# 6. Nagoya University (National)

Study Area: Agriculture

## 1. Basic Information

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Specific Research Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Irrigation, Water and Soil Management</td>
<td>7. Soil science</td>
</tr>
</tbody>
</table>

### 1-1. Graduate School

**URL of Graduate School**

Graduate School of Bioagricultural Sciences

http://www.agr.nagoya-u.ac.jp/index-e.html

### 1-2. Program Name

International course in Graduate School of Bioagricultural Sciences, Nagoya University

### 1-3. Degrees

Master of Agricultural Science

### 1-4. Status

Research Student (6 months)

→Graduate School Student (2 years)

### 1-5. Credits and years needed for graduation

30 credits,

2 years

### 1-6. Classes taught in English

Class: 16/230 (Classes in English/ All classes)

Text: English but Japanese text will be used partially in seminars with Japanese students

### 1-7. Desirable English Level

TOEFL IBT: 80 (IELTS: 6.0)

### 1-8. Prior Inquiry From Applicants

Before submission of AF

**Must**

Contact: Prof. Akira Watanabe akiraw@agr.nagoya-u.ac.jp

### 1-9. Message for Applicants

The professors are willing to support any students who have difficulties to cope up with the progress of study due to language and other problems.

## 1-10. Additional Information

<table>
<thead>
<tr>
<th>Availability/Number</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Japanese Language</strong></td>
<td></td>
</tr>
</tbody>
</table>
| (1) Necessity of Japanese language for study | Necessary | **Level:** Advanced level (understand specific terms in Japanese)

**Required attendance of Japanese class:**

Four times a week

※ No prior knowledge of Japanese is required, but participants are expected to study Japanese after coming to Japan.

<table>
<thead>
<tr>
<th>(2) Availability of Japanese language class</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Free Japanese lessons available</td>
</tr>
<tr>
<td></td>
<td>- Private lessons by tutors</td>
</tr>
</tbody>
</table>

## Foreign Students
(1) Number of foreign students in past 3 years | 20 | China etc. 
(2) Number of PEACE participants | 2 | 1st batch(1), 2nd batch(1) 
(3) Number of female/male at the Graduate School | F5/M5 | Number of the Doctoral Program students is excluded 

**Facility Information**

<table>
<thead>
<tr>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitory available for PEACE participants</td>
<td>Available</td>
</tr>
<tr>
<td>Prayers room or Mosque</td>
<td>Not available</td>
</tr>
<tr>
<td>Halal food available in cafeteria</td>
<td>Available</td>
</tr>
</tbody>
</table>

**Others**

<table>
<thead>
<tr>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutor system</td>
<td>Available</td>
</tr>
</tbody>
</table>

### 2. Features of University

Nagoya University began its history in 1871 with its temporary hospital and the temporary medical school. Thereafter, many transitions took place, and the Nagoya Imperial University was established in 1939 with the addition of the many schools. In 1947, the name of the university was changed to Nagoya University.

Nagoya University takes pride in its free and vibrant academic culture and cites in its Academic Charter one of its principal objectives as being the “cultivation of courageous intellectuals” capable of opening up a new era. Four of the nine Japanese Nobel Prize winners since the beginning of the 21st century are graduates or professors of the University. Nobel Prizes in Chemistry went to Dr. Ryoji Noyori in 2001 for his research into applying mass synthesis of useful molecules, and to Dr. Osamu Shimomura in 2008 for the discovery and development of green fluorescent protein, while the 2008 Nobel Prize in Physics was shared by Dr. Toshihide Maskawa and Dr. Makoto Kobayashi, who discovered the broken symmetry that predicts the existence of at least three generations of quarks in nature. Thus Nagoya University is a research powerhouse whose achievements are recognized worldwide.

Nagoya University's open atmosphere of academic freedom has been the key to its success as a national university of Japan and as a world-level research facility. Today, it is taking new steps to establish itself as a globalized space where researchers and students contribute to knowledge and engage in critical dialogue across borders.

### 3. Features of Graduate School

The School of Agricultural Sciences was established in 1951. The School has been engaged in the pursuit of education and research in the biological, biochemical and environmental sciences, which provide the foundation for agricultural and bio-industrial advancement. Since its foundation, the quality,
intensity, and forward focus of education at our school have led to great success for our students; many of our graduates now play important role in agriculture and related fields all over the world, especially in Asia. Currently, the School consists of three departments: Department of Bioenvironmental Sciences, Department of Bioresource Sciences, and Department of Applied Biosciences. We have also the Field Science Center organized by the University Farm, the University Forest and the Experimental Station for Highland Animal Production, and have the Avian Bioscience Research Center.

The Graduate School of Bioagricultural Sciences was reorganized in 1997, heading for the scientific contribution toward the progress of agricultural and life sciences and nurturing highly specialized engineers and advanced researchers who could challenge current issues. Currently, incoming graduate students can join one of four graduate programs: Biosphere Resources Science, Biological Mechanisms and Functions, Applied Molecular Biosciences, and Bioengineering Sciences.

Now, people are world-wide facing a variety of issues such as sufficient and stable food supply, global environmental protection, development of new energy and so forth. The research on agricultural and life sciences could contribute as a driving discipline to solve the issues, and its research areas are expanding by harmonizing with different academic fields. In this background, one of the missions of the Graduate School of Bioagricultural Sciences is not only to deepen basic researches, which have been accumulated, but also to develop interdisciplinary researches. Another mission is to put more emphasis on recruiting and fostering students who have strong motivation of studying agricultural and life sciences in order to put the knowledge, information and technology obtained in the graduate programs into practice. Furthermore, we have to make efforts to bridge ever-lasting exchange of human resources and research cooperation initiating technological innovation at the requests from the developing countries.

At the same time, we are carrying out two research projects on the Global Center of Excellence, so-called Global COE; one is titled "Advanced Systems-Biology: Designing The Biological Function" which is operated in the cooperation of the Graduate School of Science of Nagoya University, and another is titled "From Earth System Science to Basic and Clinical Environmental Studies" which is in cooperation with the Graduate School of Environmental Studies of Nagoya University. The purpose of the Global COE projects is to cultivate young researchers and highly specialized engineers through the sophisticated and comprehensive program. These projects are expected to develop unique horizon of systems biology and environmental science, and to open new carrier path for the students in the Graduate School of Bioagricultural Sciences in near future.

4. Features of the Program and Curriculum in each Field of Study

<Soil science>
Management and compositional/structural analysis of soil organic matter toward understanding and improvement in soil fertility and carbon sequestration

To understand the mechanisms of stabilization of organic matter in soil for improving soil fertility and carbon sequestration in soil, agricultural practices are studied and evaluated in chemistry and biogeochemistry. Field research, field experiment, or laboratory incubation experiment will be coupled with analysis of the variations in composition, structure, and functionality of soil organic matter using various analytical techniques.
### [Curriculum for course works]

<table>
<thead>
<tr>
<th>Group</th>
<th>Credit requirements</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>Principles of Bioagricultural Sciences I (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Principles of Bioagricultural Sciences II (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Principles of Bioagricultural Sciences III (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Principles of Bioagricultural Sciences IV (E)</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>Basics of Bioagricultural Sciences (E)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Basics of Bioresource Cycling System Science (J&amp;E) (Soil science)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laboratory Course in Bioresource Cycling System Science (J&amp;E) (Soil science)</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>22</td>
<td>Bioagricultural Sciences (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bioresource Cycling System Science (E)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International Cooperation in Agricultural Sciences I (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International Cooperation in Agricultural Sciences II (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resources Cycles in Biosphere (J&amp;E) (Soil science)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduate Seminar in Bioresource Cycling System Science II (J&amp;E) (Soil science)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Literature Reading in Bioresource Cycling System Science II (J&amp;E) (Soil science)</td>
<td>8</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>Special Lectures (E)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agricultural Science (E)</td>
<td>2</td>
</tr>
</tbody>
</table>

In addition to these course works indicated above, students are required to conduct research, submit the thesis and pass the examination for the thesis.

Lecture with (E) are conducted in English.
Lecture with (J&E) are conducted in Japanese and English. (Basically, language of lectures and teaching materials are English. However, Japanese students join in the class together. So, Japanese is spoken, too.)

### 5. Academic Schedule

Enrollment as Research Students: October 1, 2014
Note: In case of delay for some reasons, students can enroll after this date but can start only from the beginning of each month.

Entrance Examination for the Master’s Program: January 2015

Enrollment as Master Students: April 1, 2015
Fall Semester: October 1, 2015
Spring Semester: April 1, 2016
Fall Semester: October 1, 2016
Graduation: March 25, 2017
6. Facilities
Dormitory rooms are available for first-time visitors to Japan (allowed period of residence is six months in principle).

Library
In Nagoya University, the Central library and the libraries of each school and faculty are connected through internet. Our students can search any books or journals that are available in any of the libraries from anywhere on campus, and also access and read more 3,000 e-books and 12,000 e-journals online. The library of the Graduate School of Bioagricultural Sciences is well equipped with excellent environment such as PC and wireless LAN that are accessible to these networks, and a number of training courses and guidance on such IT facilities and database are being offered for students. The library has more one hundred seats and many reference books for study, and is always visited and used by many students.

7. List of faculty members (supervisors) capable of guiding Afghan participants in English

<Soil Science>
Prof. WATANABE Akira (Mr.)
Specialized field : Plant Nutrient Science/Soil Studies, Environmental Dynamic Analysis, Environmental Agriculture

Recent Publications :
9. Size distribution of condensed aromatic rings in various soil humic acids. Ikeya, K., Hikage, T., Arai, S.,

Tentative supervisors will be determined right after Afghan participants enter the school as research students. Final supervisors will be determined by June 2014 after they pass the entrance examination of the master’s program and enter our school as master students.

8. Message from PEACE participants

The main issue which is significant for mentioning is a standard and effective academic atmosphere and all kind of facilities here, these facilities and academic environment make international students more competent and most knowledgeable.
(This message is from Mr.AKBARI who is one of the participants of PEACE)