

Course Number	06032
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2006 「The International Priority Graduate Programs (PGP)」

～Advanced Graduate Courses for International Students～

【1. Profile of the University】

①University Department	Graduate School of Environmental Studies, Nagoya University		
②President	HIRANO, Shin-ichi		
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④Contact	Division	Hydrospheric Atmospheric Research Center	
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⑥Enrollment (only Graduate School)	902 (including MEXT's Scholarship Students: 272 )		

【2. Outline of the Course】

①Course	Special Doctoral Graduate Program of Sciences of Atmosphere and Hydrosphere for International Students
②Degree	Doctor of Science or Doctor of Environmental Studies (3 years)
③Graduate Course, Department	Department of Earth and Environmental Sciences
	(Address) Furo-cho, Chikusa-ku, Nagoya 464-8601, JAPAN
④Collaboration (Universities, Graduate courses, Departments)	
⑤Quota	5 (include the MEXT's Scholarship Students: 3 ) (including Japanese : 0 )
⑥Faculties	22 (Full-time(only for this course):22 Full-time(at the department offering this course): 0 Part-time: 0 )
⑦Representative of the Course	Job : Dean, Graduate School of Environmental Studies, Nagoya University
	Name: Yoshitsugu HAYASHI

### 【3. Contents of the Course】

#### 1. Outline

Atmospheric and Hydrospheric Science, which looks at the physical and chemical properties of atmosphere and oceans as well as ecosystems, is a way of gaining basic information to obtain a comprehensive understanding of the present state of the earth and to predict its future. It is requested to our country in Asia that we not only respond to the domestic needs for environmental problems but also exercise the strong readership in the solution of environmental problems in the Asian region. It is necessary to work on securing of the researchers who can contribute to environmental problems in the Asian region in importance to answer such requests.

In the Special Doctoral Graduate Program of Sciences of Atmosphere and Hydrosphere for International Students, Graduate School of Environmental Studies (DES), Nagoya University, we widely advertises for international students, who researches enthusiastically the environments in the Asian region from the aspect of the atmospheric and hydrosphere sciences, from every country in the world. We aim at the development of the center researcher who can promote the environmental researches in Asia with the global view. They would contribute to the solution of a social pending issue that lies environmental problems in the Asian region.

#### 2. Response to globalization of environmental issues

To respond the current state of which the expansion of environmental problems of Asia is feared, the educational and training guidance of international students who research the environment in the Asian region from various aspects is emphatically done. In this program, we aim at the promotion of the young researchers who can promote the internationally-cooperated research projects by educating in the same environment to international students from Asian nations and others, and Japanese students (regular course).

#### 3. Characteristic of education / training guidance

In this program, the professional research training for next generation's researchers and cross-disciplinary education for getting the knowledge of various environment fields are done in parallel

(1) *Professional training*: The guidance of advanced research training is charged by the professors who are researching the field of the atmospheric and hydrospheric sciences in the DES. The professors in the field of the earth and planetary sciences in the DES cooperate about the professional education of the earth and planetary sciences needed in advancing the atmospheric and hydrosphere sciences.

(2) *Cross-disciplinary education*: The professors in the Department of Environmental Engineering and Architecture and the Department of Social and Human Environment take part, and the width and the specialty that extends to the science, engineering, and the humanities sociology are educated. The cross-disciplinary education aims to promote the ability to understand the structure and the essence of environmental problems in the Asia region systematically, to make the best use of the specialty for the solution. To introduce the education process with two or more guidance professors (added the professors of another major with different specialized fields), which is a trial of our graduate school, the international students get the ability to consult on the various researches in the environmental fields.

#### 4. Educational process to the acquisition of the doctoral degree

The research theme of the dissertation for (international and regular course) students is decided after consulting by supervisor(s), and we obligates making "*Study Plan*" that is a concrete research plan. Making the study plan clearly foresees the research process that the students trace voluntarily, and aims at the effect to strength the ability for research planning, to organize a necessary research, and to manage as an independent researcher. In addition, the supervisor makes "*Research Progress Report*" every school year. The colleague between professors is evaluated based on the study plan and research progress reports. It is considered that more effective research guidance would be assessed by exchanging opinions among the professors appropriately understanding the research progress report of the research students.

## **5. System of Education and guidance**

(1) *Professors who take charge of the professional training*: The 22 full-time professors who are researching the atmospheric and hydrospheric sciences in five courses (Global environmental variation, Climate science, Global geochemistry, Radiation and life sciences, and Global water cycle) in DES take charge of this program. The 32 full-time professors that research the field of the earth and planetary sciences (six courses of Earth environmental systems, Geology and geobiology, Geochemistry and cosmochemistry, Earth and planetary physics, Earth and planetary dynamics, and Chronology and natural history) cooperate on the education and the research guidance for international students.

(2) *Two or more guidance professors*: From the viewpoint of the training of the next generation researchers who can flexibly respond to complicated environmental problems, we encourage the development of the interdisciplinary ability to cross an existing science fields and the sprout research that lies environmental problems in the future. The students can have two or more guidance professors with different specialized fields.

(3) *Classes in English for international students*: The classes (seminar etc.) in English for international students are mainly held by the professors in the field of the atmospheric and hydrospheric sciences. The improvement of the ability to present the research is pressed by executing the seminars of the two or more professor's participation type in English. The professors who are researching the earth and planetary sciences hold the class in English depending on international student's situation of attending the lecture.

## **6. Selection procedure of international students**

We advertise for the international students who have the nature that promote the environmental research in the Asia region from all parts of the world. Considering needs for environmental problems of Asia and international demands, and the future plan of the atmospheric and hydrospheric science, the recommendation of international student candidates is also requested to the related organizations (such as international organizations with academic agreement and with jointed research projects). The selection of the international students is based on the documentary examination and the interview from two or more professors.

(1) *Documentary examination*: The submitted documents from the candidates are examined by a selection committee who composes of the mainly-charged professors from the aspects of special scholastic attainments, English ability, basic academic capability in the environmental research field, and logical consideration ability (research directionality and research plan), which are necessary to acquire the doctoral degree within the standard course period (three years). We request in some cases a written examination under the cooperation of the university, the office, and those who recommend the candidate, if necessary. Moreover, it is obligated to submit the letters of recommendation from two researchers who refer the evaluation of application person's research ability.

(2) *Interview from two or more professors*: Interview from two or more professors for the strategy to promote the research plan using the Internet is executed to the applicants who pass the first documentary examination. Interview of three times more by three or more professors is done. Face-to-face interview is also done by the potential supervisor or researchers who have research exchange with professors in our course, if necessary.

## **7. Educational quality control and evaluation system**

We aim at awarding doctoral degree (Doctor of Science or Doctor of Environment Studies) within the standard course period. The improvement about a proper doing program is taken off by doing the self-check for the application situation to program, acquisition rate of doctoral degree within standard course period, course after graduation, and etc. The informal social gatherings of the international student and the teacher as well as the class questionnaire to the international students are properly done for straightening the guidance and an educational system for international students.