

# Application Information for Autumn Course of 2021 Academic Year “World-Leading Innovative Graduate Study Program of Advanced Basic Science Course (WINGS-ABC)” at the World-Leading Innovative Graduate Study Program at the University of Tokyo

[For master’s students admitted in October 2021]

This application information is for the “World-Leading Innovative Graduate Study Program of Advanced Basic Science Course” (WINGS-ABC), an integrated master’s/doctoral program created in the Graduate School of Arts and Sciences. This call is only for students admitted in October 2021.

## 1. What is the World-Leading Innovative Graduate Study Program of Advanced Basic Science Course?

### 1.1. Goals and features of this Program

By seeking to develop individuals who will not only lead next-generation basic sciences from a cross-disciplinary perspective grounded in specialization in multiple areas of the basic sciences, but who can also communicate the fascination of the basic sciences, the World-Leading Innovative Graduate Study Program of Advanced Basic Science Course (hereafter, the Program) aims to assist the research activities of exceptional graduate students.

As in the case of the award of the Nobel Prize to Distinguished Professor Emeritus Yoshinori Ohsumi, basic science research is an incredibly fascinating area of research that can lead to remarkable innovations over the long term. The intermingling of a wide range of scholarship in the Program, including mathematics, physics, chemistry, biology, earth science and astronomy, and information science, not only expands the individual scholarly interests of the graduate students but also provides a multitude of opportunities for them to leap into different areas of the basic sciences. Moreover, the Program takes advantage of Komaba campuses’ feature — the presence of diverse populations, from freshman students to researchers, on the campus — to educate graduate students who will develop high pedagogical skills through sharing knowledge with others.

### 1.2. Leading Research Assistantship (Leading RA)

The students who will be enrolled in the Program will be selected by reviewing applications from graduate students in the master’s program in the Graduate School of Arts and Sciences and other graduate schools. The students who are admitted will be appointed as Leading RAs and will receive a stipend while they study in the Program. (See “6. Stipends for Leading RAs”.) The Program will accept approximately 4 students, and the number may change, depending on the results of the application review. The duration of their appointment is shown in “10. Important Application Dates.” .

## 2. Eligibility for Application

Graduate students who are eligible to apply for enrollment in the Course in the October 2021 call (hereafter, the Course) of this Program are those who entered the master’s program, and will meet either (1), (2), or (3) below, and will meet all

of the “Requirements” listed below. (See Note 1 and 2 below.)

(1) You have been enrolled in the master’s program in the Graduate School of Arts and Sciences, the Graduate School of Mathematical Sciences, or the Graduate School of Science at this University.

(2) You have been enrolled in a master’s program (or a professional degree program) in a graduate school at this University other than those listed above in (1) and your thesis supervisor’s primary appointment is with the Institute of Industrial Science.

(3) You have been enrolled in a master’s program at a graduate school not listed above in (1) (or a professional degree program) and your thesis supervisor’s primary appointment is with the Research Center for Advanced Science and Technology.

#### Requirements:

1. You are planning to earn a doctoral degree by acquiring expertise in multiple areas of the basic sciences.
2. You are motivated to lead next-generation basic sciences from a cross-disciplinary perspective and to communicate the fascination of the basic sciences.
3. You are planning to advance to a doctoral program at one of the graduate schools listed above. (Note 3)
4. You have received your thesis supervisor’s approval of your application at the time of submitting your application for enrollment.
5. You consent that you must apply for the Research Fellowship for Young Scientists, awarded by the Japan Society for the Promotion of Science (JSPS), and that you will continue your enrollment in the Program after being selected as a JSPS fellow. If you do not apply, your enrollment may be revoked after reviewing by QE. (Note 4)

#### Notes:

1. You are not allowed to apply simultaneously for other World-Leading Innovative Graduate Study Programs at the University of Tokyo or other Leading Graduate School Doctoral Programs.
2. Students may apply only for admission.
3. Students who do not plan to advance to a doctoral program after completion of their master’s program cannot apply for this Course.
4. If you are admitted to this Program, you will receive a stipend for your Leading Research Assistantship. However, if you are selected as a recipient of the JSPS Research Fellowship for Young Scientists, the stipend will be suspended. In addition, if you are selected other fellowship programs, your stipend may be reduced, starting on the month in which such fellowship(s) commence(s). (See “6. Stipends for Leading RAs”.)

### 3. Selection Procedure

The selection of the Course students will be based on the overall evaluation of application materials (initial screening) and the results of the interviews. For details of the application materials that will be reviewed in the screening, see “5.1. Application Materials.” The Program administrators will email details, including interview dates, to the email address you supplied in your enrollment application. If you do not receive this email, please contact the Graduate School Section of the Academic Affairs Division, the College of Arts and Sciences. (See “9. Contact Information”.) The interview dates are shown in “10. Important Application Dates.”

## 4. Admission Decisions and Enrollment Procedure

The admission decisions will be posted, using the “Receipt Number” which was notified to you when your application materials were received, on the bulletin board at the College of Arts and Sciences, located on the left-hand side past the main gate of the Komaba I campus, and on the Program website (<http://wings-abc.c.u-tokyo.ac.jp/>). The admission decisions will also be emailed to all applicants, using the email addresses they supplied in their enrollment applications. Enrollment forms will be emailed to the admitted applicants at the same time as the announcement of the decisions. Admitted students must complete the necessary enrollment paperwork (submission of enrollment documents). Failure to complete the paperwork within the designated period will be taken as your non-acceptance of the admission offer. The schedule is shown below.

## 5. Application Procedure

5.1. Application Materials All of the following materials must be submitted in your application.

- (1) Application Form (reasons for applying for this Program, your research prospectus for graduate research, etc.)
- (2) Research Proposal for Leading Research Assistantship
- (3) Letter of Opinion from your thesis supervisor
- (4) Application Form

Print and submit one copy of both your Application Form (1) and your Research Proposal for Leading Research Assistantship (2). The applicant must submit one copy of the Letter of Opinion from his or her thesis supervisor (3), printed by the supervisor and sealed in an envelope by the supervisor. The Application form (4) must be registered via Google form in our WEB page.

Download site for application material templates: <http://wings-abc.c.u-tokyo.ac.jp/>

5.2. Submit materials to:

- Items (1), (2), and (3) should be sent to The Graduate School Section of the Academic Affairs Division, College of Arts and Science by postal mail to the following address,  
Graduate School Section of the Academic Affairs Division,  
College of Arts and Sciences,  
The University of Tokyo 3-8-1 Komaba, Meguro-ku, Tokyo  
153-8902
- Write on the front of the envelope “WINGS-ABC application form enclosed”

## 6. Stipends for Leading RAs

Students who have been chosen for the Program will be appointed as Leading Research Assistantships for a maximum of 21 months in the master’s course and 36 months in the doctoral course. The stipends paid through the

Leading Research Assistantship are, in principle, 150,000 yen/month for master's students and 180,000 yen/month for doctoral students. The following must be remembered concerning the stipend.

1. Students are required to be enrolled in the Program in order to receive the stipend. Discontinuation of enrollment due to poor academic performance or failure in the qualifying examination (QE) will result in termination of the payment.
2. If a student receives other fellowships or scholarships, the stipend rate will be reduced.
3. In accordance with Japanese tax law, the stipend will be taxed as employment income, and thus will be paid after withholding the monthly income tax. Students will therefore be required to file a year-end adjustment and tax return.
4. Keep in mind that if your annual income between January and December exceeds a certain amount, you may become ineligible for the exemption for dependents under the income tax law, or may not qualify as a dependent in the health insurance policy. In addition, depending on your annual income during a given year, municipal residence tax may be levied in the following tax year.

## 7. Qualifying Examination, Final Examination, Criteria for Course Completion

### 7.1. Qualifying Examination (QE)

The QE for the Course will be administered every year at the end of the year. Each student will submit a report and will be evaluated on the presentation, questions and responses, etc., during the student's presentation meeting. If the student is approved for the continuation of enrollment in the doctoral program, the QE will be also administered every year. Each student will submit a report and will be evaluated on the presentation, questions and responses, etc., during the student's research report meeting.

### 7.2. Requirements for Completing the Master's Program

In order to complete the Program, the student must meet the following requirements by the end of his or her master's program.

1. The student in the Program completes the master's program in his or her major within two years.
2. The student earns six or more credit hours out of the 14 credit hours required for the completion of the Course (see Appendix 1).
3. The student passes the QE specifically created by the Program Committee at the completion of the master's program. In addition to submitting a report and delivering a presentation at the research report meeting, the student will submit an essay on his or her career plan and a research proposal in a research area outside the student's primary area of expertise. Advancement to the doctoral program will be reviewed based on these materials.

### 7.3. Final Examination (FE)

The FE for this Course will be administered at the end of the doctoral course.

- (a) Submission of the final report
- (b) An oral presentation in a public colloquium attended by, among other individuals, around 10 faculty members representing varying areas of research.
- (c) Completion of a closed oral defense with these faculty members.
  - (a) and (b), in particular, will test the student's ability to deliver comprehensive explanations,

including background information about the student's area of expertise, to the multi-disciplinary review committee. In addition, (c) will be used to test the student's level of comprehension of research trends and the status of different areas of the basic sciences.

#### 7.4. Criteria for Course Completion

The student will be considered to have completed the Course if he or she meets all of the following criteria.

1. The student earns a doctorate in his or her graduate school based on a theme related to the basic sciences in a broad sense.
2. The student completes two or more credit hours in each of the courses listed in Appendix 1 (Academic Writing, Seminar in Advanced Basic Sciences, Exercise in Advanced Basic Sciences, and Special colloquium in Advanced Basic Sciences) and 14 credit hours or more, including these credit hours.
3. The student passes the FE described above.

## 8. Important Notes

1. An application that fails to supply all the required materials within the submission period will not be accepted.
2. No change in the materials is permitted under any circumstances after the application paperwork is completed.
3. The application process and other aspects may change due to circumstances. A new announcement will be made in the event of a change.
4. The names, addresses, and other personal information obtained in the course of receiving applications will be used for purposes related to admission selection (processing of applications, selection of candidates), announcement of admission decisions, and the enrollment paperwork. Additionally, such personal information will be used for purposes related to only the admitted students, academic matters (student status, completion, etc.), and student support (career support, application for tuition waiver, etc.).
5. If a student is found to have provided false information in his or her application, the student's status as a Course student may be retroactively cancelled even after his or her admission.

## 9. Contact Information

Graduate School Section of the Academic Affairs Division,  
College of Arts and Sciences,  
The University of Tokyo 3-8-1 Komaba, Meguro-ku, Tokyo  
153-8902  
(Counter No. 5 -Administration Bldg. 1F)  
Phone: 03-5454-6050 (6049)

Questions concerning the Program:

E-mail: [wings-abc-group@g.ecc.u-tokyo.ac.jp](mailto:wings-abc-group@g.ecc.u-tokyo.ac.jp)

Program Website

URL: <http://wings-abc.c.u-tokyo.ac.jp>

## 10. Important Application Dates

Submission Period: From October 4 (Monday) to 4 p.m. on October 12(Tuesday), 2021

[Materials must be received within this period]

Announcement of Screening Results: October 18, 2021 (Monday)

Interview Dates: from October 20(Wednesday) to October 27 (Wednesday), 2021

Announcement of Admission Decisions: October 29, 2021 (Friday)

Enrollment Paperwork: By 4 p.m. November 4, 2021 (Thursday)

Commission period of RA: From December 1, 2021 to September 30, 2026.

September 13, 2021

## 2 Courses

## Seminar in Advanced Basic Sciences, I–X

## Cross-mentoring:

Graduate students typically develop the foundation for their research activities under the guidance of their thesis supervisors, who are the principal investigators of the labs to which they belong. In this Program, secondary supervisors, including affiliated on- and off-campus researchers in different fields as well as doctoral students, play the role of mentors. The goal here is not just research supervision. The Program encourages cross-disciplinary interactions through the sharing of information about one's research with others, and deepening mutual understanding and knowledge sharing. Students will develop communication skills that are effective beyond their own fields.

## Special Colloquium in Advanced Basic Sciences, I–X Graduate-undergraduate collaboration with the Junior Division, College of Arts and Sciences Program:

Advanced Sciences, one of the courses offered in the Junior Division of the College of Arts and Sciences, has been planned to provide advanced practical education for the best Junior Division students. In this course, the Program's graduate students will explain their research proposals and outcomes in an understandable manner in a seminar format. Students will also help as teaching assistants in Active Learning of English for Science Students, a required English writing course designed for first-year science majors in the Junior Division. These opportunities will make information and knowledge exchanges among students more dynamic and will help them to develop networks.

## Exercise in Advanced Basic Sciences, I–X

## Research skill tutorials:

Students will develop mastery of research skills in the basic sciences (calculators, programs, lab equipment) and aim to acquire the competence to conduct tutorials. Students will develop and administer seminars and hands-on events to explain these skills and their component technologies. Students will explain to the participants how to use each skill, and its efficacy. In addition, students will hold and administer study sessions in which international students from varying backgrounds will be helped to understand the foundation and transfer it seamlessly to research skills. In collaboration with the Organization for Programs in Environmental Sciences, these events will be held not only in Japanese but also in English.

## Academic Writing, I–X Cross-disciplinary peer reviewing:

In this practicum course to be created in the Program, not only will students respond on the spot to questions about their presentations, but also multiple interactions will take place through report texts among Program students who specialize in different areas. This will help students to acquire the ability to be discerning in other areas, which is a skill required to advance the basic sciences, as well as the flexibility to accept, in turn, criticisms from other areas and the ability to effectively communicate with other areas. Needless to say, this is no different than peer reviewing in academic journals, and is a crucial process in scientific research.

## Short-stay program in Basic Sciences, I and II Domestic and overseas short-stay

program in a small group of graduate students:

With the goal of studying and being motivated to study basic sciences, including areas other than one's own field, students from different areas of specialization will form groups and engage in activities related to the basic sciences through domestic and short overseas stays (participation in conferences and research meetings, visits to labs and facilities at research institutions, etc.). Students will complement each other, carefully make plans for the stay, and develop autonomy and collegiality through group work ranging from planning to implementation.