

**International Program of “Frontier Biotechnology”
for Master’s and Doctor’s Degrees
[Enrollment in October 2010]
for Japanese Government (Monbukagakusho) Scholarship Students**

This booklet is for marked with ○.

	Doctor Course for October 2010 (for International Student Admissions)
	Master and Doctor Courses for April 2011 (for International Student Admissions)
○	International Program of “Frontier Biotechnology” for Master’s and Doctor’s Degrees, October 2010 (for Japanese Government Scholarship Students)
	International Program of “Frontier Biotechnology” for Master’s and Doctor’s Degrees, October 2010 (for Privately Financed International Students)
	International Course of “ Naval Architecture and Ocean Engineering ”for Master’s and Doctor’s Degrees, October 2010 (for Japanese Government Scholarship Students)
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	International Priority Graduate Program of “Quantum Engineering Design Course” for Master’s and Doctor’s Degrees, October 2010 (for Japanese Government Scholarship Students)
	International Priority Graduate Program of “Quantum Engineering Design Course” for Master’s and Doctor’s Degrees, October 2010 (for Privately Financed International Students)

July 2009

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Graduate School of Engineering at Osaka University is excited to announce an International Program of Frontier Biotechnology taught in English. The aim of this program is to expose young scientists to state-of-the-art research skills and in-depth knowledge of advanced biology, chemistry and physics to harness the potential of biotechnology. The program encompasses both master and doctor courses, while emphasizing research that directly benefits society and the environment. Students are expected to enroll in these courses sequentially in order to obtain both master's and doctor's degrees.

1. Number to be Admitted

10 students for each year.

2. Application Requirements

- (1) Nationality: Applicant must have the nationality of a country which has diplomatic relations with Japanese government.
- (2) Age: Applicant must be less than 35 years as of April 1, 2010 (i.e. born on or after April 2, 1975).
- (3) Education : Applicant must fulfill one of the following:
 - 1) have graduated, or be expected to graduate from a university or a college by September 30, 2010 .
 - 2) have completed or be expected to complete 16 years of formal study in a foreign country by September 30, 2010.
 - 3) be at least 22 years of age by September 30, 2010, and have a degree equivalent of a university graduate as recognized by the Graduate School of Engineering, Osaka University.
- (4) Language ability: Applicant must have good command of English. Those whose formal education has been conducted in a language other than English must submit a certificate of proficiency of English. An acceptable certificate includes TOEFL or TOEIC official test score.
- (5) Health: Applicant must be mentally and physically fit and free of infectious diseases.
- (6) Attendance availability: The recipient of the scholarship must be able to travel to and arrive in Japan between October 1 and 6, 2010.

Notes

- (1) This is a 5-year program for both master and doctor courses. A student who wants to leave this program after completing master course should not apply.
- (2) An active member of the military or a civilian employed by the military will not be allowed to apply for this program.
- (3) Admission will be revoked if a scholarship recipient is not able to arrive in Japan by the designated date.
- (4) The recipient of any other scholarship shall not be considered for this scholarship.
- (5) The admission will be revoked if a scholarship recipient fails to complete the educational requirements as stated in the application requirements by September 30, 2010.

3. Term of Scholarship

The term of scholarship will be from October 2010 through September 2015. The scholarship will be stopped if his/her academic achievement is not satisfactory, he/she cannot finish master course within 2 years, or he/she cannot pass the entrance examination of the doctor course.

4. Scholarship Benefits

- (1) Allowance: 157,000 JPY / month
- (2) Transportation to Japan: Each grantee will be provided, according to his/her itinerary and route as designated by Ministry of Education, Culture, Sports, Science and Technology (MEXT), with an economy class air ticket from the international airport closest to his/her place of residence to Kansai International Airport. Expenses such as transportation from his/her place of residence to the international airport, airport tax and any special taxes on overseas travel will NOT be provided.
- (3) Transportation from Japan: The grantee who returns to his/her home country within the last-payment month of his/her scholarship will be provided, upon application, with an economy class air ticket for a flight from Kansai International Airport to the international airport closest to his/her place of return.
- (4) Fees for entrance examination, admission and tuition: exempted.

Notes:

- (1) The amount of allowance is subject to change, depending upon the Japanese government budget of each year.
- (2) Insurance premiums for travel to/from Japan shall be borne by the grantee. The airport the grantee departs from or returns to must be an airport of the country of his/her nationality.

5. Selection and Announcement of Results

- (1) Graduate School of Engineering, Osaka University, will select preliminary candidates of the Japanese Government (Monbukagakusho) Scholarship students from the applicants by reviewing the application materials and documents by the middle of January 2010. These preliminary candidates will be aware of it because they will be interviewed by the representative professors by e-mail. These interviews will be completed by the middle of February 2010.
- (2) Japanese Government will review these preliminary candidates for final selection of the Japanese Government Scholarship students.
- (3) Successful applicants will be notified by post to the address as listed in the application form at the beginning of July 2010. They will be registered as regular students of Graduate School of Engineering, Osaka University.
- (4) Unsuccessful applicants will be notified by e-mail by the end of April 2010. We do not make any reply to the inquiries regarding the admission decision.

6. Program Start date

October 1, 2010

7. Important Features of the Program

- (1) English will be used in all lectures, other instructions and research related activities. Through the Basic Course in the first year, the students will acquire solid background

in frontier biotechnology. By Project-based Training Course they build up critical ability to design and execute research. By Frontier Research Proposal Course they build up an ability to propose an original research plan independently as a scientist. By immersion in Special Research during the ample time of remaining four years, they will attain the Degrees of Master and Doctor of Engineering.

- (2) Basic course in the first semester of master course will deal with a wide range of subjects, in frontier biotechnology fundamentals and applications in the fields of "Biotechnology", "Life Science" and "Material Science".
- (3) In the second semester of Master Course, students will take Project-based Training Course. The Course is designed to prepare students to be research engineers with the ability to conceive innovative ideas by synthesizing knowledge from different disciplines and the skills of devising research plans of realizing the ideas. In this Course, each student chooses one different laboratory from his/her own and makes a short-term research work under supervision of the professor of that lab.
- (4) All students will conduct their Special Research in the second, third, and fourth semester of Master Course under the supervision and instruction of a professor.
- (5) In the first semester of Doctor Course, students will take Frontier Research Proposal Course. The course is designed to prepare students to be a research scientist with the ability to propose an original research plan independently, so that they can complete their doctoral theses. In the Course, each student proposes a research plan in a different field from his/her own, makes a presentation, and discusses with professors, associated professors, assistant professors, and Doctor Course students of the related field from diversified/multiple perspectives. During the period of Doctor Course, the student will devote to the Special Research while also expanding their knowledge by taking the Courses of Frontier Biotechnology Exercise and Frontier Biotechnology Seminar.
- (6) For Special Research in Master and Doctor Courses, each student chooses one laboratory from those of Dynamic Cell Biology (Fukui Lab), Molecular Genetics (Harashima Lab), Molecular Microbiology (Nihira Lab), Molecular Biotechnology (Kanaya Lab), Biomolecular Energetics (Noji Lab), Bioresource Engineering (Fukusaki Lab), BioProcess Systems Engineering (Kino-oka Lab), Bioenvironmental Science (Watanabe Hajime Lab), Applied Microbiology (Fujiyama Lab), Physical Chemistry for Life Science (Fukuzumi Lab), Chemical Biology (Kikuchi Lab), Biofunctional Chemistry (Itoh Lab), Advanced Laser Spectroscopy (Kanematsu Lab) and Applied Surface Science (Watanabe Heiji Lab). The student can change the laboratory after completion of Master Course, if he/she wants.

8. Requirements for Completion of the Program and the Degree to be Obtained

(1) Master Course

1) Requirements for completion of the course: completion of two compulsory courses, Courses of Project-based Training and Safety Education with no less than 30 total credits; Completion of Special Research, and acceptance of the thesis for master's degree by the faculty and successfully passing the final examination of the course.

2) Degree: Master of Engineering.

(2) Doctor Course

1) Requirements for completion of the course: completion of one compulsory course, Frontier Research Proposal Course, with no less than six total credits, as well as the Special Research; satisfactory performance in the mid-term review of Special Research; passing the review of the thesis for doctor's degree by the faculty and the final examination of the course.

2) Degree: Doctor of Philosophy in Engineering.

Application Procedures

(1) Period and Place of the Application

The following forms of application and other materials must be submitted to the International Students Section, Academic Affairs Division, Graduate School of Engineering, Osaka University by post by December 10, 2009.

(2) Submission of the Forms and Certificates (File the following items in this order.)

- 1) A completed form of "Application for Admission" to the International Programs of "Frontier Biotechnology" for Master Course for October 2010.
- 2) A Statement on Purpose from the applicant (three or less pages of double-spaced typed pages on A4 paper).
- 3) Pledge (prescribed form).
- 4) A copy of the Diploma of Bachelor's degree or its certificate issued by the university the applicant attended.
- 5) If the applicant has Master's degree, a copy of the Diploma of Master's degree or its certificate issued by the university he/she attended.
- 6) A transcript of academic record of undergraduate program that indicates GPA or its equivalent and its full score as well, and is certificated by the university the applicant attended.
- 7) If the applicant has Master's degree, a transcript of academic record of Master Course certificated by the university he/she attended.
- 8) If the applicant is expected to graduate by September 30, 2010, a certificate that defines expected date of graduation issued by the university he/she attended.
- 9) A certificate of proficiency of English (only for those whose previous education was in a language other than English). Strongly recommended to attach the TOEFL or TOEIC official score test as the certificate.
- 10) A recommendation letter. It should be addressed to the president of Osaka University from the dean or the head of the faculty or school, or the president (rector) of the university or the institution the applicant attended, or the employer if he/she works.
- 11) A certificate of the citizenship or a copy of the applicant's passport (A4 size paper).
- 12) A photo of the applicant (4.5cm×3.5cm) taken within the past 6 months before the application date. Paste the photo on the 1) application form. Write his/her name and nationality in block letters on the back of the photo.
- 13) The abstract of the applicant's graduation thesis or its equivalent on A4 size paper.

Notes on submission:

- (1) Application documents should be typewritten or handwritten in block letters on A4 size paper in English. For the documents in a language other than English, an English translation must be attached.
- (2) Application documents once received will not be returned.
- (3) Application documents can be reproduced by making a clear photocopy, if necessary.
- (4) It is required to send the following information to the e-mail address (frontierbio@mls.eng.osaka-u.ac.jp) with the subject of "Frontier Biotechnology" upon submission of your application documents: full name (in the order of first name, middle name, and last name), academic background (including Faculty and Department for both Bachelor and Master Courses for a student with Master's Degree), e-mail address. Applicants are strongly requested to use his/her own names in Roman character when sending the e-mail.

- (5) Preliminary candidates for Japanese Government Scholarship should submit the “Application documents for Japanese Government Scholarship” after the interviews. The application documents will be sent to preliminary candidates by e-mail in January 2010.

9. Notes

- (1) The application will be rejected or the admission will be revoked, even after matriculation, if any information or materials in the application is found to be fraudulent.
- (2) Breach of the pledge to the MEXT may result to termination of the scholarship.
- (3) A recipient is subject to the university rules, and the scholarship will be terminated if a recipient is officially reprimanded by the university or fails to demonstrate his/her ability to complete the study.
- (4) A successful applicant is strongly advised to learn about Japan (the land, the people, the society and the culture) as well as the university prior to his/her arrival in Japan.

10. For further information and inquiry

All inquires to:

International Students Section
Academic Affairs Division
Graduate School of Engineering
Osaka University

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