



Nourishing capable individuals with the spirit of science and engineering combined with talent for liberal arts in an open-minded environment

Department of Industrial Engineering and Management
Graduate School of Decision Science and Technology
Tokyo Institute of Technology

2011

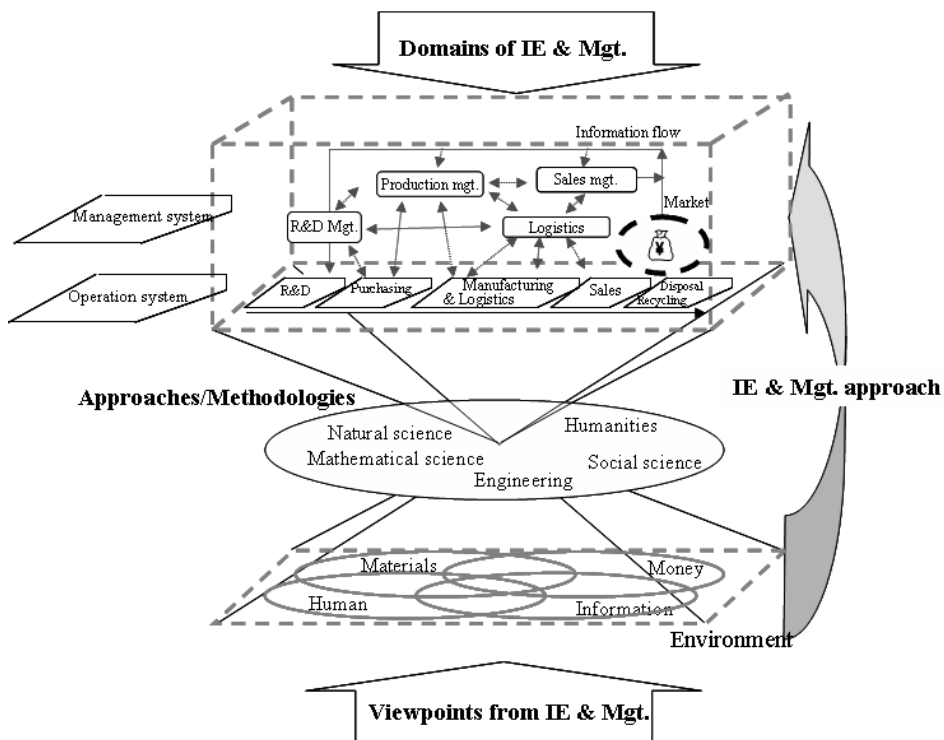


At Tokyo Institute of Technology, we provide you with highly-qualified research staff and abundant resources, bringing you freedom with generosity to encourage the spirit of science combined with talent for liberal arts.





As the global base for Industrial Engineering and Management, we strive to foster the spirit of science and engineering combined with talent for liberal arts



What is Industrial Engineering and Management?

Industrial Engineering and Management aims to uncover and solve organizational issues by attempting to establish a desirable allocation of management resources through the use of technologies. In an area where reactions to continuous changes are needed, the field of Industrial Engineering and Management utilizes “technology on technology”, including a variety of management technologies and history and philosophy of science and technology.

What are the missions and objectives of the Department of Industrial Engineering and Management?

The missions of the Department of Industrial Engineering and Management is to cultivate talented individuals who can uncover and solve issues, conduct research and contribute to society.

For this reason, we foster capable individuals who display the spirit of science combined with talent for liberal arts and a professional approach to discovering and solving issues supported by an army of the best researchers, a wealth of campus resources and an open-minded environment.

What is the curriculum at the Department of Industrial Engineering Management?

In addition to the three central pillars (core classes in Basics in Engineering, Department of Industrial Engineering and Management, and Business) that form the course subjects, as well as history and philosophy of science and technology, there are various instructions given at the individual research lab.

Also, students can take course subjects in other graduate schools or departments within the university or even at Hitotsubashi University, Keio University and the University of Tokyo.



Industrial Engineering and Management Presentation Seminar (Rinko) is a required course for 1st year-master students

A free discussion atmosphere attended by faculty members, undergraduate and graduate students, and OB•OG.



What are characteristics of the Department of Industrial Engineering and Management?

☆ Overview

The Department of Industrial Engineering and Management was established in 1963 as one of the departments of the Graduate School of Science and Technology. With an emphasis on graduate education, the department was moved to the Graduate School of Decision Science and Technology in 1996.

Since its establishment, approximately 900 researchers and practitioners with the master and/or doctor degree have graduated from the graduate school to date. Also, the graduate school has been highly recognized internationally and has numerous foreign students from all over the world.

☆ Curriculum of Global Standards

Concerning both Industrial Management and Engineering and Business core classes, the same course subjects are offered at our university as those offered at leading international institutions such as MIT, Stanford University, University of Arizona and University of Texas.

In addition to the core classes, we add a decisively more Japanese touch to our education method through “attention to detail” instruction in “presentation seminars” conducted by each research lab. Also, each teaching faculty has the responsibility of two or three advisees, regardless of class year.

☆ Academic Facilities

The department has a library, computer room, eight meeting rooms for seminars and other purposes as well as two copy machines and FAX machines. In the department library, a number of PCs, books, journals and magazines in the fields of industrial engineering and management and its related subjects are available for students. In each research lab. more than one PC, a desk and a chair as well as internet connection are provided each student. Wireless internet connection is available everywhere in the building.

Department library



Computer room



☆ Cooperation Programs

As Japan's leading university in Industrial Engineering and Management field, our department is supporting operation of the Industrial Engineering and Management Department, Egypt-Japan University of Science and Technology (E-JUST).



We have strong cooperation with departments related to Industrial Engineering and Management in Waseda University, Keio University, and Tokyo University of Science. Especially, we collaborate in the combined course called the "Technology and Management Course" with Hitotsubashi University's undergraduate students in the School of Commerce.

In addition, we have established a joint program named the "Decision Science and Technology Course" with China's Tsinghua University in Beijing, the premier university in East Asia.

Students also have opportunities to attend the summer session in University of Jyväskylä (Finland), and to participate in double-degree program with École des Ponts Paris Tech (France).

☆ Alumni Society "Keiyukai"

The alumni of the Department of Industrial Engineering and Management formed the "Keiyukai". Not only does it strengthen the horizontal ties with fellow classmates, but it also creates an opportunity to learn from the vertical ties that 60 years of history have built.

How can you join the Department of Industrial Engineering and Management?

☆ Master Program

There are two matriculation periods for the Master Program every year, April and October. The entrance examination takes place between July and August. For foreign students, we also have provisions for the international course.

Concerning the examination process, a candidate can choose to answer questions provided not only by the Department of Industrial Engineering and Management but also by other departments. The question provided by the Department of Industrial Engineering and Management is selected according to the faculty chosen by the candidate. All of those questions are written in Japanese. The alternatives are divided into Courses A and B.

Course A

Each candidate must answer the Questions on Fundamental Mathematics (Fundamental Analysis, Fundamental Linear Algebra, Mathematics for Industrial Engineering, Probability Theory and Statistics). In addition to this question he/she can choose four from the following eight subjects, and answer the questions of the selected subjects: (1) Quality Control; (2) Production Management; (3) Industrial Engineering and Ergonomics; (4) Management, Business Administration and Marketing; (5) Finance and Accounting; (6) Economics and Techno-Economics; (7) Operations Research; and (8) Systems and Information.

Course B

The candidate can choose between an essay and an examination in Basic Mathematics. In addition, he or she will select four from the following six subjects, and answer their questions: (1) History of Science; (2) Theories of Science; (3) History of Technology; (4) Theories of Technology; (5) Methods in Science; and (6) Logics. For the international course (Master Program), all domestic applicants will be tested in English for the essay or basic mathematics examination.

The candidate is required to present a TOEFL score (paper, CBT or iBT) or TOEIC score to be used in place of an English examination.

In 2006, the department has started the new **international graduate program** which is an integrated Master and Doctor program provided in English for foreign students. With this program, four applicants will be selected as scholarship students to whom the Japanese government gives JPY 192,000 per month. This program is described in the next pages. For details, please refer to the application guidelines.

☆ Doctor Program

The matriculation period for the Doctor (Ph.D.) Program is also twice a year in April and October. The entrance examinations are conducted in August and February. For the oral examination process, the candidates have a presentation followed by a Q&A session about their Master thesis and research plan.

Our new international graduate program (1/2) International Program on Effective Utilization of Technology

(1) Purpose of Establishment

This international graduate program focuses on the “Effective Utilization of Technology” as shown in Figure 1 and is targeting mainly those who graduated from engineering departments in universities. It is expected that those students deepen their knowledge and skills on technology, as well as learn using new objects and technology in order to contribute for sustainable development in the twenty first century.

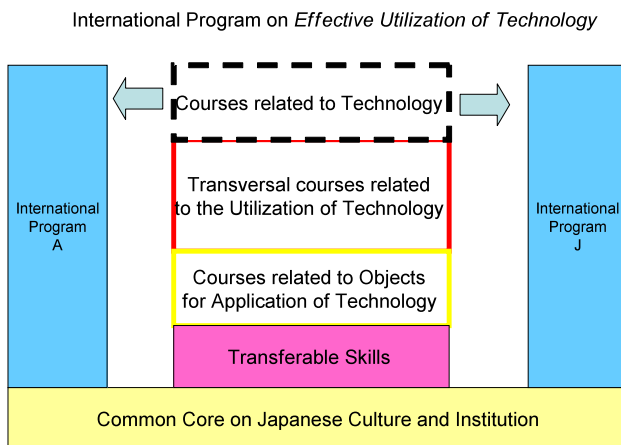


Figure 1. Effective Utilization of Technology

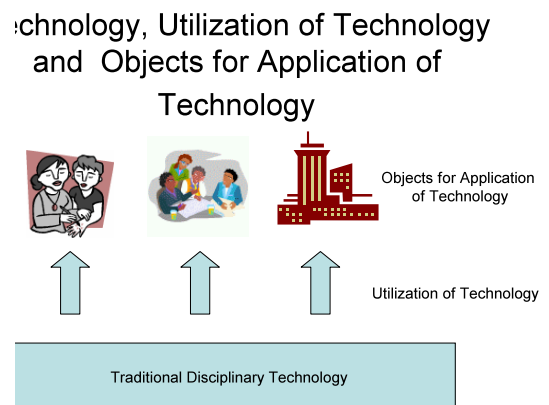


Figure 2. Schematic description of curricula

(2) Curricula

In this program, there are three core curricula as shown in Figure 2:

1. Courses related to Technology provided by other international programs in the University (10 credits).
2. Transversal courses related to the Utilization of Technology for Business Resources, including Humans, Machines, Materials, Money and Information (14 credits).
3. Courses related to utilization of technology including Humans, Groups, Organizations, Community and Society (4 credits).

In addition, there are two camp-based workshops each year so that students can learn transferable skills including human communication, stress management, negotiation techniques, team work, carrier development, debate and other issues based on interactions with Japanese students.

Our new international graduate program (2/2) International Program on Effective Utilization of Technology

(3) Program Schedule

The shortest schedule from the entrance of the program to its graduation is shown in Figure 3, which shows the shortest path for obtaining a doctoral degree in three years from the beginning of the master course. Typically, you will study in the department for a total period of four or five years, i.e., 1.5-2 years for the master course and 2.5-3 years for the doctor course, to complete this program.

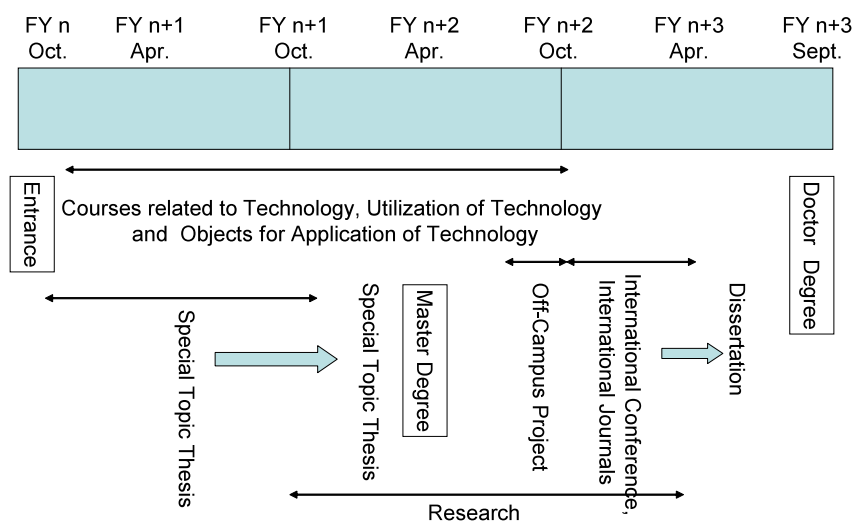


Figure 3. Typical schedule in the program

(4) Language

Starting with the application, English is used for all activities during the program, such as lectures, exercises, experiments, colloquium, master thesis, oral examination for doctor course, mid-term examination, doctoral dissertation, and so forth. However, we recommend you to study Japanese language to enjoy your life in Japan as well as to study Japanese culture. For this purpose, both English and Japanese will be used in workshops since there is some collaborative work with Japanese students.

(5) Criteria for Acceptance for Scholarship Students

Example acceptance criteria will be:

- 1) Top 10% students in excellent universities;
- 2) TOEFL score (paper) [or TOEIC] of at least 550 [or 765] (The score must be submitted at the application of the program for non-native English speakers);
- 3) Good marks of undergraduate courses (e.g., higher than 3.5 of GPA); and
- 4) Pass the Oral Examination with three professors via Internet.

What kinds of specialized courses does the Department of Industrial Engineering and Management offer ?

Course Category	Spring Semester	Fall Semester
Business	Pension Mathematics Distribution Channels Risk Management and Labour Welfare for Lifelong Design I	(EN) Managing Transformation by ICT Accounting Information and Capital Market EN Marketing Advanced Course of Management EN Colloquium on Management Strategy Risk Management and Labour Welfare for Lifelong Design II
Industrial Engineering and Management Techniques	Operations Management EN Design Thinking	Process Management EN Ergonomics for Organization and Systems Design Project Management in Decision Science
Mathematics and Information	Applied Statistical Methods Numerical Optimization (EN) Business Information Systems Project	Advanced Mathematical Programming EN Information Technology and Management Topics of Mathematical Logic
Management of Technology	Business Establishment	EN Transdisciplinary Collaboration Practice
Innovation Management	Intellectual Property Management Intellectual Property Rights Law Financial Engineering Strategic Management of Technology Infringement of Intellectual Property Right	(EN) R&D and Intellectual Property Strategies Practice for Intellectual Property Protection Corporate Management and Intellectual Property Activities Corporate Finance Theory of Technology Strategy
Science, Technology and Society	EN Comparative Studies of Science in Regional Context EN Logical Foundation of Methodology of Science Advanced Course for History and Methodology of Science and Technology I, III Advanced Course of Science, Technology and Modern Society Global COE Energy: Science and Technology in Society I	Advanced Course for History and Methodology of Science and Technology II, IV Advanced Course in the Social History of Science Advanced Course for Science, Technology and Society I, II Global COE Energy: Science and Technology in Society II
Presentation Seminars, Research, Experiments	Presentation Seminars, Research, Experiments	
Master Thesis	Master Thesis	

EN: provided in English; (EN): provided in English every second year. Please check by the syllabus it is given in English or Japanese in a specific year.

How does a master student spend a typical day ? (One day in the spring semester)

- 8:00 At latest by this hour wake-up, eat breakfast and finish getting ready, when you don't have the first morning class.
You make your way to the University in a train after the rush-hour.
- 10:40 In 3rd and 4th periods (class) you have a lecture in "Technological Innovation Theory". You are learning about theories of and practices of technology innovation from the actual relationships with their economical progress.
- 12:30 You will take lunch with your friends.
The recent move from the Ishikawadai campus to the West 9 Building has made going to lunch much more convenient. With some time to spare, you also create a schedule for an upcoming your lab's seminar camp for which you are the organizer.
- 13:20 In 5th and 6th periods you have a lecture on "Strategies in Production Technology and Development". The topic is about the Theory of Constraints (TOC). You recall some related topics from your undergraduate studies and start re-organizing your thoughts based on specific methods and recent trends.
- 15:00 In 7th and 8th periods you have a seminar for 1st year master students (M1).
For preparation of this session, you read some articles on Methodological Theory and finished creating a summary late last night. Based on this summary, your supervisor and two other M1 in your lab have a discussion. Next session, the subject matter will be on developing a theory based on information from the literature and actual cases.
- 17:00 Project meeting for your research lab. Your role is to analyze the ticket sales industry and teach the undergraduate seniors the theories of Strategic Management. You double-check whether you understand the content of the text and start preparing a plan for your final presentation at the seminar camp, which will be held in three weeks.
- 18:00 Prepare for Thursday's seminar. You read the case study, or you at least try since you are completely exhausted. You believe you may have a better chance reading standing up rather than sitting down so you decide to leave the campus and read on the train.
- 19:00 Leave campus.
- 20:30 Arrive home.



Where do alumni go after graduation?

Universities, Research Institutions, Government

Tokyo Institute of Technology; Univ. of Tokyo; Univ. of Osaka; Univ. of Tsukuba; Univ. of Electro-Communication, Waseda Univ.; Keio Univ.; Tokyo Univ. of Science; Chuo Univ.; Ministry of Finance, Ministry of Health, Labor and Welfare; Ministry of Defense; Bank of Japan

Electronics, Telecommunications, IT Industries

NTT; NTT DoCoMo; Toshiba; Hitachi; Panasonic, Sony; Sharp; NEC; Fujitsu; IBM Japan; Microsoft; NTT Data

Machinery and Automobile Industries

Toyota; Honda; Nissan; Mazda; Mitsubishi Heavy Industry; Canon; Ricoh; Murata Manufacturing; Fuji Xerox

Iron and Non-Ferrous Metal Industries

Nippon Steel Corporation; Sumitomo Metal Industries; Kobelco; Japan Mining Industry; Furukawa Denki

Chemical, Food Industries

Bridgestone; Ajinomoto; Fujifilm; Asahi Breweries; Toray; Asahi Kasei; Sankyo; Kao, Shiseido; Suntory; DNP

Construction, Power, Transportation Industries

Kajima Corporation; JGC Corporation; Chiyoda Corporation; Toyo Engineering; CRIEPI, Tokyo Gas, JR Central; JR East

Finance, Trading Industries

Japan Bank for International Cooperation; Mizuho Financial Group; Mitsubishi Trust Bank; Mitsui Sumitomo Bank; Japan Post Bank; Goldman Saks Japan; Nomura Securities; Matsui Securities; Mizuho Corporate Bank; Daiwa SB Investment; Sumitomo Mitsui Asset Management; Mitsubishi UFJ Asset Management; Nippon Life Insurance; Dai-ichi Life Insurance; Mitsui-Sumitomo Insurance; ; Mitsui & Co.; Itochu; Mitsubishi Corp.

Consulting and Other Industries

Nikkei; Yomiuri Shimbun; Mainichi Shimbun; Mitsubishi Research Institute; Nomura Research Institute; Japan Research Institute; Daiwa Institute of Research; Hakuhodo; Dentsu; Ernst & Young Japan; Accenture; McKinsey; IBM Business Consulting; Japan Post Service; Japan Post Network

Words from alumni who have acquired the spirit of science combined with talent for liberal arts



NEC Personal Products, K.K.
Dr. Toshiyuki Adachi, Company Executive
(Undergraduate Degree, 1977; Master Degree, 1979; Doctorate dissertation, 1994)

The 3 years between my undergraduate senior year and the master program are full of memories about the fun I had in “research and factory internships” and “parties and baseball”. Even today, I am glad I majored in Industrial Management and Engineering. Corporate Japan of the post-bubble economy cannot survive without continuing to reform. At this time, what is needed is a person who has the ability to foresee the global sphere without being blinded by frontiers and who can proceed with big and innovative ideas. This is a philosophy that is fostered in the crisscross thoughts of Industrial Management and Engineering and there is no time like the present when this field would thrive. Please aim to become the talented individual that will lead the reformation of society with confidence and strategic ideas.

Management Systems Engineering is a breed of its own even for Tokyo Tech standards. We didn't have overnight experiments. On the one hand, we had lectures that were heavy in the liberal arts but at the same time, we had 3 difficult mathematical seminars per week at night. On the other hand, the fact that I was “trained” in the thought of “grasping the bird's eye view” and the logic of social phenomena has been useful to my career. In this academia, “society” is the primary research subject. Please develop a balanced sensibility and pay attention to various social phenomena aside from your own research field to develop a deeper understanding.



Kao, K.K.
Cosmetics Project Headquarters
Ms. Masako Kibara
(Undergraduate Degree, 1992; Master Degree, 1994)



Bank of Japan
Census Department, Economic Analysis Division
Dr. Takeshi Kimura, Project Representative
(Undergraduate Degree, 1987; Master Degree, 1989; Doctor Degree, 1997)

During my graduate school days, I was involved in fierce debates with faculty members and classmates during the weekly seminars. My research results were published in a journal as co-author. Through this process, I was able to build a foundation for my own personal research style. And for me, this is my most treasured asset. After completing my master degree, I entered the Bank of Japan, finished a “tour of duty” at the Federal Reserve Bank (FRB) and am currently involved in the administration of financial policies and economic assessment. The statistics and probability as well as optimization methods that I learned in graduate school have remained useful to me, even in my work today. I am an economist by title but I still have a sense of pride of being a TITech-educated engineer.

Faculty Members

Our specialty is marketing and distribution. My field of interest can be divided into three areas, the marketing strategies of food manufacturers and retailers in both the Taiwanese and Chinese markets, the modernization and globalization of distribution, and the branding strategies of Japanese destinations.

At the Chung lab, our research focuses on the theory behind and the application of marketing and distribution. For instance, students can choose to study the product, pricing, distribution channel, and promotion strategies of marketing in depth, or students can choose to study corporate marketing strategies in Japanese or overseas markets, as well as a comparative study of the two. Students interest in distribution, can study about the innovation and globalization of retailers. We encourage students to choose their research topics with awareness of current issues. Nurturing the youth who will play an active role in the international community is the goal of my lab.



Development, Production and Distribution Engineering; Marketing; Distribution
Associate Professor Chung, Sulin



Development, Production and Distribution Engineering; Production Management; Quality Control; Logistics
Professor Enkawa, Takao

Our field of specialization is Production Management and Quality Control. Especially in the field of Production Management, we focus on supply-chain management. For Quality Control, we focus on how performance affects and ties with corporate management results from the perspectives of customer satisfaction and new product development. This information is used to build our own database and applied to international markets for comparison.

The educational philosophy of our research lab is to be aware and observant, constantly be on the lookout, recognize problems and discover and approach issues from the strengths of Industrial Management and Engineering, IT and statistics.

Our specialty is production management and logistics, which include various fields. In our laboratory, we mainly focus on a series of operations related to supply chain such as development, production, logistics, sales and disposal/ recycle as the activities for creating valuable products and services for customers.

The theme of your research will be decided by respecting you own interests and enthusiasms. And we hope to bring your awareness of the problem into focus through the surveys of previous researches, and then carry on it by clearing up your research topic, gradually.

Through the days in laboratory, improve your capability of problem finding and its solving by studying the business process modeling or statistical approach and other Industrial Engineering and Management approach with us. Let's lead a fruitful school days!



Development, Production and Distribution Engineering; Production Management; Quality Control; Logistics
Associate Professor Suzuki, Sadami



Development, Production and Distribution Engineering; Ergonomics ; Safety Engineering; Cognitive Engineering;
Professor Itoh, Kenji

A goal of the Itoh research lab is to create problem-oriented methodologies and techniques useful to today's society and organizations. The studies we are currently conducting are in the domains of healthcare and transportation, but we also welcome students who want to study in other fields. In this regard, much of our research deals with the issues of risk management such as the analysis of human error. There are also topics we are tackling, e.g., interface design and usability, on interface design development for the physically-challenged, and application of systems and product design led by recognition operations. It is important that you become self-aware and confident that your field of research will contribute to society and that you persist in tackling a difficult and important issue brought about by reality while continuing to face new challenges.

We are conducting researches in human-related domains, placing much emphasis on IE approach in which the issues are investigated by a thorough observation. As resources contributing to your research activities, we can provide measuring equipments like stopwatches, video cameras, eye trackers and so on. All of you, additionally, have already obtained knowledge in various problem solving approaches, which are expected to be other valuable resources. Let's enjoy research in our lab by making good use of such resources we can share! We also expect that you make the history of our lab with us, by sharing your daily life in our lab, inspiring new ideas, and making progress together.



Development, Production and Distribution Engineering; Human Factors and Ergonomics, Industrial Engineering
Associate Professor Aoki, Hirotaka



Development, Production and Distribution Engineering; Process Management; Process Synthesis
Professor Muraki, Masaaki

At the Muraki lab, we conduct our research under the motto "how to create the best product and facility and utilize them to its maximum". We search for answers from the viewpoint of the plant lifecycle, which entails the production facility's design and architecture, as well as the operations and facility lifespan. We also look at the product lifecycle, which includes raw materials collection, scrapping, and recycling processes. From these perspectives, we address various issues of facility management, production management, safety control, and environmental control. The educational system and philosophy of our lab is to cultivate individuals through the lab's seminars and other activities to think, identify problems to be solved, analyze and develop solutions and show abilities to validate their methods. We also want to educate them to become leaders who flourish and contribute to society.

The potential of human and artifacts to evoke affects (emotion, mood, feeling) among people's mind is called "affective." Technology which make users proud or excited can be called as affective technology. Communication to connect family members and lovers can be called as affective communication. For the companies who (wish to) create such products or services, management that takes care of affects of customers and employees, or affective management, would be necessary. Our laboratory studies the concept of "affectiveness" from various perspectives, in order to proposes technologies and services, to implement management, and make the world affective. Our laboratory aims to be a group with diversity, with broad backgrounds, senses and feelings, and various dreams.



Development, Production and Distribution Engineering; Affective Technology and Management, Gerontechnology, Human Factors
Associate Professor Umemuro, Hiroyuki

Our specialty is applied statistics. We emphasize not only methods of experiment planning, but also survival time analysis, focusing on the theory and application. Statistics is a discipline with great history and was used substantially from the beginning of the 19th century. Since then, statistics has spread across widely, developing new models and techniques continuously. In today's sophisticated information society, this tendency is ever more apparent.

In the research of statistics, basic mathematics, a specialized knowledge of probability and statistics are vital. We encourage graduate students to choose and establish their research theme through self-motivation. The goals of the master degree are to acquire the investigative methods for already-existing research, to focus on the selected research theme and to lead the research results.



Managerial and Financial Engineering; Applied Statistics; Quality Control; Reliability

Professor Miyakawa, Masami



Managerial and Financial Engineering; Accounting Information; Business Analysis and Valuation

Associate Professor Nagata, Kyoko

Two themes are researched at the Nagata lab: (1) under which decisions and strategies do managers create accounting information? (2) And with this accounting information being released to the market, what influence does it have on the formation of the stock prices?

In order to perform deep analysis from the viewpoints of management and investors, it is important to not only have knowledge of accounting and finance, but also have a "why" approach to daily realities that occur in the economic realm. The two years of your master degree should be filled with endless possibilities.

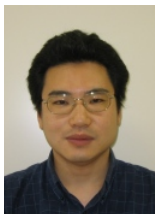
At the Mizuno research lab, our main research method centers on problem-discovery, modeling and analysis of models using a mathematical approach for solving problems in industrial engineering. We address issues such as scheduling problems, financial problems, decision making problems by using operations research, optimization, financial engineering and statistical mathematics.

Our research lab is full of goal-oriented students with a high-level of self-motivation. I believe that it is important to enjoy your student life, accomplish your goals and take your responsibilities at the same time.



Mathematics and Information Systems; Managerial Mathematics; Numerical Optimization; Operations Research; Financial Engineering

Professor Mizuno, Shinji



Mathematics and Information Systems; Managerial Mathematics; Numerical Optimization; Operations Research; Financial Engineering

Associate Professor Nakata, Kazuhide

In my laboratory, we focus our research mainly on Operations Research and Data Mining. Due to the recent improvements on the computer hardware and the efficiency of optimization algorithms, it has been possible to analyse large-scale mathematical models nowadays. However, there is a continuous desire for obtaining more precise analysis of these models. To achieve this, our laboratory proposal is to develop innovative optimization algorithm and their implementations as a software.

I want that students of my laboratory could acquire potentials to create an abstract and a logical representations of problems through a mathematical training. I also want to prepare students who master computational mathematics by understanding fundamental principles of its functionality.

My area of specialty is the study of Information Systems and Systems Theory. I especially have a great interest in Information Systems Development Methodology aligned with Business Architecture, as well as Mobile Commerce and IT Investments.

My philosophy is “a rolling stone gathers no moss”. Furthermore, as an educational policy within my research lab, I want each student to be able to accomplish the expected with “no fuss or muss”. The students are supported in the acquisition of new skills and in their level of communication through debates. Also, regular seminars bring about proficiency in modern mathematics and programming.



Mathematics and Information Systems; Systems Theory; Business Process Modeling
Professor Iijima, Junichi



Mathematics and Information Systems; IT and organizations; Knowledge Management
Associate Professor Senoo, Dai

Our lab’s research interests center on the Theory of Organization, the Theory of Strategy, Knowledge Management and Information Systems.

In detail, we focus on the analysis of work style and work place, leadership, and business processes relating to Knowledge Management, of customer community strategies, and the potential evaluation methods for Knowledge Management tools.

Our research lab has 6 major goals: acquire knowledge on management basics, develop one’s ability to discover new topics, improve reading comprehension and self-expression, gain a multi-dimensional viewpoint, experience group work, and learn research methodologies. In addition, each lab member values 3 fundamental merits: do one’s best, challenge with courage, and respect each other.



My personal research is focused on the study of Robert Hooke, a British scientist in the seventeenth century. However, the scope of my students is not confined to history of science. They are expected to have broader view to science and technology. Indeed, their research topics cover history of mechanics, current decision making of Japanese science and technology, medical ethics and so on. I promote my students to see science and technology from diverse angles, and I hope to do my best to set an environment for them to pursue their study from interdisciplinary point of view.

History, Philosophy and Social Studies of Science and Technology; Science and Technology Studies (STS); History of Science and Technology

Professor Nakajima, Hideto



Our main area of study is logic using mathematical methods. When investigating the mathematical basics of logic both technological and theoretical sides are critical. These 2 aspects are closely related and for the logic seen from the technological aspect to be more than just a calculating system, it is necessary to devise the logic from the theoretical side. And in this process, researching the basics of the technological aspect is paramount. Therefore, a philosophical conception is required for the development of technological capabilities. This attitude toward technology and theory is closely associated with a field generally called the Theory of Scientific Method. Henceforth, our research lab mainly conducts research based on mathematical theory, but with a scientific theory position and philosophical reflection.

History, Philosophy and Social Studies of Science and Technology; Logic Systems Theory; Methodology of Science and Technology

Professor Waragai, Toshiharu



I am a historian of science. My main interest is the history of science in national and regional contexts, especially in Russia and Japan. I am also interested in scientists and scientific societies in 19th and 20th centuries. At the same time I study the various problems which occurs in the boundary between science and society nowadays and problems which scientists encounter in contemporary society. Those students, who are interested in the history of science as well as contemporary problems of science and technology will be welcomed.

History, Philosophy and Sociology of Science; History and Philosophy of Chemistry; Comparative Historical Studies of Science; Science, Technology and Society

Associate Professor Kaji, Masanori

Research Fields of Professors

Teaching Faculty		Lecture/Course	Main Research Fields
Associate Professor	Chung, Sulin	Development, Production and Distribution Engineering	Marketing; Distribution
Professor	Enkawa, Takao		Production Management, Quality Control, Logistics
Associate Professor	Suzuki, Sadami		Production Management, Logistics
Professor	Itoh, Kenji		Ergonomics, Safety Engineering, Cognitive Engineering
Associate Professor	Aoki, Hiroataka		Human Factors and Ergonomics, Industrial Engineering
Professor	Muraki, Masaaki		Process Management, Process Synthesis
Associate Professor	Umemuro, Hiroyuki		Affective Technology and Management, Gerontechnology, Human Factors
Professor	Miyakawa, Masami	Managerial and Financial Engineering	Applied Statistics, Quality Control, Reliability
Associate professor	Nagata, Kyoko		Accounting Information, Business Analysis and Valuation
Professor	Mizuno, Shinji	Mathematics and Information Systems	Numerical Optimization, OR, Financial Engineering
Associate professor	Nakata, Kazuhide		OR, Mathematical Programming, Data mining
Professor	Iijima, Junich		Systems Theory, Information Systems
Associate Professor	Senoo, Dai		Organization Theory, Organization Behavior, Strategic Theory, Knowledge Management
Professor	Nakajima, Hldeto	History, Philosophy and Social Studies of Science and Technology	Science and Technology Studies, History of Science and Technology
Associate Professor	Kaji, Masanori		History of Science, History of Chemistry, Comparative Studies of History of Science
Professor	Waragai, Toshiharu		Logic System Theory, Methodology of Science and Technology
☆ Professor	Saiki, Tomoko	Intellectual Property Management/ Graduate School of Innovation Management	Intellectual Property Strategy, Intellectual Property of Life Science
☆ Professor	Tanaka, Yoshitoshi		Corporate Management and Intellectual Property, International Intellectual Property
* ☆ Professor	Higa, Kunihiko	Graduate School of Innovation Management	Management of Information Systems, Database, Telework
* ☆ Professor	Ninomiya, Shohichi		Mathematical Finance, Analysis of Numerical Probability
* ☆ Professor	Miyazaki, Kumiko		Technology Management and Policy, Diffusion of Innovation

* These faculty members cannot be appointed as supervisors.

☆ These Faculty members are affiliated with the Graduate School of Innovation Management.

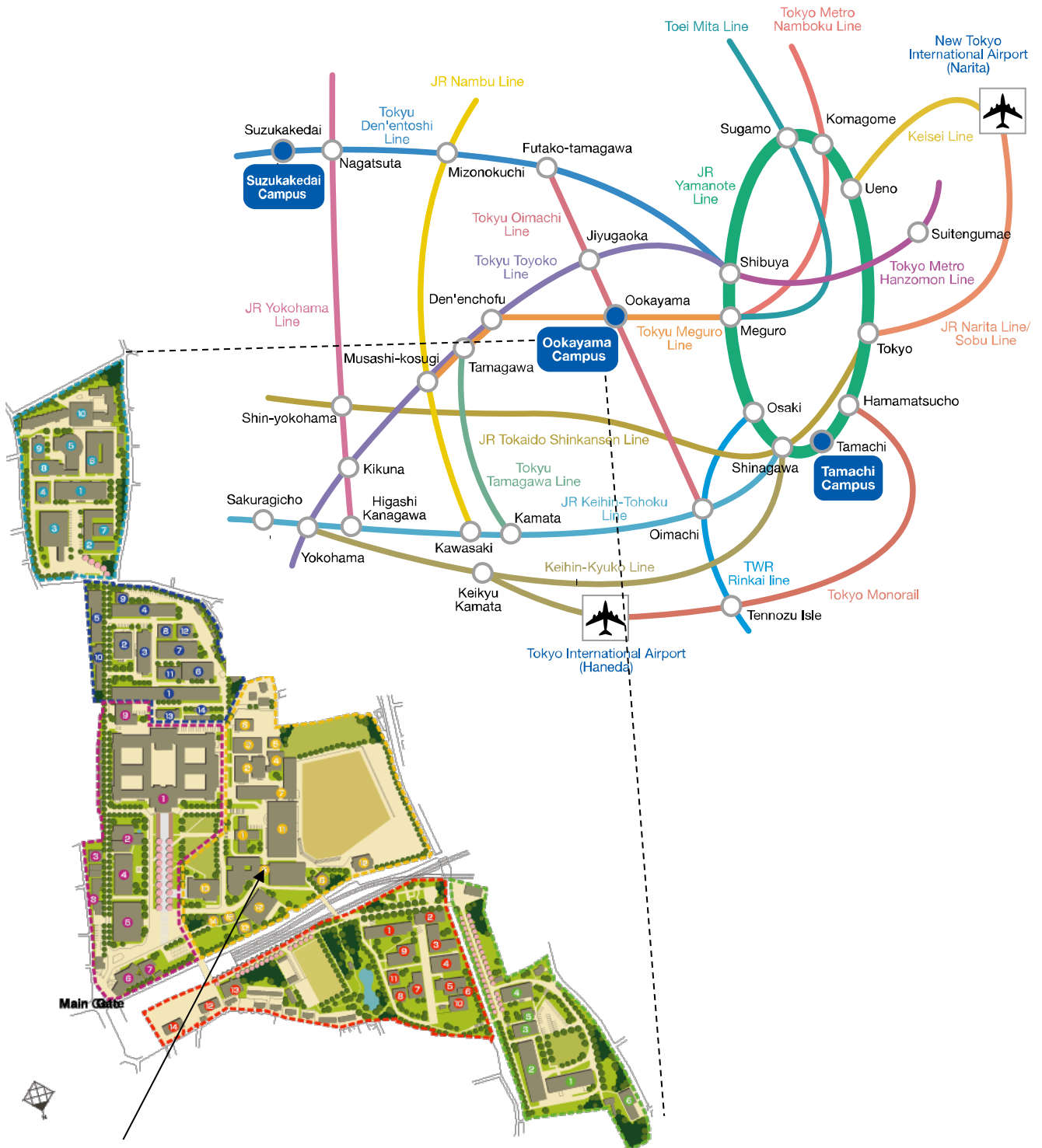
What are some of the themes presented for master and doctorate theses?

Recent research topics of doctor dissertations

- Toward Class Diagram Algebra
- Ontological Research on Organizational Knowledge Creation Management
- A Study on Implementation, System and Service for Applying Digital Watermark Technology

Recent research topics of master theses

- Doubly Nonnegative Relaxation with Facial Reduction for Mixed Binary Nonconvex Quadratic Optimization Problem
- A Proposal using Estimated Sub-Gradient Method for SVM using Degree-2 Polynomial Kernel
- The Empirical Research of Yutai
- A Study of Social Influence Networks in Actual Organization and Free Rider
- The Performance of Fundamental Indexation: Why Fundamental Indexation Outperform Cap-weighted Indexation
- A Study of Selecting Suitable Approach for Social Media Elements
- A Study of the Relationships between Nonlife Insurance Companies and Agencies
- An Application of Prospect Theory to the Effect of Function Sufficiency on Product Evaluation
- Influence of Catch-Phrase towards Advertisement awareness and Evaluation Structure
- A Primal-dual Interior Point Algorithm Exploiting Special Structure of Scenario-tree-based Multi-period Stochastic Programming
- A Study of Promotional and Obstructive Factors Producing Organizational Citizenship Behavior by Employees
- Introducing Flexibility into Process by Intention: Proposal and Evaluation of Patient Care Process with Flexibility
- A Hybrid Ant Algorithm for Capacitated Arc Routing Problem
- The Influence of Shares Offered by Directors on IPO Underpricing
- The Effect of Advertising Channel in Consumer Behavior Model Considering Aware and Unaware Sets
- Hemodialysis Management and Staff Skill Evaluation Based on Operation Process Map
- Study of the Determinants of the Relationship between Customer Satisfaction and Market Share
- An Effect of Corporate Social Responsibility on the Wholesaler-Retailer Relationship: A Study of Industry of Food Distribution Channel
- Why Value Stocks Outperform Growth Stocks?: Expectational Error or Compensation for Risk
- Ship Scheduling Considering Transshipment for Domestic Container Liner
- An Analysis about the Corporate Brand Value Evaluation Model
- Optimization of Vehicle Transportation at Nissan Motor in India
- Organization of Perceived Value of Products and Influence of Psychographic Factors on Perception of Product Value
- A Study of the Influence by Gatekeeper and Transformer in Research and Development Department on the Diversity of Research Activities
- Firm's Preference among the Methods of Real Earnings Management
- Determining Factors and Effects of Dividend Initiation
- Empirical Analysis of Japanese Manufacturing Firm's Direct Investment in Asia
- Influence of Altruism to the Party without Reciprocity on Society Considering Influence on the Third Party
- Analysis of Technology Dissemination Dynamism through Patent Information
- Study of Customer Satisfaction in the Service Industry: The Impact of Culture and Industrial Structure



Department of Industrial Engineering and Management
 Graduate School of Decision Science and Technology
 Tokyo Institute of Technology

<http://www.me.titech.ac.jp>

Chair Professor Muraki, Masaaki muraki.m.aa@m.titech.ac.jp

Secretary Assoc. Professor Umemuro, Hiroyuki umemuro.h.aa@m.titech.ac.jp