# 2017 Admission Guide University of Tokyo Graduate School of Information Science and Technology Department of Creative Informatics

Contact [Department Administration Office]

7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656 University of Tokyo Graduate School of Engineering / Information Science Office of Academic Affairs Division Department Team (Department of Creative Informatics) TEL: 03-5841-6889

Internet Guide to Entrance Examinations: <u>http://www.i.u-tokyo.ac.jp/</u> Under "Guidance for Visitors" on the homepage [http://www.i.u-tokyo.ac.jp/], click on "Examinations and Admissions"  $\rightarrow$  "Admissions"  $\rightarrow$  "Department of Creative Informatics."

Note 1: In addition to this pamphlet, be sure to check items for examinees in the Guidelines for Applicants for the Graduate School of Information Science and Technology (three versions exist: Master's program, Doctoral program, and Doctoral program [Special selection for working students], as well as the Graduate School of Information Science and Technology Guidelines for Submission of TOEFL Test Scores. When submitting entrance application documents, use the original forms distributed along with other paper documents; do not use a printed version of the Web page.

Note 2: The Department of Creative Informatics conducts Summer entrance examinations and Winter entrance examinations for both the Master's and Doctoral programs. Schedules, examination subjects, and examination methods differ for Summer and Winter entrance examinations.

#### 1. Message for applicants

The Department of Creative Informatics is the newest Department within the comparatively new Graduate School of Information Science and Technology. It was founded in 2005 at Akihabara Crossfield. The Department of Creative Informatics currently incorporates aspects of five fields: Computer Science, Mathematical Informatics, Information Physics and Computing, Information and Communication Engineering, and Mechano-Informatics. The educational philosophy is "To refine practical creativity for realizing outstanding ideas, through creative practices over interdisciplinary fields. To achieve this goal, the Department will combine projects and advanced personnel training, and will promote collaborations among industry, government, and academia aimed at human resource cultivation. We hope that students completing this Department's program will play a leading role in the field of information technology.

With this philosophy in mind, the "Information Science and Technology (IST) Hands-on Program" is conducted as a part of our curriculum. The leaders envisioned by the department of Creative Informatics are characterized as "IT Creators" who can create technologies that will play a key role in society, and also "IT Architects" who have a systematic knowledge of software development technologies and who can design development processes with a bird's-eye perspective on software development as a whole.

Of course, aside from the above, each laboratory conducts its own original and creative research. Students can undertake these research themes as their core endeavor while at the same time participating in the above educational course, thereby obtaining some of the credits required to complete the Master's and Doctoral program. This is because refining one's IT skills is indispensable in order to cultivate the fundamental abilities common to all related fields.

## 2. Master's program

## 2.1 Examination schedules and examination subjects

#### i) Summer entrance examination

#### (1) Regular education subjects

Applicants must select either Mathematics or Programming at the time of application.

Dates, times, and locations (Locations will be posted at the main entrance to the School of Engineering Bldg. No. 6 on the day of the examination)	Examination subjects	Description
Monday, August 22, 2016 10:00 – 12:30 School of Engineering; Bldg. No. 6 (Refer to posting for details)	Mathematics	Students will be required to answer problems that will test basic mathematical abilities required for basic studies of information science and technology. Detailed description is on the admission guide of the graduate school of information science and technology.
Monday, August 22, 2016 10:00 – 12:30 13:30 – (Finishing time for afternoon session will depend on the number of examinees) School of Engineering; Bldg. No. 6 (Refer to posting for details)	Programming	In the morning session, students will be required to bring their own laptop PC and write a program based on a specified theme. Students may use whichever programming language they feel most comfortable with. The oral examination in the afternoon will also test the students' ability to analyze problems, create designs, produce documents, and give presentations. In the afternoon, students will be required to respond to simple oral questions (lasting approximately 10 minutes each) regarding their own programs.

Notes:

(a) An operating environment required to write programs will be installed in the laptop PCs used for programming examination. Students may bring in one printed manual for the programming language, and may refer to this manual during the examination. Students may also use source programs, libraries, and other resources stored on the PC. Network connections will not be allowed during the examination. Confirm that USB memory can be used on your PC. If you do not have a laptop PC as required for the programming examination, you may borrow one from the department. Contact the Department Administration Office at least one week before the examination at the number shown on the cover of this guide.

(b) Problems may require files to be read from USB memory. In such cases, all files will be in ASCII code with new lines indicated by the combination of "carriage return (CR) and linefeed (LF)" codes.

(c) The afternoon programming examination in will be an individual oral examination. The laptop PC used in the morning examination will be connected to an XGA (1024x768 pixels) projector, and students will be required to answer questions while displaying the program and the execution results. If your laptop PC does not have a mini Dsub-15pin monitor port, do not forget to bring a monitor adapter cable for your own laptop PC. Students will be provided with a rough schedule for the oral examination in advance, but the detailed schedule will not be announced until after the morning examination are completed, depending on the actual examination progress.

## (2) Foreign languages

TOEFL scores will be used to determine the student's English skills. No written English examination will be administered. Refer to the Guidelines for Submission of TOEFL Test Scores, which are provided separately from this guide. Note that in past years, it took a considerable amount of time to submit TOEFL score certificates. If a student is unable to take the TOEFL test for unavoidable reasons, the designated TOEFL-ITP test (August 2, Tuesday, 2016) may be taken as a substitute. For details, refer to the Guidelines for Submission of TOEFL Test Scores.

## (3) Specialized subjects

Students shall select one of the following five specialized subjects at the time of application. Students being tested in specialized subjects for other departments should refer to their Entrance Examination Guides for details on locations and subject matters of those examinations.

Dates, times, and locations	Subject	Description
Tuesday, August 23, 2016 10:00 – 12:30 School of Engineering Bldg., Lecture Rm. 61; 2 <sup>nd</sup> floor (tentative)	Creative Informatics	Problems will be selected from fields related to software/algorithms, computer hardware, and information systems, among other fields. Students will be required to answer three questions.
Tuesday, August 23, 2016 10:00 – 12:30 And 13:30 – 16:00	Computer science	Refer to the "Department Entrance Examination Guide" for the Department of Computer Science.
Tuesday, August 23, 2016 10:00 – 13:00	Mathematical Informatics	Refer to the "Department Entrance Examination Guide" for the Department of Mathematical Informatics.
Tuesday, August 23, 2016 10:00 – 13:00	Information Physics and Computing	Refer to the "Department Entrance Examination Guide" for the Department of Information Physics and Computing.
Monday, August 22, 2016 15:00 – 17:30	Information and Communication Engineering	Refer to the "Department Entrance Examination Guide" for the Department of Information and Communication Engineering.

#### (4) Oral examination

The oral examination is scheduled to be held in the School of Engineering Bldg. No.6, Lecture Rm. 61, on the 2<sup>nd</sup> floor, on Wednesday, August 24 2016, starting at 1:30 p.m. (finishing time will depend on the number of examinees). Students will be provided with a rough schedule for the oral examination in advance, but the detailed schedule will be posted on the day of the examination, in front of the room where the oral examination are held, depending on the actual examination progress. In the oral examination, students will be required to answer questions on topics including the content of the written examination, current research themes, and research themes they desire to undertake in graduate school.

#### (5) Exemption from examinations on regular education subjects and specialized subjects

In the Summer entrance examination, students with outstanding achievements in the creation of information systems or specialized subjects may request to be exempted from written examinations (examinations for regular education subjects and specialized subjects). In this case, students should submit the following documents along with the usual application documents. The form related to exemption from examinations can also be downloaded from the Department of Creative Informatics website. This form may be filled in and submitted in lieu of the one on this pamphlet.

Exemption from examinations on regular education subjects and specialized subjects: Application form	On the application form, provide a brief personal history of the applicant and reasons for the application, and be sure to include an explanation of the applicant's outstanding achievements with regard to specialized subjects or the information systems the examinee created using about two A4 pages (any format is acceptable). Please also include copies of any available documents providing objective evidence of these achievements, such as awards, articles, software works, or publications.
Letters of recommendation	Submit letters of recommendation from two evaluators including evaluations of the applicant's outstanding achievements. Evaluators should be a faculty advisor or a superior from a government agency, company, or affiliated organization, or other persons who have extensive knowledge of the applicant's experience and abilities.
Academic transcripts	Documents verifying the student's academic performance in the academic department in question (including liberal arts courses). (This certificate must be submitted even if the applicant is currently registered at the University of Tokyo.)
Research plan	The applicant's plan for research after entering the school should be summarized on about two A4 pages (any format is acceptable).

Applicants will be informed about examination exemption in mid-July. If the exemption is not granted, the student will be required to take all designated examinations for regular education subjects and specialized subjects.

## ii) Winter entrance examination

# (1) Regular education subjects

Unlike the Summer entrance examination, the Winter entrance examination will cover programming only.

Dates, times, and locations (Locations will be posted at the main entrance to the School of Engineering Bldg. No. 6 on the day of the examination)	Examination subjects	Description
Thursday, February 9, 2017 9:30 – 12:00 13:00 – (Finishing time for the afternoon session will depend on the number of examinees) School of Engineering, Bldg. No.6 (Refer to posting for details)	Programming	Refer to explanation of Summer entrance examination

Note: Refer to explanation of Summer entrance examination

# (2) Foreign languages

TOEFL scores will be used to determine the student's English skills. No written English examination will be administered. Refer to the Guidelines for Submission of TOEFL Test Scores, which are provided separately from this guide. Note that in past years, it took a considerable amount of time to submit TOEFL score certificates. Please note that only TOEFL scores will be accepted for the foreign-language segment of the Winter entrance examination. Students will not be allowed to take the TOEFL-ITP test in lieu of submitting TOEFL scores, so applicants are strongly urged to take the TOEFL test at the earliest possible date.

# (3) Specialized subjects

Unlike the Summer entrance examination, students cannot take examination for specialized subjects of other departments.

Dates, times, and locations	Specialized subjects	Description
Wednesday, February 8, 2017 14:00 – 16:30 School of Engineering, Bldg. No.6, Lecture Rm. 61; 2 <sup>nd</sup> floor (tentative)	Creative Informatics	Problems will be selected from fields related to software/algorithms, computer hardware, and information systems, among other fields. Students will be required to answer three questions.

#### (4) Oral examination

Oral examination is scheduled to be held in the School of Engineering Bldg.No.6, Lecture Rm 61, on the 2<sup>nd</sup> floor, on Friday, February 10, 2017, starting at 10:00 a.m. (tentative. finishing time will depend on the number of examines). Students will be provided with a rough schedule for the oral examination in advance, but the detailed schedule will be posted on the day of the examination, in front of the room where the oral examination are held, depending on the actual examination conditions. In the oral examination, students will be required to answer questions on topics including the content of the written examination, past research themes, and desired research topics to be undertaken in graduate school.

#### 2.2 Submission of Preference survey form

Applicants must submit the Preference survey form (Summer and Winter entrance examinations for the Master's program) along with other application materials.

# 3. Doctoral program / Doctoral program [Special selection of working students]

## **3.1 Examination schedules**

## i) Summer entrance examination

## (1) First round examination

Dates, times, and locations (In the event of changes in examination locations, locations will be posted at the main entrance to the School of Engineering Bldg. No. 6 on the day of the examination)	Examination subjects	Description
Tuesday, August 23, 2016 10:00 – 12:30 School of Engineering; Bldg. No.6, Lecture Rm. 61; 2 <sup>nd</sup> floor (tentative)	Specialized subjects	Problems will be selected from fields related to software/algorithms, computer hardware, and information systems, among other fields. Students will be required to answer three questions.
Tuesday, August 23, 2016 From 2:00 p.m. (Finishing time will depend on the number of examinees) School of Engineering; Bldg. No.6, Lecture Rm. 61; 2 <sup>nd</sup> floor (tentative) (Students will be provided with a rough schedule for the oral examination in advance, but the detailed schedule will be posted on the day of the examination, in front of Lecture Rm. 61, depending on the actual examination progress.)	Oral examination	Students will be required to give a presentation on their Master's thesis or equivalent paper (about 15-20 min.; projector can be used), then will be required to answer oral questions on the presentation. Students should also be prepared to answer oral questions about their research plan for the Doctoral program.

Notes:

(a) TOEFL scores will be used to determine the student's English skills. No written English examination will be administered. Refer to the Guidelines for Submission of TOEFL Test Scores, which are provided separately from this guide. Note that in past years, it took a considerable amount of time to submit TOEFL score certificates. If a student is unable to take the TOEFL test for unavoidable reasons, the designated TOEFL-ITP test (Tuesday, August 2, 2016) may be taken as a substitute. For details, refer to the Guidelines for Submission of TOEFL Test Scores.

(b) Persons who have completed or are expected to complete a University of Tokyo Graduate School of Information Science and Technology Master's program will neither be required to submit TOEFL scores nor to take the examination for specialized subjects.

## (2) Second round examination

In principle, second round examination will be held from Thursday, January 19 to Friday, January 20, 2017, only for applicants for the Summer entrance examination who are currently registered with the

Department of Creative Informatics and who are taking examination for the Master's program. Examination schedules for other examinees will be in accordance with the Winter entrance examination. Applicants will be notified later regarding details of schedules and locations. In the case of persons wishing to enter the school in Septemberand persons holding a Master's degree at the time of application, the second round examination will be conducted based on the schedule for the oral examination.

#### ii) Winter entrance examination

First and second round examinations will be conducted during the period from Wednesday, February 8 to Friday 10, February, 2017. Acceptance may be limited to a few students. Examination methods will be the same as those used for Summer entrance examination. Details of schedules and locations will be in accordance with the first and third days of the Master's program Winter entrance examination schedule. Note that only TOEFL scores will be accepted for the foreign-language segment of the Winter entrance examination. Students will not be allowed to take the TOEFL-ITP test in lieu of TOEFL scores, so applicants are strongly urged to take the TOEFL test at the earliest possible date.

#### 3.2 Preference surveys for applicants to the Doctoral program

Persons applying to the Doctoral program should keep in close contact with their preferred faculty advisor before the application period. Applicants must submit the Preference survey form (for the Doctoral program) along with other application materials. Students who have tentatively fulfilled the requirements for the Doctoral program, that is, who have passed the examination informally, will immediately be assigned a tentative faculty advisor.

#### 3.3 Submission documents for the Doctoral program [Special selection for working students]

The format for the "overview of achievements, etc.," is indicated in Chapter 5 in the Documents for submission in the Doctoral program [Special selection for working students] Guidelines for Applicants. Provide a simple explanation of each major achievement during employment, using no more than two A4 size pages.

#### 2017

# University of Tokyo Graduate School of Information Science and Technology Department of Creative Informatics Information for persons taking the entrance examination

#### (Master's and Doctoral programs)

#### 1. Examination dates and times

Refer to the "Examination schedules" listed in this guide.

#### 2. Examination locations

University of Tokyo, Hongo Campus (7-3-1 Hongo, Bunkyo-ku, Tokyo)Refer to the Internet Hongo Campus map at http://www.u-tokyo.ac.jp/campusmap/map01\_01\_e.html

Subway: Marunouchi Line and Oedo Line: Get off at Hongo Sanchome Station

Chiyoda Line: Get off at Nezu Station

Namboku Line: Get off at Todai Mae Station

Mita Line: Get off at Kasuga Station

Bus: Take Toei Bus No. 43 or 51 to "Todai Seimon Mae" (University of Tokyo main gates), or Toei School Bus No. 1 or 7 to "Todai Konai" (University grounds).

Examinees should be in the designated examination room no later than 5 minutes before the start of the examination. If you are late, consult the proctor.

#### 3. What to bring

(1) Examination admission card

(2) Black lead pencil (or black lead mechanical pencil), eraser, pencil sharpener, clock or watch (for consulting time only; devices with other functions are not acceptable), and a ruler.

Note: During the written examination, students are not allowed to use calculators, mobile phones or PHS phones, or other digital devices (including clocks) with calculation functions.

(3) Persons taking the programming examination for the Master's program should bring a laptop PC and no more than one programming language manual.

#### 4. Items to keep in mind during examination

(1) Examinees will not be allowed to leave the examination room during the examination period.

(2) As a rule, examinees will not be allowed to use the bathroom facilities during the examination period.

(3) Examination admission cards must be kept on the desktop throughout the examination period.

(4) During the examination period, and all mobile phones must be turned off. Mobile phones must not be carried on the examinee's person (on neck straps, in pockets, etc.).

(5) Examinees will not be allowed to ask questions about the contents of the examination problems.

(6) Examinees must write their examination admission number and name on all answer sheets, and enter their answers on the designated forms. If there is not enough space, they may write on the back of the answer sheets.

(7) Examinees must not take answer sheets or question booklets out of the examination room.

# Exemption from examinations on regular education subjects and specialized subjects: Application form (Master's program, Summer entrance examination only)

Examinee's name:
Delef description of heateness de
Brief description of background:
Reason for requesting exemption (In addition to this form, submit a brief explanation of outstanding achievements using two A4 size pages. Any format is acceptable.)

# Exemption from examinations on regular education subjects and specialized subjects:

Examinee's name		Name of recommending person	
Relationship between re	commending person and		
-			
Reason for recommenda	ation		

# Letter of recommendation (A)

# Exemption from Examinations on regular education subjects and specialized subjects:

Examinee's name		Name of recommending person	
Relationship between re	commending person and		
1			
Reason for recommendation	ition		

# Letter of Recommendation (B)

# [Preference Card(Summer entrance examination for Master's program)] University of Tokyo Graduate School of Information Science and Technology, Department of Creative Informatics

Program	Master's program										
Examinee's name	*Examination admission number										
Graduating university											
Examinee contact address and phone number during the examination period	TEL: TEL	Department:Address: TEL: TEL (mobile phone): E-mail:									
Names of		erence					Preference	ce 2			
preferred advisors	Prefe	erence	3				Preference	ce 4			
Intention		-		ent if ar						nent if anot	her
(Check)	visor visor		to se	erve as	my su	per-	advisor of supervisor		serve	as my	
Do you wish to be exempted from examination on regular education subjects and specialized subjects	1	Yes	eduo subjo	gular cation ects to tested	Mathe	ematic	s Progra	amming	to sc Se	you wish enter the chool in ptember 2016?	Yes
Specialized subjectors to be tested on the examination (Cherry	e		ative matics		nputer ence		hematical ormatics	Inform Physic Comp	s and	Informatio Communio Engineer	cation
Preferred field and research ambitions											

• Submit this form along with your application.

- \* Leave this box blank
- Persons wishing to be exempted from examinations on regular education subjects and specialized subjects should circle "Yes" in the appropriate column, and submit the required additional documents along with the application form.
- If you wish to enter the school in September 2016, confirm whether the requirements are satisfied with the administration office and circle "Yes" in the appropriate column above.
- Circle one regular education subject and one specialized subject to be tested.

# [Preference Card (Winter entrance examination for Master's program)] University of Tokyo Graduate School of Information Science and Technology, Department of Creative Informatics

Program	Master's program			
Examinee's name	*Examination admission number			
Graduating university			School:	
Examinee contact address and phone number during the examination period	Address: TEL: TEL (mobile pho E-mail:	one):		
Names of	Preference 1		Preference 2	
preferred advisors	Preference 3		Preference 4	
Intention (Check)	I accept enrollr advisor offers t supervisor		I do not accept advisor offers to supervisor	enrollment if another serve as my
Preferred field and research ambitions				

- Submit this form along with your application
- \* Leave this box blank.

# [Preference Card (Summer/Winter entrance examination for Doctoral program)] University of Tokyo Graduate School of Information Science and Technology, Department of Creative Informatics

Program	Doctor's program						
Examinee's name		*Examination admission numb	er				
Graduating university or	-	Iniversity:School:					
graduate school	Department:						
	Graduate	School:	School:				
	Department:						
Examinee contact address and phone	Address:						
number during the	TEL:						
Examination period	TEL (mobile phone):						
period	E-mail:						
Names of preferred advisors							
Application period (Circle the appropria response)	Summer / Winter te	Special selection for working students	Working student				
Preferred time of ent (Circle the appropria response)	•	September 2016 / April 2017					
Preferred field and research ambitions							

- Submit this form along with your application.
- \* Leave this box blank.
- If you wish to enter the school in September 2016, confirm whether the requirements are satisfied with the administration office and circle "Yes" in the appropriate column.

• If you are taking examination for "Special selection of working students," circle "Working student" in the "Special selection of working students" column.

# University of Tokyo Graduate School of Information Science and Technology, Department of Creative Informatics

Faculty Advisors and Concurrent Faculty Advisors (as of April 2016)

#### **Faculty Advisors**

Professor Kei Hiraki*
Super High-Speed Networks, Super High-Speed Computation, Strategic Software
Professor Masatoshi Ishikawa
Perception Action Systems, Vision Chip
Professor Masayuki Inaba
Intelligent Robots, Humanoids
Professor Kenji Yamanishi
Information-theoretic Learning Theory, Data Mining, Anomaly Detection
Professor Hiroshi Esaki
Smart Internet, Sensor Network
Professor Shigeru Chiba
Programming Languages, Software Infrastructure
Associate Professor Mary Inaba
Networks, Supercomputers, Computational Geometry
Assistant Professor Hideki Nakayama
Machine Perception, Computer Vision, Pattern Recognition
Assistant Professor Toshiya Hachisuka
Computer Graphics, Computational Statistics

#### Concurrent Faculty Advisors who belong to other departments

Professor '	Takeo Igarashi (Dept. of Computer Science)
	User Interface, Computer Graphics
	Takayasu Matsuo (Dept. of Mathematical Informatics) Software for Numerical Computation
Professor	Hiroshi Saruwatari (Dept. of Information Physics & Computing)
	Speech and Acoustic Information Processing, Statistical Signal Processing,
	Machine Learning
Professor	Shuichi Sakai (Dept. of Information & Communication Engineering)
Professor	Computer Systems and Applications Tatsuya Harada (Dept. of Mechano-Informatics) Real World Intelligent Systems
	Shinichi Honiden (Dept. of Computer Science)
	Software Engineering, Agent

## Note:

(1)\*Professor Kei Hiraki will not accept new students from 2016.

(2)Other advisors who accept students of the Department of Creative Informatics will be registered as concurrent faculty advisors after admission.