

Course Detail

Master of Science in Bioscience for Sustainable Agriculture (International Program)

Course Title:	Master of Science in Bioscience for Sustainable Agriculture (International Program)
Master Degree:	M.Sc. (Bioscience for Sustainable Agriculture)
Academic Institution:	Faculty of Animal Sciences and Agricultural Technology, Silpakorn University.
Duration:	2 years 4 months (July 2020 – October 2022)

Background and Rational:

Faculty of Animal Sciences and Agricultural Technology (ASAT) locating in the area which has been developed under His Majesty the King Rama IX Royal Projects (such as the HuaySai Royal Development Study Center, Sirindhorn International Environment Park, “Chang-Hua-Mun” Royal Initiative Project and the King Royally Initiated Laem Phak Bia Environmental Research and Development Project) -is thus in a suitable position to produce graduates who are capable of solving agricultural problems using the theory of sufficient economy. In addition to several learning center for sufficiency economy, there are many agricultural activities, involving extensive production of plants, animals and aquatic animals, such as pineapple production, dairy farming, goat raising and cultivation of commercial aquatic animals. However, not all farmers can practice a good and sustainable agriculture. Thus, providing the farmers with principles and assist them to conduct agricultural production safely, efficiently and sustainably will not only benefit the livelihood of the farmers, provide safe food for the consumers but also benefit to the natural resources and environment.

For this reason, ASAT, Silpakorn University, Phetchaburi IT campus, has initiated the project to launch the curriculum with the emphasis on teaching and researching for the sustainability in agriculture. This curriculum will emphasize on the use of tool and technology in biological science to solve the problem in agricultural production sector. The program aims for academic excellence on producing postgraduate personnel who possess academic capability, ethical and social acceptance, ability to conduct research to create new knowledge and ability to transfer this knowledge to help develop the community, the society, and the nation.

With the readiness of facilities and personals in agricultural research of the ASAT faculty, the research topics, in which both the Faculty of ASAT and other collaborative governmental agencies should conduct under the framework of sufficient economy, include sustainable animal production, clean technology, animal care and hygiene, plant pest control, sustainable coastal resource management, appropriate technology for environmental control, soil conservation, integrated soil fertility management, plant genetic management and

efficient agricultural waste utilization. These researches are highlighted by the ASAT staffs and the concept of sustainable agriculture is put realistically into practice.

Objectives:

Master of Science in Bioscience for Sustainable Agriculture (International Program) aims to create personnel in agriculture with the capability to integrate bioscience knowledge with local wisdom, on the emphasis of the conservation of natural resources and environment to promote and develop the sustainability of agriculture.

Course Synopsis and Methodology:

The Master of Science Program in Bioscience in Sustainable Agriculture (International Program) requires the candidate to take courses no less than 24 credits plus the research which is equivalent to 12 credits (Total 36 credits). The degree shall be awarded when the students fulfill one international publication.

Study plan

The first year

Course code	Course name	Credits
<u>First Semester</u>		
715 501	Cell Science and Molecular Biology	3(3-0-6)
715 502	Bioscience for Agricultural Sustainability	3(3-0-6)
715 503	Research Methodology and Applied Bioscience for Agricultural Sustainability	3(3-0-6)
715 504	Seminar in Bioscience for Sustainable Agriculture I	1(1-0-2)
715 506	Generic Skills for Research in Bioscience for Sustainable Agriculture	1(1-0-2)
	Total	11 credits
<u>Second Semester</u>		
715 505	Seminar in Bioscience for Sustainable Agriculture II	1(1-0-2)
715 507	Research in Bioscience for Sustainable Agriculture	3(2-3-4)
	Elective Course	6
	Total	10 credits
	Thesis Proposal examination shall be conducted before the first semester of the second year.	

The second year

<u>First Semester</u>		
715 592	Thesis	6
	Elective Course	3
	Total	9 credits

Comprehensive examination

Second Semester

715 592	Thesis	6 credit
	Total	6 credits

Thesis defense examination

Courses**Required courses 15 credits**

715 501	Cell Science and Molecular Biology	3(3-0-6)
715 502	Bioscience for Agricultural Sustainability	3(3-0-6)
715 503	Research Methodology and Applied Bioscience for Agricultural Sustainability	3(3-0-6)
715 504	Seminar in Bioscience for Sustainable Agriculture I	1(1-0-2)
715 505	Seminar in Bioscience for Sustainable Agriculture II	1(1-0-2)
715 506	Generic Skills for Research in Bioscience for Sustainable Agriculture	1(1-0-2)
715 507	Research in Bioscience for Sustainable Agriculture	3(2-3-4)

Elective courses not less than 9 credits

715 521	Animal Genetic Improvement and Conservation	3(3-0-6)
715 522	Farming Management Technology	3(3-0-6)
715 523	Hygiene in Dairy Production	3(3-0-6)
715 524	Organic Livestock Production For Sustainability	3(3-0-6)
715 525	Diagnosis of Aquatic Animal Diseases	3(2-3-4)
715 526	Ecology and Management of Aquatic Resources	3(3-0-6)
715 527	Genetic Improvement for Crop Production	3(3-0-6)
715 528	Integrated Pest Management	3(2-3-4)
715 529	Microbial Diversity and Application	3(2-3-4)
715 530	Plant Genetic Resource and Application	3(3-0-6)
715 531	Postharvest Physiology and Technology	3(2-3-4)
715 532	Seed Technology	3(2-3-4)
715 533	Soil Fertility and Integrated Soil Resource Management	3(2-3-4)
715 534	Natural Resources and Management	3(3-0-6)
715 535	Plant Pathology	3(2-3-4)
715 536	Biological Control of Insect Pests	3(2-3-4)
715 537	Insect Biotechnology	3(3-0-6)
715 538	Research in Agricultural Areas	3(3-0-6)
715 539	Agribusiness Entrepreneur	3(3-0-6)
715 540	Molecular Biology Techniques for Bioscience	3(3-0-6)
715 541	Bioinformatics for Research	3(3-0-6)
715 542	Pathobiology	3(3-0-6)
715 543	Applications of Geographical Information Systems for Sustainable Agriculture	3(3-0-6)
715 544	Selected Topics in Bioscience for Sustainable Agriculture	3(3-0-6)

Thesis (equivalent to) 12 credits

715 592	Thesis (equivalent to) credits	12
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Graduation Conditions:

- Complete the courses as specified by the program with an average score of not less than 3.00 from the 4 levels score system or equivalent.
- Pass the comprehensive examination and English test.
- Present a thesis and pass the final oral examination by the committee that the University has appointed. The examination shall be open to the general public who may be interested on the examined topic.
- Thesis work or part of the thesis must be either published in a journal or an international conference proceeding at least 1 publication.

Applicant Qualifications

The applicants must hold a bachelor's degree or equivalent in Agriculture, Science or a related field, or another degree by the consent of the Curriculum Administration Committee, Faculty of Animal Sciences and Agricultural Technology, Silpakorn University GPA of 2.50 or higher in the 4 levels score system or equivalent. Age should be no more than 40 year-olds.

Document Required

1. Certified copy of transcript of record (High school and Bachelor's degree transcript, English version)
2. Certified copy of degree certified (English version)
3. Copy of TOEFL, IELTS, TOEIC or equivalent test result
4. Two letters of recommendations from the faculty members of the home institutes
5. Letter of permission from the Dean/Director/Rector/Vice Chancellor/President of the home institutes in case the candidate has been working as the staff member in the organizations
6. Concept proposal of research field of interest (not more than 250 words)

Contact:

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***The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/ territories.