IBARAKI UNIVERSITY AIMS PROGRAM

As part of the AIMS Program conducted with Tokyo University of Agriculture and Technology and Tokyo Metropolitan University, we offer the Regional Sustainability Science Course, an inter-disciplinary field designed to foster specialists in sustainability science who will contribute locally and internationally to building a sustainable society. We will offer education and training to develop specialists who possess advanced expertise in specific areas and who comprehensively understand the complex relations between humans and the environment.

PREFACE

The ASEAN International Mobility for Students (AIMS) program emerged from the Malaysia-Indonesia-Thailand (M–I–T) Student Mobility Pilot Project initiated in 2009 as collaboration between the governments of the three countries. Before the M–I–T Student Mobility Program, Ibaraki University organized the International Symposium and Students Workshop on “Ecological Service Functions for Sustainable Agriculture in Asia” in September, 2007, in collaboration with Bogor Agricultural University, Gadjah Mada University, and Udayana University, Indonesia. This was the initiation of our graduate student mobility program, the “Practical Agricultural Science toward Regional Sustainability.” By 2014, more than 200 graduate students had enrolled in this program and had taken international classes at the four universities. Based on the graduate program outcomes, in 2014 we started a new international undergraduate course as a part of AIMS program: the Regional Sustainability Science Course (AIMS-IU Program). Our program specifically examines problems of Asian agriculture, food, and environment security. Through the program, we also cultivate the students’ scientific understanding of indigenous knowledge of each Asian country and the connection of that knowledge to sustainable development of regional and global societies. Asia is a crucially important area of the world, strongly influencing Earth’s future through food production and environmental conservation. Therefore, I sincerely hope that we can contribute to the development and spread of Sustainability Science through the AIMS-IU Program.

Profile

Dr. Hiroyuki OHTA, Vice President / Chairman of AIMS Steering Committee
AIMS Program at Ibaraki University

**Objectives**
The objective of this program is to educate talented students who can plan and promote sustainable community improvement and disaster prevention.

**Outline of IU course**
- Focus on production of secure society, knowledge, and techniques supporting environmental preservation
- PBL-type education that combines lab work and practice seminars
- Education of a birds’-eye perspective for regional issues and global sustainability

**Outcomes**
By joining the program, you will be able to do the following.
- Obtain fundamental knowledge related to sustainable agriculture, regional environments and related science
- Improve your ability to address climate change and natural disasters
- Create student networks, a great asset for secure community improvement and environmental preservation, as a basis of the sustainable development of ASEAN countries

**Eligibility**
- Must be a student of university affiliated to the AIMS network which has an agreement with IU
- Must be a full-time student (minimum second year) at the time of application
- Must be a registered student at your home institution until the end of AIMS-IU program
- Must include the nationality of the country in which your university is located
- Must pass screening procedures of your university and be recommended by the Dean of the Faculty
- Must be proficient in English communication, with a TOEFL score of 500 or the equivalent

**Teacher message**

**Prof. Dr. Kazuhiko NARISAWA, College of Agriculture**
Through the AIMS-IU program, we offer several courses on environmental and agricultural sciences to realize regional sustainability. At the same time, laboratory work and seminars are designed to learn various studies conducted at the current topics of "Biological Production Science, Bioresource Science and Environmental Science." The purpose of these activities is to learn techniques and ideas related to the selected subject of research. We sincerely hope this AIMS program will promote further collaborative education between Ibaraki University and ASEAN Universities.

**Dr. Makoto TAMURA, Institute for Global Change Adaptation Science (ICAS)**
Welcome to the AIMS-IU program! To construct a resilient and low-carbon society! It is extremely important to consider and discuss how the environment and development should be sustainably harmonized. I've been involved in some research and education programs in ASEAN countries including Thailand, Indonesia, and Vietnam. These experiences remind me of the significance of the interdisciplinary and transdisciplinary approaches based on individual expertise. Your active participation is earnestly anticipated.

**Prof. Dr. Seiji MORI, College of Science**
Ibaraki prefecture in Japan is rich in nature, culture, and industry. Participation from the college of science is rare in AIMS programs, but it is extremely important for AIMS students to have knowledge of fundamental natural sciences to resolve your regional and global sustainability issues. We believe that student exchange between Ibaraki University and ASEAN universities will be beneficial for inbound and outbound students.

**Dr. Nobuo SAKAGAMI, College of Agriculture**
For the global future, international students’ networks will play important roles. I would like to encourage as many Japanese and ASEAN students as possible to attend this program and to obtain further scientific knowledge, technical skills, and multicultural understanding.
Inbound program

Course Curriculum (2014)

Common Courses (September)

TUAT, IU, and TMU offer the following common subjects related to fundamentals of agriculture, engineering, and regional development (6 credits).

1. International Environmental Agriculture by TUAT (1.0) or Engineering for Sustainable World by TUAT (1.0)
2. ICT Literacy by TUAT (0.5)
3. Overview of Japan by TUAT (0.5)
4. Overview of Regional Sustainability Science by IU (1.0)
5. Tourism in Japan by TMU (2.0)
6. Japanese Regional Geography by TMU (2.0)

Specialized Courses @IU (October–)

IU offers the following specialized subjects as "Regional Sustainability Course" (14 credits).

1. Adaptation to Environmental Change and Disaster Risk (2.0)
2. Regional Environmental Management (2.0)
3. Environmental and Symbiotic Sciences (2.0)
4. Environmental Conservation Agriculture (2.0)
5. Field Experimental Works (1.0)
6. Special Lecture on Regional Sustainability Science I (1.0)
7. Special Lecture on Regional Sustainability Science II (1.0)
8. Seminar on Regional Sustainability Science (1.0)
9. Lab Works in Regional Sustainability Science (2.0)
10. International Development in Rural Areas by TUAT (2.0)

Wrap-up and Review Program (mid-December)

Workshop with Japanese students, Presentation of results, and Conclusion ceremony (awarding certificate of completion)
Common Courses

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2. ICT Literacy by TUAT (0.5)
3. Overview of Japan by TUAT (0.5)
4. Overview of Regional Sustainability Science by IU (1.0)
5. Tourism in Japan by TMU (2.0)
6. Japanese Regional Geography by TMU (2.0)

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3. Environmental and Symbiotic Sciences (2.0)
4. Environmental Conservation Agriculture (2.0)
5. Field Experimental Works (1.0)
6. Special Lecture on Regional Sustainability Science I (1.0)
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Inbound program

Comments from AIMS-IU inbound students

- I am studying in my major of microbiology, with emphasis on microbiology for agriculture. I have taken genetics, physiology, ecology, taxonomy, and microorganism application subjects for biotechnology, especially for environment and agriculture. My reason for applying to this course is the application of microbiology for environmental stability. For my research, I am interested in studying purification technology for wastewater management. I want to know more about the characteristics of molecular microorganism and then how their benefits can be applied for the environment. I’m sure I will gain much knowledge about the application of microorganisms to the environment. Then I will try to practice my knowledge in my research. I hope that will be useful for our future. (Ms. Hanifah Nurisnaini, Gadjah Mada University, Indonesia)

- My major field of study emphasizes tropical agriculture in Thailand. We study horticulture, botany, soil science, agronomy, pathology, and also some aspects of animal science. I am applying for this course because I want to gain more experience outside my country and also to gain more knowledge about agriculture in different countries. I also want to make new friends and experiences, to live in a different land, and to learn new cultures, languages, and lifestyles. (Ms. Panchanok Yensumran, Kasetsart University, Thailand)

Student support

IU will provide wide support to facilitate your stay in Japan with our academic and administrative staffs. Through the laboratory works in this program, Japanese students will fully support your study at IU as your partners. Additionally, we have enough experience to accept moslem students and the prayer room is available in the College of Agriculture.

Outbound students

IU encourages our students in the College of Agriculture and the College of Science to take AIMS courses at your university. For the AIMS exchange programs, we have established strong relationships with Bogor Agricultural University, Gadjah Mada University, and Kasetsart University. We intend to expand partnerships with more universities in the fields of agricultural, environmental, and sustainability sciences and technologies.
Department introduction

College of Agriculture

Solving problems related to food safety, human life, and environmental conservation through total life science solutions

Incorporating the theoretical frameworks of other disciplines dealing with human life and global environment, agriculture has developed recently into an academic field that deserves to be designated as total life science. The College of Agriculture addresses matters ranging from local concerns that involve agriculture, environment, and community-to-global issues that relate to food, natural resources, and society, preparing students as pioneers who can open up new possibilities for agriculture while incorporating widely various theoretical perspectives from food, information, and life sciences.

College of Science

Cultivating specialists in science with abilities to explore unknown phenomena of nature

The college of Science has implemented a new curriculum consisting of 1 major and 6 courses to keep pace with prevailing trends in science education. The new educational system that has completely upgraded the previous course syllabus is designed to prepare students to acquire highly specialized knowledge and problem-solving skills. Our graduates are expected to put their knowledge and skills to use in various fields in society as competent specialists in science.

College of Engineering

Developing highly skilled science engineers who can contribute to the sustainable society

Today’s richly textured society characterized by the Internet, mobile communications systems, reliable and efficient logistics, and secure and comfortable life space has been made possible by technological innovations. We are in need of more people than ever before who can bridge the gap between our lives and the development of science and technology. The Faculty of Engineering at Ibaraki University continues to grow on a global scale and advance into the future as a base for the creation of new scientific engineering frameworks for the coming era without ceasing to cultivate people who can put high-tech engineering into practice to keep nature and people in harmony.

Institute for Global Change Adaptation Science (ICAS)

ICAS studies adaptation and sustainability in various contexts including disaster prevention, social safety and security, agriculture, and urban environments and lifestyles

The Institute for Global Change Adaptation Science (ICAS) focuses on climate change. There are two approaches to addressing climate change: mitigation through reduction of greenhouse gas emissions on one hand, and adaptation to a warming environment on the other. Given the profound effects of climate change on the Asia-Pacific region, the impact analysis, developments of policies and measures for adaptation are critical issues for the regional sustainability.

ICAS is studying adaptation in a range of fields such as disaster prevention, social safety and security, agriculture, and urban environments and lifestyles.
About Ibaraki University

Mito campus
Colleges of Humanities, Education, and Sciences are located on the Mito campus. This campus has various facilities including the University Library, International Student Center, Employment Support Center, Instrumental Analysis Center, and University Education Center, where active research is ongoing and where students find resources to support a lively and enjoyable campus life.

Ami campus
Ami is a town adjacent to Tsuchiura and Tsukuba Science City. The College of Agriculture of this beautiful campus has the latest facilities including research buildings, lecture halls, and student dormitories. Furthermore, in the vicinity are research institutions offering an atmosphere that is perfect for inspiration, experimentation, and education. The Ami campus provides opportunities to explore various facets of academic life.

Hitachi campus
The home of College of Engineering, the Hitachi campus, has various education facilities including University Library and IT Infrastructure Center, where students gain hands-on experience with cutting-edge research and development. Clustered around the center of the Hitachi campus as well as in the vicinity of the city, are several companies and public research institutions.

International House for Residents from Overseas

At Ami
At Mito
Facilities
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