Learn cutting-edge technology that transcends conventional disciplines at Institute of Industrial Science

New Expertise Training (NExT) Program

Human resource development for the creation of new technologies and industries

http://www.iis.u-tokyo.ac.jp/next/

Institute of Industrial Science, the University of Tokyo (IIS) now offers the New Expertise Training (NExT) Program, designed to develop human resources who will move beyond conventional disciplines and create Japan's new technologies and industries.

Participants will belong to their preferred laboratories and carry out researches on leading-edge technologies. Through the overview lectures every two weeks, they learn about the most advanced science and technology topics in a wide range of fields.

<<The NExT Program is organized for engineers and scientists who wish to acquire the following:>>

- **knowledge on a wide range of state-of-the-art technology to resolve social and industrial issues,**
- **a second specialty to integrate different fields, and**
- **basics of cutting-edge projects to supervise research.**

≪Program≫

①Research Course A (one year):
Participants belong to two to four laboratories for one year, and carry out researches on the background and leading-edge technologies of specific research topics.

②Research Course B (six months):
Participants belong to two laboratories for six months, and carry out researches on the background and leading-edge technologies of specific research topics.

③Overview Lecture Course (one year):
In addition to lectures by Faculty members of Institute of Industrial Science in engineering fields, guest lectures are invited for teaching subjects such as technology management.

*Research Courses A and B include Overview Lecture Course.

New Expertise Training Program

Application guidelines

1.	Period	Research Course A	One year, starting from April 1 or October 1
		Research Course B	Six months, starting from April 1 or October 1. However, Overview lecture Course is one year from the start of research
		Overview lecture Course	One year, starting from April 1 or October 1
2.	Capacity	A few number	
3.	Tuition	Research Course A	¥3 million (including tax)
		Research Course B	¥2 million (including tax)
		Overview lecture Course	¥1 million (including tax)
		* Please contact us regarding participation from the middle of fiscal/academic years, installment payments of tuition etc.	
		* If a participant wishes to perform experiments in the Research Course, the participant may have to bear costs associated with such experiments.	
4.	Location	Lecture rooms and laboratories at Institute of Industrial Science, the University of Tokyo	
5.	Participants	Engineers, researchers, etc., capable of self-directed study, mainly in their 30s and 40s	
6.	Application documents	(1) Application (Form 1)	1
		(2) Certified grade transcript from university and graduate school (for those with master's or doctoral degrees) (to highest level of education completed)	1 each
		(3) Certificate of graduation or completion from highest level of education completed	1
		(4) Details of research and development performed to date (Form 2)	1
		(5) Motivation for joining the program and research plan (Research Courses A and B: Form 3-1; Survey Course: Form 3-2)	1
		(6) Nondisclosure agreement (Form 4)	1
		(7) Letters of recommendation from supervisors	
		Letter of recommendation (Form 5-1)	1
		Information on recommending organization (Form 5-2)	1
		*Please download the forms from the NExT Program website (http://www.iis.u-tokyo.ac.jp/next/).	
7.	Informational meeting	June 5, 2015 (Fri.) An informational meeting regarding the NExT Program will be held on the day of the Komaba Research Campus Open House.	
		Details will be provided on the NExT Program website (http://www.iis.u-tokyo.ac.jp/next/).	
8.	Selection process	Research Courses A and B: Document screening and interview selection will be conducted.	
		Survey Course: Document screening will be conducted.	
9.	Application deadline	October 2015 course: July 22, 2015 (Wed.)	
		April 2016 course: January 19, 2016 (Tue.)	
		October 2016 course: July 21, 2016 (Thu.)	
		Application should be sent by registered mail (postmark deadline)	
		*Applications will remain confidential. Application documents will be used solely for NExT Program document screening. Please be aware that in principle, documents will not be returned.	
10.	Document screening results	Notification of results of document screening will be given within 10 days after the application deadline.	
		Applicant who passes the document screening will be contacted with details of the interview.	
11.	Interview date	October 2015 course: Thursday, August 6, 2015 (tentative)	
		April 2016 course: Thursday, February 4, 2016 (tentative)	
		October 2016 course: Friday, August 5, 2016 (tentative)	
12.	Interview selection results	Notification of interview screening results will be given on the day of the interview.	
13.	Applications/ contact	NExT Program, General Research Team, General Affairs Division, Institute of Industrial Science, University of Tokyo 4-6-1 Komaba, Meguro-Ku, Tokyo 153-8505, Japan 153-8505 Tel.: 03-5452-6026 Fax: 03-5452-6071 e-mail:next@iis.u-tokyo.ac.jp	

NExT Program Subcommittee

Institute of Industrial Science, the University of Tokyo

Professor	Naoki SHIKAZONO (subcommittee chair)		
Professor	Hiroshi TOSHIYOSHI (subcommittee vice-chair)		
Professor	Nobuhiro YOSHIKAWA	Professor	Fumitoshi SATO
Associate Professor	Naomichi HATANO	Associate Professor	Yusuke KAJIHARA
Associate Professor	Takashi KONO	Associate Professor	Takeshi YOSHIKAWA
Associate Professor	Hirohiko HOUJOU	Associate Professor	Shinichi SAKAMOTO
Associate Professor	Miho IRYO-ASANO	General Affairs Division Director	Toshiro MIYAZAKI

Institute of Industrial Science, the University of Tokyo, now offers the New Expertise Training (NExT) Program, designed to develop human resources who will move beyond conventional disciplines and create Japan's new technologies and industries.

The NExT Program is organized for engineers and scientists who wish to acquire the following:
ðð knowledge on a wide range of state-of-the-art technology to resolve social and industrial issues,
ðð a second specialty to integrate different fields, and
ðð basics of cutting-edge projects to supervise research.

y Background and objective of course establishment

With the rapid changes of industrial structures and business models, situations are arising with which corporate engineers cannot cope using only their acquired skills. Abilities for grasping social conditions and the latest technological trends, and integrating various technologies to create new businesses are needed. However, opportunities for studying and training how to search and define problems or topics by oneself is not sufficiently available in Japan. Educational supports for corporate engineers such as collecting new technical seeds, cultivating insights from unprofessional fields etc., are strongly demanded in order to start new businesses.

Institute of Industrial Science, the University of Tokyo, is a unique research institute that promotes interdisciplinary collaborative research, and covers all engineering fields while sweeping away barriers between academic sectors. Reflecting these characteristics, Institute of Industrial Science opened its New Expertise Training Program ("NExT Program") in October 2011 to overcome the above-described social needs.

The doors of the NExT Program are open to all corporate engineers who aspire to build new skills. Its objective is to support such skill building in order to develop human resources that will lead the creation of new industrial fields in Japan.

y Expected effects

Through a lecture course and/or research on fields outside their own specialty, participants acquire cutting-edge knowledge in new engineering fields, R&D methods that can be used to create new fields, and techniques to combine multiple disciplines. In more concrete terms, following effects can be expected.

ð Acquirement of basic and cutting-edge knowledge which are required for technical integration of new fields in a company.
ð Acquirement of unprofessional knowledge for taking on challenges and creating opportunities in new fields by touching on diverse technical seeds.
ð Acquirement of methodologies how to seek and propose new research projects outside their own specialties.
ð Improvement of abilities for project management through studying how to integrate different engineering fields.

y Program content

The following three courses are offered in order to flexibly meet various needs of companies and engineers.

Courses run for either one year or six months, starting from April or October.

① Research Course A (one year)

Participants belong to two to four laboratories in series for one year, out of 160 laboratories in Institute of Industrial Science. Under a supervisor, they carry out researches on the backgrounds and leading-edge technologies of specific research topics. They must be at the laboratory once a week to report their progress to their supervisors.

April entrants

April	September	October	March
Opening ceremony Activities in laboratories	Activities in laboratories Overnight workshop	Activities in laboratories	Closing ceremony Activities in laboratories Workshop at IIS
Survey Course (every other Friday)			

October entrants

October	March	April	September
Opening ceremony Activities in laboratories	Activities in laboratories Workshop at IIS	Activities in laboratories	Closing ceremony Activities in laboratories Overnight workshop
Survey Course (every other Friday)			

② Research Course B (six months)

Participants affiliate with two laboratories out of 160 Institute of Industrial Science's laboratories for six months. Under a supervisor, they carry out researches on the backgrounds and leading-edge technologies of specific research topics. They must be at the laboratory once a week to report their progress to their supervisors.

April entrants

April	September	October	March
Opening ceremony Activities in labs	Activities in labs Overnight workshop		Closing ceremony Workshop at IIS
Survey Course (every other Friday)			

October entrants

October	March	April	September
Opening ceremony Activities in labs	Activities in labs Workshop at IIS		Closing ceremony Overnight workshop
Survey Course (every other Friday)			

③ Overview Lecture Course (one year)

In addition to lectures by faculty member of Institute of Industrial Science on cutting-edge research topics and projects, guest lecturers are invited for teaching subjects such as technology management and technical English.

April entrants

April	September	October	March
Opening ceremony	Overview Lecture (every other Friday) Overnight workshop		Closing ceremony Workshop at IIS

October entrants

October	March	April	September
Opening ceremony	Overview Lecture (every other Friday) Overnight workshop		Closing ceremony Workshop at IIS

*Remarks

- A faculty mentor who gives advice on the course is assigned to each participant.
- Participants develop deeper understanding and presentation skills through hands-on lessons, training, and presentations in the workshops.
- Research Courses A and B include a Overview lecture course.
- For Research Courses A and B, if a participant wishes to carry out experiments or numerical simulations, it may be accepted after the supervisorôs permission. In some cases, however, participants must bear costs associated with such training.
- An examination is given at the end of the course. Successful candidates receive a certificate of completion.

y Workshops

A two-day one-night training-camp-style workshop outside the campus, and one-day workshop at the Institute of Industrial Science will be held.

At the training-camp-style workshop, participants and Institute of Industrial Science faculty staffs divide into groups to discuss topics provided by guest speakers. In addition, participants report on the subjects, and interact with other participants to exchange opinions.

At the one-day workshop on campus, participants present their research results to their companies' members and to the institute faculty members. The participants will deepen their research through discussions.

y In order to deepen research

This is an educational program that aims for participants to proactively learn a broad range of engineering knowledge and to improve their capability of integrated R&D which leads to innovation. It is not intended to be a joint research program or a commissioned research program.

Those who wish to enter a doctoral course afterwards or to continue their research as joint research after completion of the Program should consult us specifically regarding that matter.