

AY 2013

**Nagoya University**  
**Graduate School of Information Science**

**Doctoral Program (Final Three-Year  
Program)**

Department of Computer Science and Mathematical Informatics

Department of Information Engineering

Department of Media Science

Department of Complex Systems Science

Department of Systems and Social Informatics

Student Admission Requirements

**Nagoya University**  
**Graduate School of Information Science**

# 2013 Nagoya University Graduate School of Information Science

## Student Admission Requirements for Doctoral Program (Final Three-Year Program)

The Graduate School of Information Science invites students wishing to apply for admission or advancement to the Doctoral Program (Final Three-Year Program) at the Graduate School for the 2013 academic year, according to the terms and conditions specified below.

### 1. Application Eligibility

Persons who fall under one of the following criteria:

- (1) Persons to whom a master's degree or a professional degree has been granted or is scheduled to be granted by March 31, 2013;
- (2) Persons to whom a degree equivalent to a master's degree or a professional degree has been granted in a foreign country;
- (3) Persons who have taken courses offered in Japan by a foreign school by distance education to whom a degree equivalent to a master's degree or a professional degree has been granted or is scheduled to be granted by March 31, 2012;
- (4) Persons who have completed a course of study in Japan offered at an educational institution positioned under the schooling system of a foreign country as offering graduate school programs and designated separately by the Minister of Education, Culture, Sports, Science and Technology, to whom a degree equivalent to a master's degree or a professional degree has been granted;
- (5) Persons designated by the Minister of Education, Culture, Sports, Science and Technology (The Ministry of Education, Science, Sports and Culture Public Notice No. 118 of 1989) [see NOTE]; and
- (6) Persons who will be at least 24 years of age by March 31, 2013 and are recognized by the Graduate School of Information Science through individual screening of eligibility for admission as having scholastic ability equivalent to or higher than that of persons who have a master's degree or a professional degree [see NOTE].

NOTE: Persons applying under Application Eligibility criterion (5) or (6) must inquire in advance at the Graduate School of Information Science by Wednesday, December 12, 2012.

### 2. Availability of Places

Department of Computer Science and Mathematical Informatics	5
Department of Information Engineering	7
Department of Media Science	8
Department of Complex Systems Science	8
Department of Systems and Social Informatics	7

### 3. Application Acceptance Period for Admission

**From January 9 (Wednesday), 2013 to January 16 (Wednesday), 2013** (excluding Saturdays, Sundays, and holidays.)

Acceptance hours/Office hours: 9:00am - 4:00pm (excluding 12:00pm – 1:00pm)

### 4. Application Documents to Submit

The following documents must be submitted by all applicants:

- (1) Application Form for Admission/Advancement (filled in using form prescribed by the Graduate School)
- (2) Examination Form (filled in using form prescribed by the Graduate School)  
Photograph Form (filled in using form prescribed by the Graduate School)
- (3) Statement of Reasons for Application (filled in using form prescribed by the Graduate School)
- (4) CV (filled in using form prescribed by the Graduate School)
- (5) Two Self-Addressed Return Envelopes (one for the receipt of examination form, one for the notification from the Graduate School)
- (6) Address Label (filled in using form prescribed by the Graduate School)
- (7) Certificate of (prospective) Conferral of Master's Degree or Certificate of (prospective) Completion of Master's Program "
- (8) Academic Transcript (created by the last institution attended)
- (9) Application Fee of 30,000 yen

Provide two self-addressed return envelopes as prescribed by the Graduate School, clearly indicating applicant's name, address/place of receipt, and postal code. Note that the return envelope for receiving the examination form must have a 350 yen stamp affixed (for overseas addresses/places of receipt, enclose a sufficient International Reply Coupon (IRC) to cover the required return postage with the submission).

The applicant will not be required to pay the application fee if he/she falls under either of the following:

- The applicant wishes to advance to the Doctoral Program (Final Three-Year Program) at the Graduate School of Information Science directly after the completion of a Doctoral Program (Initial Two-Year Program) at a Graduate School of Nagoya University; or
- The applicant is a Government (MEXT)-sponsored scholar.

\* Please fill in the "Application Fee Payment Form" and make payment with cash at a post office counter (do not pay via an ATM). Note that payment by cash at the Graduate School or postal money orders will not be accepted. The payment will start to be handled at post offices on Friday, January 4.

Applicants residing overseas who find payment via post office difficult should consult with the Graduate School.

\* Applicants must enter their own name in the "payer" field" on the following documents:

- A. Payment Handling Form - "*Haraikomi toriatsukai hyo*"
- B. Bank Transfer Payment Invoice/Receipt - "*Furikae haraikomi seikyusho ken juryosho*"
- C. Certificate of Bank Transfer Payment Received (application fee payment receipt) –

*"Furikae haraikomi uketsuke shomeisho"*

\* The applicant pays the bank transfer fee.

\* After making payment, the applicant must affix "C. Certificate of Bank Transfer Payment Received (application fee payment receipt)" with a receipt stamp on it to the indicated position on the Application Form.

\* The applicant must retain "B. Bank Transfer Payment Invoice/Receipt" as his/her record.

<Note> Under no circumstances will the application fee be returned or refunded following receipt of the application documents at the Graduate School.

However, received application fees will be returned or refunded if one of the situations described below apply. If this is the case, please contact the Graduate School Section, Graduate School of Information Science by Monday, February 4.

i.

If, after paying the application fee, no application is submitted, or the application is not accepted for submission.

ii. If the application fee is paid twice.

(10) Master's Thesis (one thesis; a copy is acceptable)

Summary of the Master's Thesis

Those who completed a master's program with ABT/ABD (completed All But Thesis/Dissertation) status must submit an academic paper, etc. which serves as a substitute for the thesis; provided, however, that applicants to whom a master's degree is scheduled to be granted by March 31, 2013 will not be required to provide a master's thesis but will be required to submit a summary of the master's thesis (one summary).

The thesis summary may be submitted using the form prescribed by the Graduate School, or it may be newly created in the prescribed style using a PC, etc. Extra pages may be added as needed.

The following documents must be submitted only by the person concerned:

- (1) Applicants who are foreign nationals residing in Japan must submit a copy of their Resident Register (Certificate of Residence) or Certificate of Items Stated in Resident Register issued by the head of the city, town, or village of residence. This is not required for persons with permanent residence status in Japan. Applicants residing overseas must submit a document verifying nationality and residence status (e.g. a copy of the pages of their passport indicating nationality and residence status).
- (2) Applicants currently employed by a government agency, company or organization, etc. who intend to continue such employment after enrolling to the Graduate School must submit a

document indicating that they have approval for applying for admission (no prescribed form).

- (3) International students who have taken the Japanese Language Proficiency Test must submit a certificate indicating that they have passed the test, or official notification of their test results. When submitting a copy, the copy must have a signature and seal affixed stating that "It is a true and faithful copy of the original".
- (4) Applicants who have been certified with or have taken an English language proficiency test (STEP, TOEIC, TOEFL, etc.) must submit a copy of a certificate indicating that they have passed the test, or an official, written notification of their test results. The copy must have a signature and seal affixed stating that "It is a true and faithful copy of the original". Note that the written notification of results must, in order to be deemed valid, refer to testing conducted no earlier than April 1, 2009.
- (5) If there are other documents/materials that indicate the applicant's research ability other than a master's thesis, it is desirable to submit one copy of each document and, as needed, a summary of each.
- (6) Applicants who are currently government (MEXT)-sponsored scholars must submit a certificate to this effect issued by the university they are currently attending.

## 5. Application Procedure

Applicants prepare the application documents, place them in the envelope prescribed by the Graduate School, and either hand in or mail them to the Graduate School Section, Graduate School of Information Science.

### Important points

- (1) When submitting application documents in person, applicants themselves should deliver them.
- (2) When submitting application documents by mail, they must be sent by registered mail to arrive no later than 4:00pm on Wednesday, January 16, 2013, to the Graduate School Section, Graduate School of Information Science.
- (3) An Examination Form will be mailed to the applicant. Contact the Graduate School Section, Graduate School of Information Science if the Examination Forms do not arrive two days prior to the examination.
- (4) Be aware that application documents not properly or adequately prepared will not be accepted.
- (5) Application documents cannot be altered or replaced after submission. The application fee will not be returned or refunded.

## 6. Selection Method

- (1) The results of the oral examinations will be considered along with the other submitted documents for a comprehensive evaluation for selection of students to be admitted or advanced to the Graduate School.
- (2) The oral examinations will be conducted as specified in the table below. Applicants with special circumstances must consult with the Graduate School prior to application submission.
- (3) The locations of the oral examinations will be posted at the first-floor entrance to the Graduate School of Information Science Building (see the Nagoya University Higashiyama Campus map) on the date of the examination.
- (4) Gather at the first-floor entrance to the Graduate School of Information Science Building. See the Nagoya University Higashiyama Campus map.

### Oral examination

The oral examination is comprised of an approximately 20-minute presentation on the master's thesis or the substitute academic paper and the research plan for the doctoral program (Final Three-Year Program), followed by questions and answers on the presentation and an interview covering the specialized field of study.

Department	Examination date	Examination times
Department of Computer Science and Mathematical Informatics	Friday, February 8	9:30am -
Department of Information Engineering	Friday, February 8	9:30am -
Department of Media Science	Friday, February 8	9:30am -
Department of Complex Systems Science	Friday, February 8	9:30am -
Department of Systems and Social Informatics	Friday, February 8	9:30am -

Note: \* A PC projector will be available and may be used when giving the presentation. However, the applicant is responsible for bringing a PC that can be connected to the projector.

Please confirm the examination time with your desired advisor in advance.

#### 7. Announcement of Results

Results will be posted at the entrance to the Graduate School of Information Science Building on Thursday, February 14, 2013 at 12:00pm. In addition, applicants will be notified of the results (pass or fail) by mail.

#### 8. Admission/Enrollment Procedures

Successful applicants will be notified of admission/enrollment procedures in early March 2013. The date for undertaking these procedures is expected to be in late March 2013.

#### 9. Enrollment and Tuition Fees

(1) Enrollment fee: 282,000yen

(2) Tuition fees: 267,900 yen per semester (535,800 yen per year)

Note 1 The enrollment fee will be collected at the time of enrollment. Tuition fees are divided into two installments, one for the first semester and one for the second semester. First semester tuition is paid in April, and second semester tuition is paid in October; however, in the first year of enrollment, first semester tuition should be paid in May.

Note 2 If the tuition fees are revised at the time of or after enrollment to the University, the new fees after revision will be applied from the time of revision.

#### 10. Other

- (1) Please inquire in advance if you are unclear about anything related to application eligibility, application documents or selection methods.
- (2) Applicants with special needs who require special support in undergoing the selection/examination process and/or studying at the Graduate School should consult the Graduate School of Information Science in advance before Tuesday, December 25, 2012.
- (3) Applicants must, prior to application submission, contact or consult with their desired advisors in advance, to decide a desired research group(s)/advisor(s) with whom they will work for their doctoral research.
- (4) Refer to the website below to find out about the research work of faculty members, etc.
- (5) Nagoya University enforces regulations on the entry of vehicles to campuses. Please use public transportation when taking examinations.
- (6) Personal information such as the names, addresses, and dates of birth of applicants will only be used for admission and selection procedures, announcement of results, admission/enrollment procedures and their related matters. Personal information obtained from applicants is properly managed and will not be used for other purposes.

\* Notification of emergency information

In the event of changes in the examination procedure, schedule or selection process due to a natural disaster or epidemic, etc., information will be posted on our website: <http://www.is.nagoya-u.ac.jp/>. Be sure to check this site, especially before submitting applications, or before the examinations.

For further information, send inquiries to:

Graduate School Section, Graduate School of Information Science, Nagoya University

Furo-cho, Chikusa-ku, Nagoya, 464-8601 Japan

Tel 052-789-4721/4722

Website <http://www.is.nagoya-u.ac.jp/>

E-mail [admission@is.nagoya-u.ac.jp](mailto:admission@is.nagoya-u.ac.jp)

# Graduate School of Information Science, Nagoya University

- **Fundamental Principles of the Graduate School**

With the advancement of the Information Age, information, together with materials and energy, has become an important element of human society. The Nagoya University Graduate School of Information Science studies Information Science as an academic subject from such vantage points as Engineering, Natural Science, Computer Science, the Humanities, Social Sciences, Cognitive Science, and Bioscience. Our aim is to create a new field of scholarship in a way that lends itself to system development and the integration of fields of study.

The Graduate School aims to contribute to the advancement of culture and to train academic researchers and highly professional technical experts and educators, by working with students to engage in in-depth study and research activity that will enable students to grasp academic theories and applications. Our aim is to enable students to acquire a wealth of academic knowledge and superior skills needed to pursue careers that require high levels of expertise. In addition, this Graduate School is not only dedicated to engaging in advanced research in information science, it also makes every effort to ensure that students deepen their understanding of social and cultural questions and that they acquire ethical principles and a sense of social responsibility.

The goal of the Graduate School is to develop human resources with these qualities. By offering students a comprehensive education as they engage in research, the School assists students to engage with new challenges in both academia and society.

- **Graduate School Education**

Academic studies of information-related subjects will be of great use in scholarship in various academic fields, and it can be seen that such studies will contribute to further development in diverse fields. The Graduate School thus seeks to admit students from various schools and fields to engage in studies ranging from the basics of information science to its applications in an integrated fashion with a high level of scholarship. To do this we engage in the educational activities outlined below.

1. We offer education enabling students to systematize a wide range of data-based knowledge.
2. We offer education that gives students the ability to clarify information phenomena in the various sciences from necessary perspectives or standpoints.
3. We offer education that enables students to understand social norms and that imparts proper ethical principles pertaining to technology, engineering, and information handling.
4. We offer education that enables students to understand social needs and that gives them the ability to analyze problems in that area.
5. We offer education that helps students develop communication skills and enables them to express themselves.



6. We offer education that provides training for students to give them the ability to operate actual information systems.

In this way, the Graduate School seeks to help students not only learn how to engage in cutting-edge research in the information science field; it also endeavors to help them grasp the social and cultural ramifications of their work. An important goal is the education and development of human resources with solid social values and ethical standards.

- **Admissions Policy**

The influence that information science has on scholarship and society is fully understood at Nagoya University. Accordingly, the Graduate School seeks to recruit students with solid academic foundations and with a strong desire to excel in theoretical and basic engineering study and research and to acquire solid skills in the practical applications of information science.

- **Degrees**

The Doctoral Program (Final Three-Year Program) offered at the Graduate School has specified requirements for completion that must be met. Students meeting them will be conferred with a doctoral degree in Information Science. However, when special reasons are recognized, doctorates in Engineering or doctoral degrees in Arts may also be conferred.

- **Outline of the Department**

The Graduate School is comprised of five Departments: the Department of Computer Science and Mathematical Informatics, Department of Information Engineering, Department of Media Science, Department of Complex Systems Science, and the Department of Systems and Social Informatics. The names and contact information of the faculty members of each Department can be found at <http://www.is.nagoya-u.ac.jp/>.

## 1) Department of Computer Science and Mathematical Informatics

The Department of Computer Science and Mathematical Informatics offers education and research opportunities in the fields of computer science and mathematical informatics, which are the foundations of the information sciences. Specifically, the department engages in the study of such subjects as mathematical logic, discrete mathematics, probability analysis, numerical analysis, calculation volume theory, correspondence theory, code theory, algorithm theory, calculation model theory, program meaning theory, quantum information, quantum calculation, and optimization.

The research goals of this department include work on the development of information science with a focus on mathematical models for deeper, richer analyses of structures. Our goals on the education side include giving our students an opportunity to acquire necessary knowledge of computer science and mathematical informatics and the ability to develop and apply concepts in

these fields. The department seeks to foster the development of engineers and researchers who will play central roles in the field of advanced information science.

## 2) Department of Information Engineering

This department offers an education in the use of information technology to contribute to a more convenient, safer and more comfortable society. We seek to train students to design and build information systems for diverse purposes, and to be able to make decisions on optimum configurations of hardware and software for these purposes. Another department aim is to contribute to further information system development in response to the remarkable advances made in semiconductor integrated circuits technology and information communications technology.

The advances in semiconductor integrated circuits technology have made astounding developments possible in integrated systems and miniaturization that have led to new devices and products in home electronics and the automotive industry. In addition, the large-scale information systems that bring data processing devices together in mobile environments have led to the need for ever-larger software configurations in highly complex systems. It is against this background that the department engages in education and research activity that can offer students the opportunity to grasp the techniques and scientific principles needed to design and build state-of-the-art information systems. We wish the engineers and researchers we develop to play leading roles in the further development of the science of information systems.

## 3) Department of Media Science

The ability to rapidly and accurately extract and express information sustains a great deal of human activity in such diverse areas as industry, economics, social activity, education, the arts, medicine, welfare and home life.

Seeking to contribute to further advances in information society, this department, with the study of basic science and engineering, cognitive science, and basic media science theory as its core activity, strives to apply scientific knowledge to systems creation and to the clarification of human cognitive functions. We expect the engineers and researchers being nurtured in our department to be future leaders in these endeavors.

#### 4) Department of Complex Systems Science

The complex systems found in nature and in society are networks of multiple elements such as molecules, neurons, and agents that transmit, convert and store information. They can be viewed as distributed information systems. A key characteristic of complex systems is how the interaction between their constituent elements generates a structured order with dynamic, self-regulating functions that cannot be anticipated from the characteristics of each single component.

The study of complex systems seeks to develop universal perspectives enabling us to see the processes of self-organization in these structures and functions as information system processes. Theories, experiments and calculations are combined to reveal the universal principles that are hidden among a diverse range of subject matter, and to develop applied technologies.

This department engages in education and research activity to develop innovative calculation methods need to analyze complex systems. Rather than conventional element reduction methods, we seek to create model systems that will enable us to understand complex systems and the development of structural theories. In addition, the department seeks to develop information system designs and distribution methodologies based on the processes of self-organization of distributed elements. The aim is to train engineers with superior conceptual capabilities, engineers who can develop new ideas in this area of science.

#### 5) Department of Systems and Social Informatics

The department engages in education and research activity in an attempt to yield further advances in information technology, in order to bring to the advancing information society new perspectives and integrated processes for the study of real-world physical objects and phenomena and of theoretical subjects in the virtual world. The department employs an integrated approach to the study of environmental, structural and functional phenomena. The aim of the department's education and research activity is to make a contribution, through the application of information technology, to the establishment of new paradigms and models to open up more space for creative activity supported by human wisdom and creativity. The overall aim is to contribute to the creation of knowledge-based social systems and social environments through the use of information technology applied to the evaluation of a range of diverse issues.

From the standpoint of contributing to the development of human resources and helping students acquire the skills and knowledge needed to meet the challenges of the information age, the department provides instruction and guidance in such areas as data processing, information engineering, development and applications, the design of functions for social information systems, database creation and development for social information environments, and user interfaces. Its overall goal is to develop and deploy capable graduates who will serve as the seeds of further social progress.