In order to understand the complexities of environmental problems, it is necessary to develop a broad knowledge in the field of natural science. Through the IGER coursework, students are encouraged to develop both specialized and strong general knowledge, and are expected to participate in advanced seminars in various research fields. Furthermore, the students also participate in the "Problem Solving Skills" training courses. These courses are divided into five categories: environment, intellectual property, career development, science communication, and research skills. Finally, students have the opportunity to acquire leadership ability through Overseas Residential Research, Internships, and International Education Planning.

Leadership Development Program for Space Exploration and Research
In this program students acquire generalist knowledge of space science and engineering through "Space Science and Engineering Basics" and "Leadership Development Seminar" on leadership, social science, space utilization and manufacturing. Moreover, students acquire universal knowledge within the discipline through video coursework and specialization lectures. As part of the Leadership Development Seminar, students also develop implementation skills through the "Self-Development" type program in which students make their own proposals for implementation. In "Global Leadership Training" and "ChubuSat Implementation Program" they experience basic implementation training, then practical implementation in "Company Internship" and "Overseas Internship."

Real-World Data Circulation Leaders
In order to improve the industrial competitiveness of Japan, training of human resource leaders that will drive the creation of new social values is essential. From the viewpoint of creating new social values, firstly, in order to obtain the principle values, i.e. convenience, fun, health, and wealth, it is needed to learn the methodologies of engineering (convenience), information science (fun), medicine (health), and economics (wealth) [Creative and Critical Thinking]. Secondly, to fulfill the users’ desires, it is needed to foster the study of real-world data circulation by "acquiring" observation of real-world phenomena in the form of digital data, "analyzing" the acquired digital data using information technology, and "implementing" new products or services using the analysis results [Problem Solving Skills]. Finally, to flourish the above-mentioned abilities, it is needed to create the engagement and vision abilities for connecting people in various situations, places and teamwork experiences [Leadership Skills].

Cross-Border Legal Institution Design
The pressing need in the field of law and political science is for lawyers adept in identifying and analyzing problems, organizational management, responding to societal demands and conflict resolution. This program aims to educate future leaders who demonstrate these practical abilities seamlessly across borders, bridging gaps between Japan and other jurisdictions. These leadership skills are taught through opportunities to participate in institution transplantation through assisting in development projects.

Women Leaders Program to Promote Well-being in Asia
This program aims to foster future women leaders to achieve a better well-being in Asia, while deepening their understanding of the concept of well-being, developing their ability to analyze various issues concerning the well-being with a broad perspective, and nurturing their respect for diverse values and cultures that co-exist among Asian countries in different stages of development. The appreciation of diverse values in multicultural Asia would help remove prejudices in society, including those concerning gender bias. Moreover, the program seeks the traditional knowledge concerning cultural existence in society and the concept of well-being for sustainable development of Asia. This program fosters talented and capable future women leaders who can work globally, by developing their skills such as comprehension of gender-related issues and gender equality, planning skills, empathy, and communication skills. In addition, they will nurture a sense of commitment as a leader. Moreover, the program cultivates practical skills to identify and respond to complex issues and realities of multicultural societies.

PhD Professional: Gateway to Success in Frontier Asia
PhD Professional: Gateway to Success in Frontier Asia is a doctoral program that aims to foster graduate students to be global leaders who work for the frontier Asia region for which Japan's growth strategy is essential. For this end, the first step is to learn fundamental values and principles of the society of humankind; students are required to develop cross-cultural sensitivity and to understand intellectual efforts in other fields other than their own major. The second step is to acquire both traditional and specialized knowledge. In this regard, students are expected to establish individuality by learning traditional knowledge, and are also required to identify the core competency through the graduate studies in their own doctoral program. As a final step, training and practice of implementation skills including communication, team management, and problem solving educates students to be global leaders.

About the Program for Leading Graduate Schools

The Program for Leading Graduate Schools, sponsored by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Society for the Promotion of Science (JSPS) establishes graduate programs specially designed to foster talents of excellent students who are both highly creative and internationally attuned and who will play leading roles globally.

Nagoya University boasts the following six Programs for Leading Graduate Schools:

- Integrative Graduate Education and Research Program in Green Natural Sciences
- Leadership Development Program for Space Exploration and Research
- Real-World Data Circulation Leaders
- Cross-Border Legal Institution Design
- Women Leaders Program to Promote Well-being in Asia
- PhD Professional: Gateway to Success in Frontier Asia

An integrated transdisciplinary curriculum facilitates the sharing of common courses and activities among the six programs. The curriculum focuses on nurturing the following three core areas in order to meet the program objectives:

- Creative and Critical Thinking
- Problem Solving Skills
- Leadership Skills
### Outline of the Integrated Curriculum for the Program for Leading Graduate Schools

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<th>Green Natural Sciences</th>
<th>Space Exploration</th>
<th>Data Circulation</th>
<th>Legal Institution Design</th>
<th>Well-Being</th>
<th>PhD Professional</th>
<th>ESD Program*</th>
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#### Common Course on "Understanding Values and Principles for a Sustainable Future of the Global Society" (2 lectures per program)

- **Leadership Development, Seminar**
- **Global Challenge I**
- **Introduction to Joint Research on Comparative Study of Law, Comparative Politics Workshop**
- **Development Assistance, etc., Global Leader 1, Global Leader 2, Global Leader 3, Global Leader 4, Young Mentorship, and Japanese Culture Experience**
- **Japanese Culture Experience, Courses in Students’ Major**
- **Retreat in Asia, Courses in Students’ Major**
- **Overseas Training, Retreat in Asia, Top Leader Talk**
- **On-site Research Training in Clinical Environmental Studies (ORT)**
- **Field Seminar on Environmental Studies, etc.**

#### Creative and Critical Thinking Skills

- **A1 Fundamental Values and Principles**
  - Special Topics in Agricultural Sciences (History of Science), etc.
  - Leadership Development, Seminar
  - Global Challenge I
  - Introduction to Joint Research on Comparative Study of Law, Comparative Politics Workshop

- **A2 Universal Knowledge**
  - Collaborative Natural Science Lectures
  - Project Management I, II, III, IV, Special Research I, II, III, IV, Special Lecture and Seminar, On-Demand Seminars

- **B1 Advanced Knowledge**
  - IGHER Green Natural Science Lectures, Advanced Lectures on Frontier Technologies and Sciences, etc.
  - Legal Transplantation, Special Research I, II, Special Lecture and Seminar, On-Demand Seminars

- **B2 Traditional Knowledge**
  - Special Topics in Agricultural Sciences (Feed Culture), etc.
  - Leadership Development, Seminar

- **B3 Innovation Skills**
  - Special Topics in Agricultural Sciences (International Cooperation in Agricultural Education, Bio-Venture, Agricultural and Forestry Administration), Global Career Exploration Program, etc.
  - Leadership Development, Seminar

#### Problem Solving Skills

- **C1 Visioning and Management**

- **C2 Basic Skills for Implementation**

- **C3 Global on-site Training (GOT)**
  - ChubuSat Instrument Development Project, Internships (Corporate/International), Student-Planning Events (Workshops, Group Work, Exchange Events)

#### Leadership Skills

- **Global Challenge II**
- **Seminar in International Law and Politics I & II**
- **Global Leader 3, Global Leader 4, Overseas Training Program 1, Overseas Training Program 2**

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*The Education for Sustainable Development (ESD) Program, which is implemented by five graduate schools, collaborates by offering its courses to the Program for Leading Graduate Schools.*