solutions for global issues, and the ones that guarantee the sustainability of local communities for domestic problems, in governmental organizations as well as industries. Furthermore, such human resources shall be the resources for research/education in universities.
Diploma Policy	
The degree of Doctor of Philosophy in Agricultural Science is commenced to those who have fulfilled the requirements for the completion of the Doctoral programs, as set out in the Graduate School Regulations of the University of Tsukuba and related university regulations, and who are deemed to have the following competencies.	
Competencies	Evaluation perspectives
1. Knowledge creation competence: Ability to create new knowledge that can contribute to future society	① Are there any research findings that can be considered new knowledge? ② Can we expect you to create knowledge that will contribute to future society?
2. Management competence: Ability to plan and implement measures to identify and solve challenges from a higher perspective	① Can you make and implement long-term plans for critical challenges? ② Can you identify challenges, even in other areas of expertise, and solve them from a higher perspective?
3. Communication competence: Ability to express the true nature of academic findings positively and clearly	① Can you explain the true nature of research content and specialized knowledge clearly and logically to researchers from different areas and to people other than researchers? ② Do you proactively share your findings with researchers and experts from your field of expertise and accurately answer questions?
4. Leadership competence: Ability to have objectives get accomplished under your leadership	① Can you set attractive and compelling goals? ② Are you capable of building systems to realize goals and accomplish objectives as the leader?
5. Internationality competence: Possession of a high level of awareness and motivation to be internationally active and contribute to international society	① Do you have strong awareness and motivation to contribute to international society and international activities? ② Have you obtained adequate linguistic skills for international information collection and action?
6. Ability to execute research: an ability to be equipped with the latest expertise in agricultural sciences and set/carry out creative research tasks.	① If having the research outcomes that can be regarded as creativity of new knowledge based on accurate learning in the area of expertise. ② If capable of expecting creativity of knowledge that contributes to sustainable development of agricultural sciences
7. Specialized knowledge and Operational power: Leading-edge and advanced specialized knowledge and command of the agricultural sciences	① If being equipped with a broad expertise in the area of agricultural sciences. ② If capable of acquiring leading edge and advanced specialized knowledge in the area of expertise and utilizing it for research and problem solving.

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| 8. Ability to implement research outcomes in society: ethical view and ethical knowledge appropriate for researchers in agricultural sciences and deep ethical knowledge in the area of expertise. | ① If sufficiently understanding and complying with the procedure necessary for ethics for researchers and ethics for engineers and research.
② If having deep interest and knowledge for ethical issues relating to the area of expertise |
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Dissertation evaluation criteria

The dissertation that satisfies all the following items shall be a pass as the thesis for doctoral degree after going through final examination in doctoral thesis examination committee composed of four or more members.

1. If The research tasks of the dissertation is clearly indicated and has academic or social significance in the related area of agriculture sciences doctoral program.
2. If the literature and data used shall be appropriately presented and evaluated upon exploring research tasks and appropriately referred for development of points of argument.
3. If the research methods such as theories, experiments, surveys, simulation and trial production/preliminary trial etc. adopted in order to explore research tasks are appropriate.
4. If the points of argument from problem setting to conclusion are unfolded demonstratively and logically. Additionally, if the conclusions derived have novelty and social utility in the relevant area of agricultural sciences degree program.
5. If the dissertation is presentable as a thesis for master's degree.

Curriculum Policy

In each area of expertise relating to agricultural science as a comprehensive science, the curriculum shall be organized in order to systematically acquire an ability to independently plan and promote research/practices, an ability to integrate and an ability to announce the plans/drafts/doctoral thesis that can receive internationally high evaluation.

< Subprogram in Advanced Agricultural Technology and Science cooperated with NARO >

The scientists who actively work in the front lines of agricultural sciences of National Agriculture and Food Research Organization (NARO) as national research and development agency who are teachers of the Cooperative Graduate school. The students can acquire advanced agricultural technology such as establishment of comprehensive technology system to support basic structure of industry of agriculture in Japan and vitalization of local communications to realize sustainable food supply.

Curriculum organization policy	<ul style="list-style-type: none"> •The curriculum shall be organized for the students in order to acquire professional ability relating to bioresources such as food and environment/resources/energy etc. and to cultivate an ability to conclude for problem solving on a global scale, research conducted from a global vision and an ability for localization to connect between the sites that have individually different situations. •The curriculum shall have students acquire communication skills, response capabilities to ethical issues, management ability and a quality of leadership by acquiring two or more credits of Graduate General Education Courses other than the Dissertation as compulsory courses. •The curriculum shall have students enhance international communication skills through area observation and surveys in foreign countries by overseas area practical training and motivation to the world through agricultural sciences.
Learning methods • Processes	<ul style="list-style-type: none"> •The students shall acquire deep understanding of specialized knowledge and presentation ability/communication skills, high ethical view in research activities and an ability to solve the issues of high needs in society by setting the Dissertation as compulsory courses, and conducting lectures of bidirectional and interactive lectures between small number of supervisors/graduated students. •By encouraging students to participate in lectures and submit thesis to international journals, the instruction to acquire international communication skills with English ability shall be provided.

Evaluation of learning outcomes	<ul style="list-style-type: none"> • By establishing advisory committee composed of three or more supervisors in the program for each student after enrollment, hearing shall be conducted once or more in a year and advice for research promotion shall be provided. The advisory committee shall participate in other master' programs, as necessary. • The supervisor shall provide instruction to acquire a research ability such as writing peer-reviewed thesis and academic conference presentation/participation in symposiums etc. and support the students' acquisition of doctoral degree by helping their various procedures upon enrollment and application for doctoral thesis and providing information about scholarships etc.
	<ul style="list-style-type: none"> • Instruction shall be provided as the premise of the thesis examination for doctoral degree by having students submitting the thesis peer-reviewed by academic conference until acceptance of the thesis. Through this, it shall be evaluated if the results suitable for the doctoral degree are achieved. Additionally, by holding presentation of research outcomes prior to the thesis examination, communication skills and an ability to solve problems shall be evaluated. • In the thesis examination, through the thesis examination for doctoral degree, presence of absence of an ability to integrate research outcomes and an ability to publicize the plan/doctoral thesis which can acquire internationally high evaluation shall be evaluated. By oral examination, distinct intentions to contribute to world shall be evaluated. through ethical view, foreign language skills, agricultural sciences
Admission Policy	
Desired students	The desired student shall have basic and applied research grounds with both creativity and specialization that leads various areas in agro-biological resource sciences, and both global vision to be able to deal with current/international issues regarding food, population and environment and ability to flexibly think from bird's eye to the future, and motivation to contribute to human society.
Selection policy	<ul style="list-style-type: none"> • Various kinds of selection methods, such as general entrance examination (International Agricultural Research Program, Bioresources Engineering/Economics Courses), special selection of working individuals and, special selection of international students etc., shall be adopted. • Based on evaluation of foreign language skills necessary for international activities and evaluation of an ability for self-expression by oral examination, research ability relating to the area of expertise, appropriateness of research plan, the human resources suitable for this Degree Program shall be selected. • For educational program in English and working people, Early Completion Program which students can complete learning in one year is ongoing.