

National Institute of Technology (KOSEN),  
**Tomakomai College**

**Guide 2019**



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## Our Mottos

(As an individual)

- 1 The most effective learning fits the individual's personality.
- 2 Good health is one's most valuable asset.
- 3 Effort is the key to success.

(As a member of society)

- 1 A person who loves others and himself
- 2 A person who is neither too proud nor too humble
- 3 A person who acts with courage and responsibility

## Our Principles

- 1 Sincere heart
- 2 Friendly spirit
- 3 Indomitable will

(Words selected on Feb.25,1966)



College Emblem

## ■ Education Philosophy

National Institute of Technology, Tomakomai college, through its education, strives to promote enriched humanity, a spirit of autonomy and independence, and facilitates the well-balanced growth of knowledge, morality and health for future engineers, and we train them to contribute to the development of the whole community.

## ■ Learning Objectives for Regular Courses

### I . Humanity

Students acquire enriched humanity, new knowledge and skills, a spirit of autonomy and independence through the curriculum and extra-curricular subjects and activities.

### II . Practical Ability

Students acquire practical skills and study habits that form a foundation of creativity for their future progress and advancement.

### III. Global Mind

Students acquire new knowledge and skills, start thinking from a worldwide point of view, and learn fundamental skills for international communication.

## ■ Learning Objectives for Advanced Courses

### I . Humanity

Students acquire enriched humanity, new knowledge and skills, and a broadened perspective through the curriculum and off-campus activities.

### II . Creativity

Students acquire basic knowledge and skills for creating advanced engineering technologies within a broadened perspective.

### III. Global Mind

Students acquire new knowledge and skills, develop skills for international communication, and mind with mutual understanding for having the ability to participate actively within the global society.

## ■ Learning and Educational Objective (Excerpt of major objectives)

- (A) Education : Understanding nature and the environment from a global viewpoint, and acquiring a broad view of history, culture, society and so forth.
- (B) Ethics and responsibility : Understanding ethics and internalizing a sense of responsibility as engineers.
- (C) Communication : Acquisition of presentation skills in Japanese, including writing, verbal presentation and debate abilities, as well as basic skills for international communication.
- (D) Fundamental engineering : Acquisition of basic knowledge and the ability to apply mathematics, natural sciences, information technology and engineering.
- (E) Continuous learning : Development of one's self-awareness as an engineer, acquiring the ability to learn on an independent and continuing basis.
- (F) Practical technology in one's specialty : Acquisition of the ability to put into practice the technology in one's specialized field from among the engineering fields related to production.
- (G) Practical technology in interdisciplinary fields : Understanding other fields of study as well, combining them with one's own field of expertise from a multilateral viewpoint, and acquiring the applied technology applicable to solving problems in interdisciplinary fields.
- (H) Technology required by contemporary society and times : Acquisition of technology-including creativity, design ability and the ability to integrate-with which one can devise, develop and systematize the technology required by contemporary society and times.
- (I) Teamwork : Acquisition of the ability to form a team, not only with one's peers in the same field of expertise, but also with engineers in other fields of study, and to execute tasks smoothly and as planned.

## ■ Objectives of the Departments

### Department of Engineering for Innovation

Department of engineering for innovation aims to develop human resources having a rich sense of humanity, an independent spirit, and a broad vision to create a safe and prosperous future by training various knowledge of the engineering field with practical education.

### Department of Mechanical Engineering

Objectives of Department of Mechanical Engineering is to train students with humanity, autonomy and broad horizons by making a practical education on technology, such as machinery, energy and environment, needed to create the affluent, safe and comfortable future.

### Department of Electrical and Electronic Engineering

In the Department of Electrical and Electronic Engineering, the students will gain knowledge and skills of energy, control, electronics, information communication, and be able to solve basic issues on Electrical and Electronic Engineering.

Through lectures, experiments, exercises, research and other learning activities, the students will acquire the fundamental ability to recognize the issues and to apply acquired knowledge and skills to act for their solutions.

### Department of Computer Science and Engineering

In the Department of Computer Science and Engineering, we educate practical knowledge and skills of hardware, software, computer networks, information systems, and embedded systems on computer science and engineering. Also, we train students to be engineers with genuine humanity, independence, and broad views.

### Department of Science and Engineering for Materials

In the Department of Science and Engineering for Materials, We promote practical education on chemical synthesis, analytical technology and properties of materials, in order to produce a more comfortable and safer future for man and nature.

Through the training, we cultivate professional engineers who deliver advanced knowledge for chemistry and biochemistry, an enriched humanness, independence of mind and a broad vision.

### Department of Civil Engineering

In the Department of Civil Engineering, we educate engineers who can use their interdisciplinary skills to develop infrastructures that are in harmony with nature.

## ■ Objectives of the Courses

### Electronics and Production Systems Engineering Course

This major course supplies the educational system in which the students can develop and evolve their practical ability in the wide and complex fields of the technological creation, based on the knowledge and skills they learned at the Departments of Mechanical Engineering, Electrical and Electronic Engineering, and Computer Science and Engineering.

### Environmental Systems Engineering Course

This major course supplies the educational system in which the students can develop and evolve their practical ability in the wide and complex fields including materials and raw materials, biofunction and social infrastructure, based on the knowledge and skills they learned at the Department of Engineering and Science for Materials and the Department of Civil Engineering.



Rapid economic growth (Japanese economic miracle) and remarkable technological development in Japan during post-World War II era had led the need for trained technical experts. This leads to the establishment of new type of a higher education institution: National Institute of Technology (NIT). A college of NIT admits students from junior high schools, and trains them following the curriculum of five years. The Tomakomai College was founded in 1964.

- 30 Dec. 1965 It was decided that there should be a national college of technology in Tomakomai.
- 1 Apr. 1964 Tomakomai National College of Technology with three departments: mechanical engineering, electrical engineering, and industrial chemistry was founded by Ministry of Education.  
Dr. MANAI Kouzo, professor at Hokkaido University took office as the first president.
- 24 Mar. 1965 The first part of school and dormitory building construction was completed.
- 15 Mar. 1966 The second part of the construction was completed. The construction of the gymnasium also was finished.
- 20 Nov. The third part of the construction was completed.
- 26 Oct. 1967 The anniversary of the founding of the college celebrated.
- 1 Apr. 1969 The department of Civil Engineering was added.
- 20 Feb. 1970 The fourth part of the construction was completed.
- 1 Apr. 1971 Dr. FUKUTOMI Takaharu, professor at Hokkaido University took office as the second president.
- 15 Mar. 1973 The construction of the Library was completed.
- 1 Apr. Dr. OHTSUKA Hiroshi, professor at Hokkaido University took office as the third president.
- 15 Oct. 1974 The 10th anniversary of the founding of the college celebrated.
- 25 Dec. 1978 The construction of the second gym was completed.
- 24 Mar. 1980 The construction of the Lecturer Building was completed.
- 1 Apr. 1981 Dr. HANZAWA Hiroshi, professor emeritus at Hokkaido University took office as the fourth president.
- 26 Sep. 1983 The construction of the Welfare Facilities was completed.
- 11 Mar. 1985 The construction of the fourth dormitory Building was completed.
- 1 Apr. 1987 The construction of the Media Center was completed.
- 1 Apr. 1988 Dr. ISHII Tadao, professor emeritus at Hokkaido University took office as the fifth president.
- 6 Oct. 1989 The 25th anniversary of the founding of the college celebrated.
- 1 Apr. 1990 The department of Computer Science and Engineering was added.
- 26 Mar. 1992 The construction of the Computer Science and Engineering Building was completed.
- 1 Apr. The curriculum was drastically changed and five-day system came into operation.
- 1 Apr. 1993 Dr. SAKUMA Tetsurou, professor emeritus at Hokkaido University took office as the sixth president.
- 28 Apr. The Association for Tomakomai National College of Technology was founded
- 1 Apr. 1994 The department of Industrial Chemistry was reorganized into the department of Science and Engineering for Materials.
- 1 Apr. 1995 The curriculum of the department of Civil Engineering was revised.
- 26 Feb. 1996 The construction of the Science and Engineering for Materials Laboratory was completed.
- 1 Apr. 2000 The department name of Electrical Engineering was changed into Electrical and Electronic Engineering.
- 10 Oct. The construction of the Community Cooperative Research Center was completed.
- 1 Apr. 2001 Dr. ITOH Kiyohiko, professor emeritus at Hokkaido University took office as the seventh president.
- 25 Dec. The construction of the women's dormitory Building was completed.
- 1 Apr. 2003 The Advanced Engineering Courses (Electronics and Production Systems Engineering Course, Environmental Systems Engineering Course) were established.
- 1 Apr. 2004 Tomakomai College transferred under National Institute of Technology.  
Department of General Education was reorganized as Department of Human and Social Sciences and Department of Natural and Physical Sciences.
- 25 Sep. 2004 The 40th anniversary of the founding of the college celebrated.
- 11 Mar. 2005 The construction of the Advanced Engineering Courses Building was completed.
- 1 Apr. 2007 As part of the restructuring of the administrative section, three divisions (General Affairs Division, Finance Affairs Division, and Students Affairs Division) were reorganized as two divisions (Administration Affairs Division and Student Affairs Division).
- 1 Apr. 2008 Dr. AKIYAMA Toshihiko, professor emeritus at Asahikawa College took office at the eighth president.
- 1 Feb. 2009 Support Center (for Engineering and Education) were established.
- 3 Apr. Support Center (for Engineering and Education) Office was completed.
- 26 Mar. 2010 The seminar building was renovated.
- 26 Dec. 2011 The building of the department of science and engineering for materials was renovated.
- 25 Jan. 2013 The building of the department of civil engineering was renovated.
- 1 Apr. Career education Center were established, and Office was completed.
- 14 Mar. 2014 Administration building and the building of the department of electric and electronic engineering was renovated.
- 1 Apr. Dr. KUROKAWA Kazuya, professor at Center for Advanced Research of Energy & Materials HOKKAIDO UNIVERSITY took office at the ninth president
- 10 Oct. The 50th anniversary of the founding of the college celebrated.
- 31 Mar. 2016 The building of the department of mechanical engineering was renovated.
- 1 Apr. All five departments had been recomposed to the Department of Engineering for Innovation.
- 12 Oct. 2018 Satellite Office (C-base) were established

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## ■ Present Number of Staff

	As of Apr. 1, 2019
President	1
Professor	30
Associate Professor	33
Lecturer	1
Assistant Professor	9
Administrative Staff	41
Total	115

## ■ Executives

President	KUROKAWA Kazuya
Vice-Presidential (Dean Of Administrative Affairs)	FURUSAKI Tsuyoshi
Vice-Presidential (Dean Of Academic Affairs)	MURAMOTO Mitsuru
Vice-Presidential (Dean Of Student Affairs)	NAKAJIMA Hiroki
Vice-Presidential (Dean Of Dormitory Affairs)	YAMAGIWA Akitoshi
Vice-Presidential (Director Of Advanced Eng.Course)	NIHASHI Sohey
Vice-Presidential (Dean Of Research Affairs)	NIHASHI Sohey
Director of Library and Information Center	DOI Shigeo
Director of Community Cooperative Research Center	SUDA Takanori
Director of Career Education Center	YAMASHITA Toru
Director of Support Center	SHITAMURA Mitsuhiro
Head of Division of Humanities and Social Sciences	MATSUDA Kanaho
Head of Division of Natural and Physical Sciences	NAKANO Wataru
Head of Division of Mechanical Engineering	MITOH Ayumi
Head of Division of Civil Engineering	HATTA Shigemi
Head of Division of Applied Chemistry and Biochemistry	HIRANO Hiroto
Head of Division of Electrical and Electronic Engineering	NASUNO Yutaka
Head of Division of Computer Science and Engineering	NAKAMURA Tsuneo
Chief of Student Counseling Room	MIKAWA Yoshinori
Director of Administration Bureau	YOKOMICHI Tsutomu
Director of Administrative Affairs Division	MATSUHASHI Kazuya
Director of Student Affairs Division	AIUCHI Seiya

## ■ Chronological List of Presidents

	Name	Tenure of Office
1st	MANAI Kouzou	1964 Apr.1 ~1971 Mar.31
2nd	FUKUTOMI Takaharu	1971 Apr.1 ~1973 Mar.31
3rd	OHTSUKA Hiroshi	1973 Apr.1 ~1981 Mar.31
4th	HANZAWA Hiroshi	1981 Apr.1 ~1988 Mar.31
5th	ISHII Tadao	1988 Apr.1 ~1993 Mar.31
6th	SAKUMA Tetsurou	1993 Apr.1 ~2001 Mar.31
7th	ITOH Kiyohiko	2001 Apr.1 ~2008 Mar.31
8th	AKIYAMA Toshihiko	2008 Apr.1 ~2014 Mar.31
9th	KUROKAWA Kazuya	2014 Apr.1 ~

## ■ Professors Emeritus

Former Position	Name	Presentation Date
Professor	HIRANUMA Mitsuyasu	1995 Apr.1
Professor	KIMURA Kikuya	1998 Apr.1
President	SAKUMA Tetsurou	2001 Apr.1
Professor	MURAI Kuniaki	2001 Apr.1
Professor	WATANABE Isao	2001 Apr.1
Professor	UENO Masashi	2002 Apr.1
Professor	TANAKA Yoshikatsu	2006 Apr.1
Professor	SASAMURA Yasuaki	2006 Apr.1
Professor	FUJIKI Shigeo	2007 Apr.1
Professor	SUGAWARA Michihiro	2007 Apr.1
President	ITOH Kiyohiko	2008 Apr.1
Professor	AKINO Takahide	2008 Apr.1
Professor	IKUTA Kunihiro	2009 Apr.1
Professor	YOSHIDA Takaki	2009 Apr.1
Professor	SATO Yoshinori	2011 Apr.1
Professor	SAWADA Tomoyuki	2011 Apr.1
Professor	MATSUBARA Tomoo	2011 Apr.1
President	AKIYAMA Toshihiko	2014 Apr.1
Professor	FUJII Kiyoshi	2014 Apr.1
Professor	HASEGAWA Hirokazu	2016 Apr.1
Professor	URASHIMA Saburo	2017 Apr.1
Professor	SHIMIZU Yuichi	2018 Apr.1
Professor	YAMAGUCHI Kazumi	2018 Apr.1
Professor	UEKI Masami	2019 Apr.1
Professor	YOSHIMURA Hitoshi	2019 Apr.1

## ■ First Semester

Apr.1-2	Spring Vacation
Apr.3	Entrance Ceremony
Apr.4	Opening Ceremony, Guidance for Freshmen
Apr.5	First Semester begins
Apr.16	Orientation for 2nd Year Student
Apr.18-19	Orientation for Freshmen
Apr.20	Foundation Anniversary
May.14	Classroom Visitation
May.24	Advanced Engineering Courses Entrance Examination
May.28	Student General Assembly
Jun.3-7	First Semester Term-Mid Examination
Jun.18	Spring Inter-Class Match
Jun.22	Advanced Engineering Courses Entrance Examination
Jul.7-8	Athletic Meet of Hokkaido NIT
Aug.2-8	First Semester Term-End Examination
Aug.13-Sep.24	Summer Vacation
Aug.17-Sep.2	Athletic Meet of All-Japan NIT
Aug.26	4th Year Enrollment Examination
Aug.31-Sep.1	Open Campus

## ■ Second Semester

Sep.30	Second Semester begins
Oct.10-11	Factory Investigation Tour for 3th Year Student
Oct.20-21	College Festival
Nov.1	Parent-Teacher Meeting
Nov.5-8	Study Tour for 4th Year Student
Nov.25-29	Second Semester Term-Mid Examination
Dec.25-Jan.6	Winter Vacation
Jan.10	Winter Inter-Class Match
Jan.18	Entrance Examination
Feb.7-14	Second Semester Term-End Examination
Feb.16	Entrance Examination
Feb.20	Ending Ceremony
Feb.27-Mar.31	Year-end Vacation
Mar.19	Commencement Ceremony



▲Entrance Ceremony



▲Spring Inter-Class Match



▲College Festival

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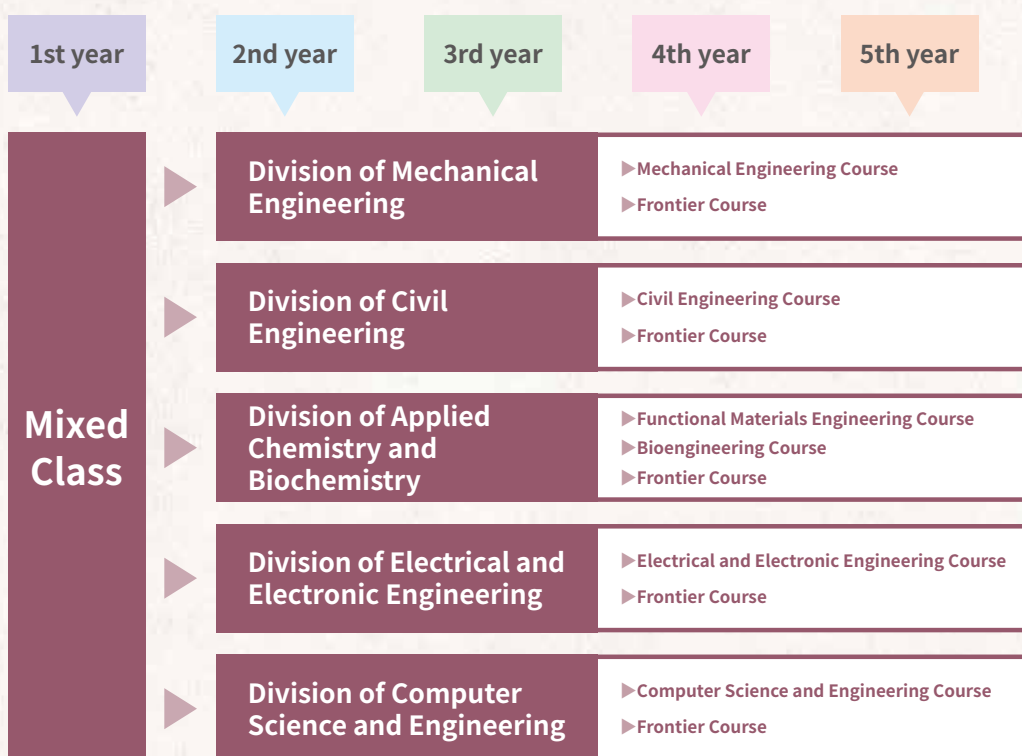
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In current educational circles, the development of 21st-century skills, or generic skills, is an essential requirement. Additionally, there is a need to cultivate human resources that have an interdisciplinary, broad vision that includes a global and managerial perspective in local businesses and industries. To develop such human resources, the National Institute of Technology (NIT), Tomakomai College, integrated the five traditional engineering departments (mechanical engineering, electrical and electronic engineering, applied chemistry and biochemistry, computer science and engineering, civil engineering) into one department, the Department of Engineering for Innovation, in the 2016 fiscal year. This new department consists of five professional divisions and seven courses aiming to develop creativity in and broaden the perspectives of students. In addition to traditional professional education, the new department in Tomakomai College enhances 21st-century skills of students through systematic “Creativity Education” and “Interdisciplinary Education”.

### Department of Engineering for Innovation

Admission  
quota:200



## ■ Division of Mechanical Engineering

Mechanical engineering makes the basis of all industrial technology, and its applicable field is very versatile. The wide field is covered until not only a machine but also a graduate's position reaches food, construction, information, a trading company, and government and municipal offices from the field of material, electricity, electron, and chemistry. In order to bring up the student who adapts himself and can play an active part in this division in any field from such a meaning in the future, it is educating for the purpose of supporting fundamental knowledge and application capability.

## ■ Division of Civil Engineering

The purpose of this division is that students master the basic skill and knowledge for creating the infrastructure for living safely and comfortably with keeping environment. And the civil engineers must acquire broad knowledge for adopting improvement of technology in the future as well.

In the early stage, students learn Structural Mechanics, Hydraulics, Soil Mechanics, Surveying, Civil Engineering Materials etc. as basic subjects on civil engineering. Based on these subjects, students learn creating or planning urban and civil life.

## ■ Division of Applied Chemistry and Biochemistry

"Chemistry" is keyword in the 21st century.

Our life process and many materials and energy that support our life, are produced from various chemical reactions. We think that the foundation of technology in the future will be material chemistry and biological chemistry.

In this division, students are instructed on related subjects and are educated to have flexible thinking skills and application abilities, in order to cope with the fusion and synthesis of this technology.

## ■ Division of Electrical and Electronic Engineering

To produce graduates who will attain careers and higher education that lead to leadership roles in academia, industry and government in the era of technology, the Division of Electrical and Electronic Engineering provides the course of studies for the fundamental and special subjects based on the curriculum of the fields of energy, electronics, and telecommunications. In addition, it also offers practical technological education such as various experiments and trainings and helps students develop problem-solving skills through graduation researches.

## ■ Division of Computer Science and Engineering

The purpose of this division is to nurture practical engineers of computer systems and other related technologies. The curriculum is largely composed from fundamentals of information technologies based on computer science, control engineering and computer communication.

The second grade subjects are electrical engineering and programming. The higher-grade subjects are computer science and more practical technologies.

## ■ Division of Humanities and Social Sciences and Division of Natural and Physical Sciences

The divisions organize the content of the curriculum for students to acquire knowledge of liberal arts on the level of senior high school and university. The objective of the liberal education is to think critically, to communicate effectively, to enhance their skills and knowledge in math and science, and to have a proper balance between intelligence and physical strength.



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## General Education

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Japanese I	3	3					
Japanese II	3		3				
Japanese III	2			2			
Geography	2	2					
History	2		2				
Ethics	2		2				
Politics and Economics						※1	
Introduction to Japanese Society and Culture	2			2		※2	
Mathematics I A	4	4					
Mathematics I B	3	3					
Mathematics II A	3		3				
Mathematics II B	3		3				
Mathematics IIIA	4			4			
Mathematics IIIB	2			2			
Chemistry I	2	2					
Chemistry II	2		2				
Introduction to Physics	2	2					
Physics I	2		2				
Physics II	2			2			
Earth science and Biology	1	1					
Health	1	1					
Physical Education I	2	2					
Physical Education II	2		2				
Physical Education III	2			2			
English I A	3	3					
English I B	2	2					
English II A	3		3				
English II B	2		2				
English IIIA	3			3			
English IIIB	2			2			
English IVC	4				4		
English VC	4					4	
Minimum Credits Required	76	25	24	19	4	4	

<b>Elective Subjects</b>							
Music	1	1					※3
Art	1	1					
Calligraphy	1	1					
Introduction to Law	2				2		※4
Philosophy	2				2		
Economics	2				2		
Japanese History	2				2		
Sociology	2				2		
Second Foreign Language A	2				2		
Second Foreign Language B	2				2		
Special Credits I	2				2		
Japanese Society and Culture	2				2		※5
English Conversation	2				2		
Special Lecture Course of English: Topic A	2				2		
Special Lecture Course of English: Topic B	2				2		
Japanese Communication	2				2		
Special Lecture on Mathematics	2				2		
Lecture Course in Modern Sciences	2				2		
Special Credits II	2				2		
Establishment Credits	35	3	0	0	(32)	(32)	
Minimum Credits Required	5 or more	1	0	0	4 or more		
Total Credits Offered	111	28	24	19	(36)	(36)	
Minimum Credits Required	81 or more	26	24	19	12 or more		

- ※1 compulsory for domestic students  
 ※2 compulsory for International students  
 ※3 Choose 1 subject and 1 credit  
 ※4 Choose 1 subject and 2 credits or more  
 ※5 Choose 1 subject and 2 credits or more

## Division of Mechanical Engineering

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Creative Engineering I	4	4					
Creative Engineering II	2		2				
Creative Engineering III	2			2			
Introduction to Information Technology	2	2					
Applied Mathematics I	2				2		
Applied Mathematics II	2				2		
Applied Physics I	2				2		
Pre-Research Project	1				1		
Information Technology Programming	1		1				
Engineering Mechanics I	2		1				
Engineering Mechanics II	2			2			
Strength of Materials I	2			2			
Strength of Materials II	2				2		
Engineering Materials I	1			1			
Engineering Materials II	2				2		
Environmental Energy System	2				2		
Thermal Engineering I	2				2		
Thermal Engineering II	2					2	
Fluid Mechanics I	2				2		
Fluid Mechanics II	2					2	
Manufacturing Technology I	1			1			
Manufacturing Technology II	2				2		
Dynamics of Machinery	2				2		
Machine Design and Drawing I	3		3				
Machine Design and Drawing II	3			3			
Machine Design and Drawing III	3				3		
Machine Design and Drawing IV	2					2	
Mechanical Engineering Laboratory I	3				3		
Mechanical Engineering Laboratory II	3					3	
Mechanical Engineering Practice I	3		3				
Mechanical Engineering Practice II	3			3			
<b>Mechanical Engineering Course</b>							
Control Engineering	2					2	
Production Engineering	2					2	
Graduation Research	8					8	
<b>Frontier Course</b>							
Business I	2				2		
Business II	2					2	
Business III	2					2	
International Communication	2					2	
Graduation Research in Frontier Course	4					4	
Establishment Credits	92	6	10	14	31	31	
Minimum Credits Required of Mechanical Engineering Course	80	6	10	14	29	21	
Minimum Credits Required of Frontier Course	80	6	10	14	31	19	

<b>Elective Subjects</b>							
Introduction to Mechanical Engineering	2				2		※1
Introduction to Earth and Environmental Sciences	2				2		
Introduction to Biology & Microbiology	2				2		
Introduction to Electrical Engineering	2				2		
International Communication	2				2		
Outline of Medical Engineering	2				2		※2
Design and CAD	2				2		
Introduction to Energy	2				2		
Applied Mathematics III	2				2		
Applied Mathematics IV	2				2		
Applied Physics II	2				2		
Applied Physics III	2				2		
Biomedical Engineering	2					2	※3
Control Engineering	2					2	
Instrumentation Engineering	2					2	
Internship	1						
Special Credits in Mechanical Engineering	2				1	Within 2	
Establishment Credits	33	0	0	0	(27)	(32)	
Minimum Credits Required	6 or more	0	0	0	6 or more		
Total Credits Offered	125	6	10	14	(58)	(62)	
Minimum Credits Required	86 or more	6	10	14	56 or more		

- ※1 Mechanical Engineering Course : Choose 2 subjects and 4 credits or more  
 ※2 Frontier Course : Choose 2 subjects and 4 credits or more  
 ※3 Choose 1 subject and 2 credits or more

## Division of Civil Engineering

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Creative Engineering I	4	4					
Creative Engineering II	2		2				
Creative Engineering III	2			2			
Introduction to Information Technology	2	2					
Applied Mathematics I	2				2		
Applied Mathematics II	2				2		
Applied Physics I	2				2		
Pre-Research Project	1				1		
Information Processing	1		1				
Introduction to Civil Engineering	1		1				
Civil Engineering Materials	1			1			
Surveying I	2		2				
Surveying II	2				2		
Structural Mechanics I	2		2				
Structural Mechanics II	2			2			
Structural Mechanics III	2				2		
Hydraulics I	2			2			
Hydraulics II	2				2		
Geotechnical Engineering I	2			2			
Geotechnical Engineering II	2				2		
Reinforced Concrete Engineering I	2				2		
Highway Engineering	2				2		
Urban Planning	2				2		
Infrastructure Planning	2					2	
Sanitary Engineering	2					2	
Practice on Surveying I	1		1				
Practice on Surveying II	2			2			
Civil Engineering Design & Drawing I	1		1				
Civil Engineering Design & Drawing II	1			1			
Civil Engineering Design & Drawing III	1				1		
Civil Engineering Design & Drawing IV	1					1	
Civil Engineering Laboratory I	2			2			
Civil Engineering Laboratory II	3				3		
Infrastructure Engineering	1				1		
Environmental Engineering I	1				1		
Civil Engineering Course							
Field Work I	1				1		
Field Work II	1					1	
Construction Management	2					2	
Graduation Research	8					8	
Frontier Course							
Business I	2				2		
Business II	2					2	
Business III	2					2	
International Communication	2					2	
Graduation Research in Frontier Course	4					4	
Establishment Credits	86	6	10	14	30	26	
Minimum Credits Required of Civil Engineering Course	74	6	10	14	28	16	
Minimum Credits Required of Frontier Course	74	6	10	14	29	15	

<b>Elective Subjects</b>							
Introduction to Mechanical Engineering	2				2		※1
Introduction to Earth and Environmental Sciences	2				2		※4
Introduction to Biology & Microbiology	2				2		
Introduction to Electrical Engineering	2				2		
International Communication	2				2		
Outline of Medical Engineering	2				2		※2
Design and CAD	2				2		
Introduction to Energy	2				2		
Applied Mathematics III	2				2		
Applied Mathematics IV	2				2		
Applied Physics II	2				2		
Applied Physics III	2				2		
River & Water Resource Engineering	2				2		※3
Coastal and Port Engineering	2				2		
Bridge Engineering & Seismic Engineering	2				2		
Concrete Engineering II	2				2		
Transportation and Traffic Engineering	2				2		
Landscape Engineering	2				2		
Environmental Engineering II	2				2		
Internship	1				1		
Special Credits in Civil Engineering	1					1	
Establishment Credits	40	0	0	0	(26)	(39)	
Minimum Credits Required	12 more	0	0	0		12 more	
Total Credits Offered	126	6	10	14	(56)	(65)	
Minimum Credits Required	86 more	6	10	14		56 more	

- ※1 Civil Engineering Course : Choose 2 subjects and 4 credits or more  
 ※2 Frontier Course : Choose 2 subjects and 4 credits or more  
 ※3 Civil Engineering Course : Choose 4 subjects and 8 credits or more  
 ※4 Frontier Course : Choose 6 subjects and 12 credits or more

## Division of Applied Chemistry and Biochemistry

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Creative Engineering I	4	4					
Creative Engineering II	2		2				
Creative Engineering III	2			2			
Introduction to Information Technology	2	2					
Applied Mathematics I	2				2		
Applied Mathematics II	2				2		
Applied Physics I	2				2		
Pre-Research Project	1				1		
Analytical Chemistry I	1		1				
Analytical Chemistry II	1		1				
Analytical Chemistry III	1			1			
Inorganic Chemistry I	1		1				
Inorganic Chemistry II	1			1			
Inorganic Chemistry III	2				2		
Organic Chemistry I	1		1				
Organic Chemistry II	1			1			
Organic Chemistry III	2				2		
Organic Chemistry Exercise	1					1	
Physical Chemistry I	1			1			
Physical Chemistry II	2				2		
Physical Chemistry Exercise	1					1	
Biology	1		1				
Biochemistry I	1			1			
Biochemistry II	2				2		
Molecular Biology	2				2		
Chemical Engineering I	1			1			
Chemical Engineering II	2				2		
Chemical Engineering Exercise	1					1	
Computer Science I	1				1		
Computer Science II	1					1	
Instrumental Analysis	2					2	
Polymer Chemistry	2					2	
Quality Control	2					2	
Chemistry Laboratory I	3		3				
Chemistry Laboratory II	6			6			
Functional Materials Engineering Course							
Science of Functional Materials I	2				2		
Science of Functional Materials II	2					2	
Applied Physical Chemistry	2					2	
Process Design	2					2	
Advanced Chemistry Laboratory	6				6		
Graduation Research	8					8	
Bioengineering Course							
Applied Microbiology	2				2		
Genetic Engineering	2					2	
Molecular Cell Biology	2					2	
Food Science	2					2	
Bioengineering Laboratory	6				6		
Graduation Research	8					8	
Frontier Course							
Science of Functional Materials I	2				2		
Science of Functional Materials II	2					2	
Advanced Chemistry Laboratory	6				6		
Business I	2				2		
Business II	2					2	
Business III	2					2	
International Communication	2					2	
Graduation Research in Frontier Course	4					4	
Establishment Credits	126	6	10	14	46	50	
Minimum Credits Required of Functional Materials Engineering Course	82	6	10	14	28	24	
Minimum Credits Required of Bioengineering Course	82	6	10	14	28	24	
Minimum Credits Required of Frontier Course	82	6	10	14	30	22	

<b>Elective Subjects</b>							
Introduction to Mechanical Engineering	2				2		※1
Introduction to Earth and Environmental Sciences	2				2		※3
Introduction to Biology & Microbiology	2				2		
Introduction to Electrical Engineering	2				2		
International Communication	2				2		
Outline of Medical Engineering	2				2		※2
Design and CAD	2				2		
Introduction to Energy	2				2		
Applied Mathematics III	2				2		
Applied Mathematics IV	2				2		
Applied Physics II	2				2		
Applied Physics III	2				2		
Internship	1				1		
Special Credits in Chemistry and Biochemistry	1					1	
Establishment Credits	26	0	0	0	(26)	(25)	
Minimum Credits Required	4 more	0	0	0		4 more	
Total Credits Offered	152	6	10	14	(72)	(75)	
Minimum Credits Required	86 more	6	10	14		56 more	

- ※1 Functional Materials Engineering Course and Bioengineering Course :  
 Choose 2 subjects and 4 credits or more  
 ※2 Frontier Course : Choose 2 subjects and 4 credits or more  
 ※3 Choose 2 subjects and 4 credits or more

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## Division of Electrical and Electronic Engineering

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Creative Engineering I	4	4					
Creative Engineering II	2		2				
Creative Engineering III	2			2			
Introduction to Information Technology	2	2					
Applied Mathematics I	2				2		
Applied Mathematics II	2				2		
Applied Physics I	2				2		
Pre-Research Project	1				1		
Electromagnetics I	2		2				
Electromagnetics II	2			2			
Electric Circuits I	2		2				
Electric Circuits II	2			2			
Transmission Line Theory	2				2		
High Frequency Circuits	2				2		
Information Processing Exercise I	1		1				
Information Processing Exercise II	1			1			
Information Processing Exercise III	1				1		
Electric and Electronics Measurement	2				2		
Electrical Machinery and Apparatus I	2			2			
Electrical Machinery and Apparatus II	2				2		
Electric Energy Conversion Engineering	2				2		
Electronic Devices	2			2			
Electronic Circuits I	2				2		
Electronic Circuits II	2				2		
Digital Circuits	2					2	
Control Engineering I	2					2	
Electrical Communication I	2				2		
Electrical and Electronic Creative Laboratory	3		3				
Electrical and Electronic Engineering Laboratory I	3			3			
Electrical and Electronic Engineering Laboratory II	3				3		
Electrical and Electronic Engineering Laboratory III	2					2	
Seminars on Electrical and Electronic Engineering	1				1		
<b>Electrical and Electronic Engineering</b>							
Electrical and Electronic Engineering Materials	2					2	
System Engineering	2					2	
Graduation Research	8					8	
<b>Frontier Course</b>							
Business I	2				2		
Business II	2					2	
Business III	2					2	
International Communication	2					2	
Graduation Research in Frontier Course	4					4	
<b>Establishment Credits</b>	88	6	10	14	30	28	
Minimum Credits Required of Electrical and Electronic Engineering	76	6	10	14	28	18	
Minimum Credits Required of Frontier Course	76	6	10	14	30	16	
<b>Elective Subjects</b>							
Introduction to Mechanical Engineering	2				2		※1
Introduction to Earth and Environmental Sciences	2				2		
Introduction to Biology & Microbiology	2				2		
Introduction to Electrical Engineering	2				2		
International Communication	2				2		
Outline of Medical Engineering	2				2		
Design and CAD	2				2		※2
Introduction to Energy	2				2		
Applied Mathematics III	2				2		
Applied Mathematics IV	2				2		
Applied Physics II	2				2		
Applied Physics III	2				2		
Electric Power System Engineering	2					2	※3
Power Electronics	2					2	
Control Engineering II	2					2	
Electromagnetic Wave Engineering	2					2	
Semiconductor Engineering	2					2	
Electrical Communication II	2					2	
Signal Processing	2					2	
Internship	1				1		
Special Credits in Electrical and Electronic	1					1	
<b>Establishment Credits</b>	40	0	0	0	(26)	(39)	
Minimum Credits Required	10 more	0	0	0	10 more		
<b>Total Credits Offered</b>	128	6	10	14	(56)	(62)	
<b>Minimum Credits Required</b>	86 more	6	10	14	56 more		

※1 Electrical and Electronic Engineering Course : Choose 2 subjects and 4 credits or more

※2 Frontier Course : Choose 2 subjects and 4 credits or more

※3 Choose 3 subjects and 6 credits or more

## Division of Computer Science and Engineering

	the number of credits	1st year	2nd year	3rd year	4th year	5th year	Note
<b>Required Subjects</b>							
Creative Engineering I	4	4					
Creative Engineering II	2		2				
Creative Engineering III	2			2			
Introduction to Information Technology	2	2					
Applied Mathematics I	2				2		
Applied Mathematics II	2				2		
Applied Physics I	2				2		
Pre-Research Project	1				1		
Circuit Theory I	2			2			
Circuit Theory II	2				2		
Electronic Engineering	1			1			
Logic Circuit I	2		2				
Logic Circuit II	1			1			
Programming I	3		3				
Programming II	2			2			※1
Basic Information I	2					2	※2
System Software	2					2	
Operating System	2				2		
Software Engineering	2				2		
Computer Architecture and Organization	2			2			
Fundamentals of Hardware	2				2		
Mathematical Foundations for Computer Science	2				2		
Computer Graphics	2					2	
Database	2				2		
Digital Signal Processing	2					2	
Fundamentals of Embedded System	2					2	
Computer Communication	2				2		
Systems Engineering	2					2	
Seminar on Computer Science and Engineering	1				1		
Exercise of Software Design I	1			1			※1
Basic Information II	1						※2
Exercise of Software Design II	1				1		
Exercise of Software Design III	1				1		
Exercise of Information Security	1				1		
Computer Science and Engineering Laboratory I	3		3				
Computer Science and Engineering Laboratory II	3			3			
Computer Science and Engineering Laboratory III	3				3		
Computer Science and Engineering Laboratory IV	2					2	
<b>Computer Science and Engineering Course</b>							
Exercise of Linear System	2					2	
Exercise of Real Time Operating System	1					1	
Exercise of Network Programming	1					1	
Graduation Research	8					8	
<b>Frontier Course</b>							
Business I	2				2		
Business II	2					2	
Business III	2					2	
International Communication	2					2	
Graduation Research in Frontier Course	4					4	
<b>Establishment Credits</b>	94	6	10	14	30	34	
Minimum Credits Required of Computer Science and Engineering Course	82	6	10	14	28	24	
Minimum Credits Required of Frontier Course	82	6	10	14	30	22	
<b>Elective Subjects</b>							
Introduction to Mechanical Engineering	2				2		※3
Introduction to Earth and Environmental Sciences	2				2		※5
Introduction to Biology & Microbiology	2				2		
Introduction to Electrical Engineering	2				2		
International Communication	2				2		
Outline of Medical Engineering	2				2		
Design and CAD	2				2		※4
Introduction to Energy	2				2		
Applied Mathematics III	2				2		
Applied Mathematics IV	2				2		
Applied Physics II	2				2		
Applied Physics III	2				2		
Internship	1				1		
Special Credits in Computer Science and Engineering	2					2	
<b>Establishment Credits</b>	27	0	0	0	(27)	(26)	
Minimum Credits Required	4 more	0	0	0	4 more		
<b>Total Credits Offered</b>	121	6	10	14	(57)	(60)	
<b>Minimum Credits Required</b>	86 more	6	10	14	56 more		

※1 compulsory for domestic students

※2 compulsory for International students

※3 Computer Science and Engineering Course : Choose 2 subjects and 4 credits or more

※4 Frontier Course : Choose 2 subjects and 4 credits or more

※5 Choose 2 subjects and 4 credits or more



Tomakomai College has two advanced engineering courses:

Electronics and Production Systems Engineering Course

Environmental Systems Engineering Course

which succeed the five-year technical college education courses in order to provide two more years of technical education. The advanced engineering courses have nurtured engineers with advanced knowledge and skills who not only have the ability to develop technology and solve problems but also contribute to the development of the industries themselves.

Students who complete these courses and satisfy the criteria established by the National Institution for Academic Degrees (NIAD) can apply to the Institution for a bachelor's degree and are treated as graduates. The graduates holding the bachelor's degree are qualified as candidates for graduate school courses.

In accordance with the criteria set by the Japan Accreditation Board for Engineering Education (JABEE), these advanced engineering courses are incorporated in the engineering education program, including the 4th and 5th year technical college education courses. This "Environmental and Production Systems Engineering Program" is evaluated as an internationally qualified program (based on JABEE standards).

## ■ Learning Educational Objectives of Advanced Engineering Courses

The learning objectives of both advanced courses are to achieve advanced knowledge and skills, building on the base of knowledge and skills acquired in the regular five-year technical college education, in order to work actively and creatively in solving difficult problems that may arise at any time in real situations, and in promoting research and development activities for upgrading the level of technology. Hence, students acquire

I Humanity, II Creativity and III Global Mind.

## ■ Electronics and Production Systems Engineering Course

This course is established to acquire research skills for electronics and production systems based on previous studies done at Dept. of Mechanical Engineering, Dept. of Electrical and Electronic Engineering, or Dept. of Computer Science and Engineering. The curriculum of the course is designed to help the students acquire — through lectures, seminars and laboratories — advanced knowledge and skills of a wide range of specialized subjects, Japanese Composition, Engineering Ethics, Fluid Dynamics, Life Science, Engineering of Quality System, all of which are fundamentally necessary for the development of competent engineers possessing technological creativity and professionalism. The course content is based on the knowledge and skills already acquired in those respective departments' regular five-year technical college education. The curriculum is also devised to facilitate students' acquisition of technological knowledge and skills in the areas where those three departments overlap. The object of these efforts as described above is to provide the best possible guidance in order to nurture competent engineers who are able to work actively and creatively at the forefront of research and development of electronic and production systems technology with practical applications in the real world.

## ■ Environmental Systems Engineering Course

This course is established to acquire research skills for environmental systems based on previous studies done at Dept. of Engineering and Science for Materials and Dept. of Civil Engineering. The curriculum of the course is designed to help the students acquire — through lectures, seminars and laboratories — advanced knowledge and skills in a wide range of specialized subjects in the fields including Raw Materials, Materials, Bio-organics and Social Infrastructure. The course content is based on the knowledge and skills already acquired in those respective departments' regular five-year technical college education. The curriculum is also devised to facilitate students' acquisition of technological knowledge and skills in the areas where those two departments overlap, and is aimed at promoting the harmonic co-existence of human beings and nature. The object of these efforts as described above is to provide the best possible guidance in order to nurture competent engineers who are able to work actively and creatively at the forefront of research and development of environmental systems technology with practical applications in the real world.



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## Curriculum

### General Education

General Education		the number of credits	1st year	2nd year
Advanced English I	R	2	2	
Advanced English II	R	2	2	
Intercultural Communication	R	2	2	
Modern Japanese Economy	E	2		2
Language and Culture of China	E	2		2
Japanese Composition	E	2		2
Establishment Credits		12	6	6
Minimum Credits Required		8 or more	8 or more	

R : Required Subjects

E : Elective Subjects

### Special Subject

#### Electronics and Production Systems Engineering Course

Special Common Subject		the number of credits	1st year	2nd year
Engineering Ethics	R	2	2	
Advanced Applied Mathematics I	E	2	2	
Advanced Applied Mathematics II	E	2	2	
Life Science	R	2	2	
Quantum Theory	R	2	2	
Statistical Physics	R	2	2	
Engineering of Quality System	R	2		2
Creative Engineering	R	2	2	
Engineering Design	R	2		2
Multimedia	R	2	2	
Preventive Disaster Engineering	R	2		2
Advanced Lectures of Environmental Engineering for Cold Region	R	2		2
Total Credits Offered		24	16	8
Minimum Credits Required		22 or more	22 or more	

#### Special Common Subject

Advanced Engineering of Electronic Materials	R	2		2
Mathematical Theory of Elasticity	R	2	2	
Advanced Solid Mechanics	E	2	2	
Fluid Dynamics	E	2	2	
Material Systems Engineering	E	2		2
Advanced Lecture on Energy Conversion	E	2		2
Applied Instrumentation Engineering	E	2	2	
Advanced Engineering for Electric Circuit	E	2	2	
Robotics	E	2		2
Coding Theory	E	2	2	
Internetworking	E	2		2
Information Engineering	E	2		2
Hardware System Design	E	2	2	
Sensor Electronics	E	2	2	
Intership of Electronics and Production systems Course	R	2	2	
Experiment	R	2	2	
Exercise	R	2		2
Thesis Work I	R	6	6	
Thesis Work II	R	8		8
Total Credits Offered	R	24	26	22
	E	24		
Minimum Credits Required		32 or more	32 or more	

#### Environmental Systems Engineering Course

Special Common Subject		the number of credits	1st year	2nd year
Engineering Ethics	R	2	2	
Advanced Applied Mathematics I	E	2	2	
Advanced Applied Mathematics II	E	2	2	
Life Science	R	2	2	
Quantum Theory	R	2	2	
Statistical Physics	R	2	2	
Engineering of Quality System	R	2		2
Creative Engineering	R	2	2	
Engineering Design	R	2		2
Multimedia	R	2	2	
Preventive Disaster Engineering	R	2		2
Advanced Lectures of Environmental Engineering for Cold Region	R	2		2
Total Credits Offered		24	16	8
Minimum Credits Required		22 or more	22 or more	

#### Special Subject

Advanced Materials Science	E	2	2	
Concrete Engineering	E	2	2	
Organic Materials Engineering	E	2		2
Advanced Hydraulics	E	2		2
Advanced Solid Mechanics	E	2	2	
Mathematical Theory of Elasticity	E	2	2	
Fluid Dynamics	E	2	2	
Urban Planning	E	2		2
Geotechnical Engineering	E	2	2	
Advanced Highway Engineering	E	2		2
Analytical Chemistry for Environmental Analysis	E	2	2	
Cellulose Technology	E	2	2	
Biofunctional Engineering	E	2	2	
Process Engineering	E	2		2
Intership of Environmental systems Course	R	2	2	
Experiment	R	2	2	
Exercise	R	2		2
Thesis Work I	R	6	6	
Thesis Work II	R	8		8
Total Credits Offered	R	20	28	20
	E	28		
Minimum Credits Required		32 or more	32 or more	

Position	In alphabetical order	Division	The main subjects in its duty	The main research themes
Prof. Dr.Eng.	ABE Tsukasa	Computer Science and Engineering	Computer Architecture and Organization, Computer System II, Computer Communication I, Computer Communication II, Computer Engineering Laboratory, Operating System II	Computer Communication, Embedded Systems
Assoc Prof. Dr.Eng.	AKATSUKA Motoki	Electrical and Electronic Engineering	Electric Circuits II, Electric Energy Conversion Engineering, Electric Power System Engineering	Power System, Renewable Energy
Assoc Prof. Dr.Eng.	ARIMA Takashi	Natural and Physical Science	Mathematics, Physics	Nonequilibrium thermodynamics, Theoretical fluid dynamics
Assoc Prof. Dr.Eng.	ASAMI Hiroki	Mechanical Engineering	Engineering Mechanics I, Creative Engineering II・III, Machine Design and Drawing IV, Material System Engineering	Study of hard ceramics material
Assoc Prof. Dr.Eng.	DOI Shigeo	Computer Science and Engineering	Systems Engineering, Reliability Engineering, Software Engineering I, Computer Science and Engineering Laboratory II, Computer Engineering Laboratory, Information Engineering, Engineering Ethics	Swarm Intelligence, Information Systems, Information Security
Prof.	FUJISHIMA Katsuhiro	Natural and Physical Science	Mathematics	Mathematics Education
Assist Prof. Dr.Env.Sci.	FUJITA Sayaka	Applied Chemistry and Biochemistry	Inorganic Chemistry I, Biochemistry II, Complex Chemistry	Effective Utilization of bioresources
Prof. Dr.Eng.	FURUSAKI Tsuyoshi	Applied Chemistry and Biochemistry	Inorganic Chemistry II・III, Material Science	Preparation and properties of advanced ceramics
Assist Prof. Dr.Info Sci	HARADA Keiwa	Computer Science and Engineering	Creative Engineering I, Programming II, Exercise of Software Design I, Special Lecture in Information Science, Computer Engineering Laboratory	Complex Networks
Sp.-Appt, Assol prof	HASEGAWA Satoru	Civil Engineering	Creative Engineering I・II, Engineering design	Product design of public space
Prof. Dr.Eng.	HASHIMOTO Hisaho	Applied Chemistry and Biochemistry	Organic chemistry II・III, Polymer Chemistry	The molecular design and synthesis of polymer materials which have molecular recognition ability
Prof. Dr.Eng.	HATTA Shigemi	Civil Engineering	Hydraulics II, River and Water Resource Engineering, Information Processing	Hydrological Studies in Tarumae volcanic Area
Assoc Prof.	HIGASHI Toshifumi	Humanities and Social Sciences	English	Semantics and Pragmatics of English
Prof. Dr.Eng.	HIRANO Hiroto	Applied Chemistry and Biochemistry	Chemical Engineering I・II, Chemical Reaction Engineering	Development of high efficient separation unit by use of inclined continuous thickener
Prof. Dr.Eng.	HORI Katsuhiro	Electrical and Electronic Engineering	Control Engineering I・II, Robotics	Control of autonomous mobile robot
Assoc Prof.	HORI Toyohiko	Humanities and Social Sciences	English	Studies on the theory and Practice of the second language acquisition
Assoc Prof. Dr.Eng.	IKEDA Shin-ichi	Mechanical Engineering	Manufacturing Technology, Machine Design and Drawing I, Creative Engineering II	Cutting of titanium alloy
Prof. Dr.Eng.	INAGAWA Kiyoshi	Computer Science and Engineering	Electronic Engineering, Electronic Engineering II, Circuit Theory I, Creative Engineering II, Computer Engineering Laboratory, Computer Science and Engineering Laboratory II	Hardware Design, SAW Device Design
Sp.-Appt. Asst.Prof.	Ishikawa Ayumi	Humanities and Social Sciences	English, English Conversation, Intercultural Communication	American Literature
Assoc Prof. Dr.Eng.	ITO Yoshihiro	Electrical and Electronic Engineering	Electronic Circuit I, Electric and Electronic Measurement, Introduction to Electrical Engineering, Electromagnetic Wave Engineering, Optoelectronics	High speed camera
Prof. Dr.Agr.	IWANAMI Shunsuke	Applied Chemistry and Biochemistry	Technology of Applied Microbiology, Fermentation and zymurgy	Research on the food processing and environmental purification of biological function
Assoc Prof. Dr.Eng.	KASHIMURA Nao	Applied Chemistry and Biochemistry	Analytical Chemistry, Organic Chemistry, Physical Chemistry	Development of up-grading process of organic resources
Assoc Prof. D.Litt	KATAYAMA Fuyuki	Humanities and Social Sciences	Japanese	The study of classical Japanese literature
Prof. Dr.Eng.	KATO Hatsuyoshi	Natural and Physical Science	Introduction to Physics, Physics, History of Science, Statistical Physics	Waves in layered structures
Prof. Dr.Eng.	KIKUTA Kazushige	Mechanical Engineering	Engineering Thermodynamics, Thermal Science and Engineering, Machine Design and Drawing II, Advanced Lecture on Environmental Engineering for Cold Region	Thermal energy conversion
Assoc Prof. Dr.Eng.	KONDO Takashi	Civil Engineering	Civil Engineering Materials I・II, Practice on Surveying II, Highway Engineering	Study on pavement for cold region

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Position	In alphabetical order	Division	The main subjects in its duty	The main research themes
Assoc Prof. Dr.Sci	KONNO Kohkichi	Natural and Physical Science	Mathematics	Gravity theory, Astrophysics
Prof. Ph. D. Sci.	KONO Hiroyuki	Applied Chemistry and Biochemistry	Physical Chemistry, Bioresource Chemistry	Synthesis and Application of functional polysaccharides
Assoc Prof. Dr.Eng.	KOYABU Eitaro	Mechanical Engineering	Fluid Mechanics I , Computational Mechanics, Creative Engineering I · II , Machine Design and Drawing V	Analysis of flow over a turbine blade surface and the high-efficiency of fluid machinery
Assoc Prof. Dr.Eng.	KUDO Akihiro	Electrical and Electronic Engineering	Electronic Circuit II , Digital Circuits	Binaural sound synthesis
Prof. P.E.jp.	KURIYAMA Masaki	Civil Engineering	Hydraulics I , Environmental Engineering, Sanitary Engineering, Construction Management	Reduction & Recycle of sludge
Prof.	MATSUDA Kanaho	Humanities and Social Sciences	English	American Literature
Assoc Prof. Dr.Eng.	MATSUO Yuko	Civil Engineering	Structural Mechanics I , Bridge Engineering, Seismic Engineering	Study on vibration characteristics of structures
Assoc Prof. Dr.Info Sci	MIKAMI Tsuyoshi	Computer Science and Engineering	Creative Engineering II , Creative Engineering III, Knowledge Engineering, Computer Science and Engineering Laboratory II , Computer Engineering Laboratory, Creative Engineering	Biosignal Analysis, Pattern Recognition
Prof.	MIKAWA Yoshinori	Computer Science and Engineering	Introduction to Information Technology, Database	Information Education, Database Systems
Prof. Dr.Eng.	MITOH Ayumi	Mechanical Engineering	Fluid Mechanic II , Instrumentation Engineering, Engineering Mechanics II , Fluid Dynamics	Artificial organ
Prof. Dr.Eng.	MURAMOTO Mitsuru	Natural and Physical Science	Mathematics, Creative Engineering I , Hardware System Design, Engineering Design	Electromagnetic Field Analysis, Science Education
Assoc Prof. Dr.Sci.	NAGASAWA Tomoaki	Natural and Physical Science	Applied physics, Physics	Elementary particle, Quantum mechanics
Prof.	NAKAJIMA Hiroki	Natural and Physical Science	Health, Physical Education	Studies on ice hockey
Prof. Dr.Eng.	NAKAMURA Tsuneo	Computer Science and Engineering	Programming I , Computer Graphics, Information Theory, Computer Science and Engineering Laboratory II , Computer Engineering Laboratory, Multimedia Engineering	Media Information Processing
Assoc Prof. Dr.Eng.	NAKAMURA Tsutomu	Civil Engineering	Geotechnical Engineering I , Surveying I , Civil Engineering Design & Drawing II , Practice on Surveying I	Properties of in-soil geogrid deformation
Assist Prof. Dr.Info Sci	NAKAMURA Yoshihiko	Computer Science and Engineering	Creative Engineering II, Creative Engineering III, Software Engineering II, Computer Science and Engineering Laboratory I , Computer Science and Engineering Laboratory II , Computer Engineering Laboratory	Medical Image Processing
Prof. Dr.Eng.	NAKANO Wataru	Natural and Physical Science	Applied mathematics, Mathematics	Nonlinear waves in stratified fluid
Prof. Dr.Eng. Professional	NASUNO Yutaka	Electrical and Electronic Engineering	Electrical Communication I · II , Advanced Engineering for Electric Circuit	Telecommunication traffic
Prof. Dr. Environmental Earth Science.	NIHASHI Sohey	Mechanical Engineering	Environmental Energy system, Numerical Calculation, Programming, Advanced Lecture on Energy Conversion, Earth environmental science	Ice-ocean system, Earth environment and energy
Assoc Prof.	NOGUCHI Tsutomu	Mechanical Engineering	Strength of Materials, Application of Mechanics of Materials	Prevention of slip and falls during a walk on icy road
Assoc Prof. Dr.Eng.	OHASHI Satoshi	Computer Science and Engineering	Creative Engineering I , System Software, Computer Engineering Laboratory, Computer Science and Engineering Laboratory I, Computer Science and Engineering Laboratory II	Medical Image Processing, Biological Analysis, Welfare Engineering
Assoc Prof. Dr.Eng.	OHNISHI Takaomi	Computer Science and Engineering	Logic Circuit I , Logic Circuit II , Signal Processing I , Computer Science and Engineering Laboratory I, Seminar of Computer Science	Integrated Experimental Environment
Prof.	OKIMOTO Masanori	Humanities and Social Sciences	English	Cognitive Studies on Embodiment, Human Body Projection, and Anthropomorphism
Assoc Prof.	OKUDA Yayoi	Applied Chemistry and Biochemistry	Analytical Chemistry II · III	Chemical characterization of cements and concretes
Assist Prof. Dr.Eng.	OKUYAMA Yui	Electrical and Electronic Engineering	Electromagnetics I , Medical and Welfare Advanced and Applied Technology	Research on discharge plasmas
Assoc Prof.	OSHIMA Kazuhiro	Applied Chemistry and Biochemistry	Instrumental analysis, Chemistry, Creative Engineering I , Safely Engineering of chemical Materials	Synthesis of new polysaccharide derivatives via "Click Chemistry"
Assoc Prof.	SAKASITA Toshihiko	Humanities and Social Sciences	History	Studies on the temples in villages at the end of the middle ages in Japan

Position	In alphabetical order	Division	The main subjects in its duty	The main research themes
Assoc Prof. Dr.Eng.	SASAKI Koji	Electrical and Electronic Engineering	Electromagnetics II , High Frequency Circuit, Signal Processing	Speech Signal Processing
Assoc Prof.	SASAKI Sai	Humanities and Social Sciences	Politics and Economics, Law, Japanese Society and Culture	International Family Law, International Property Law
Assoc Prof.	SATO Nanae	Humanities and Social Sciences	English, Intercultural Communication	EIL (English as an International Language)
Assoc Prof. Dr.Eng.	SATO Shin	Applied Chemistry and Biochemistry	Chemical Engineering, Quality Control	Development of new Taylor vortex mixer
Assoc Prof. Dr.Eng.	SAZAWA Masaki	Electrical and Electronic Engineering	Electrical Machinery and Apparatus I , Transmission Line Theory, Power Electronics, Applied Instrumentation Engineering	High speed positioning control Multi degrees of freedom control
Prof. Dr.Eng.	SHIMIZU Yuichi	Applied Chemistry and Biochemistry	Enzyme Chemistry, Genetic & Protein Engineering	Biosynthesis of bacterial cellulose
Prof. Dr.Eng.	SHITAMURA Mitsuhiro	Civil Engineering	Urban and Regional Planning, Infrastructure Planning, Transportation and Traffic Engineering, Landscape Engineering	Characteristics of journey-to-work travel behavior
Prof. Dr.Eng.	SUDA Takanori	Mechanical Engineering	Engineer's Ethics, Creative Engineering I Business I · II · III, Introduction to Mechanical Engineering	Management Engineering, Energy Material
Assoc Prof.	TADA Mitsuhiro	Humanities and Social Sciences	Ethics, Philosophy, Engineer's Ethics, Politics and Economics	Ethics of Schopenhauer, Bioethics
Prof.	TADENUMA Masami	Humanities and Social Sciences	Japanese	The study of modern Japanese literature
Lecturer	TAGA Ken	Natural and Physical Science	Health, Physical Education	Sports motion analysis, Sports coaching
Assoc Prof. Dr.Sci	TAKAHASHI Rohta	Natural and Physical Science	Applied mathematics, Mathematics	Astrophysics, Astronomy
Assoc Prof. Dr.Eng.	TAKAZAWA Kohji	Mechanical Engineering	Engineering Materials I · II, Machine Design and Drawing I, Information Technology, Creative Engineering I	Welding of dissimilar materials, Powder metallurgy
Assist Prof.	TANIGUCHI Yoko	Civil Engineering	Practice on Surveying I · II, Civil Engineering Laboratory II	Estimating the amount of water resources for future climate change
Prof. P.E.jp. (Mechanical)	TOMA Eiji	Mechanical Engineering	Production Engineering, Engineering Quality System, Strength of Materials III, Machine Design and Drawing II	Optimization study on design and development by "Taguchi method"
Assist Prof. Dr.Info Sci	TSUCHIYA Yoshio	Mechanical Engineering	Control Systems, Creative Engineering III	Human sensing, Robotics
Prof. Dr.Eng.	UEDA Shigeta	Electrical and Electronic Engineering	Electric Circuits I, Electrical Machinery and Apparatus II, System Engineering	Motor drive control, wind and PV power generation
Assoc Prof. Dr.Sci. & Eng.	UTSUNO Kuniharu	Applied Chemistry and Biochemistry	Biochemistry, Molecular Biology	The study of DNA higher order structure
Prof. Dr.Eng.	YAMADA Akihiro	Electrical and Electronic Engineering	Electronic Device, Semiconductor Engineering, Electrical and Electronic Engineering Materials, Advanced Engineering of Electronic Materials	Electric and magnetic properties of electrodeposited thin films
Prof.	YAMAGIWA Akitoshi	Humanities and Social Sciences	Japanese, Chinese	New Confucianism on the Song dynasty
Prof. Dr.Eng.	YAMASHITA Toru	Natural and Physical Science	Physics, English	Superconducting materials, Electronics materials
Prof. Dr.Eng.	YOSHIMURA Hitoshi	Computer Science and Engineering	Creative Engineering II, Operating System I, Control Engineering, Fundamentals of Embedded System, Industrial Engineering	Embedded Systems, Robotics
Assoc Prof. Dr.Eng.	WATANABE Akio	Civil Engineering	Surveying II · III, Practice on Surveying I, Civil Engineering Laboratory I	Material Science

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## ■ Division of Mechanical Engineering

- ▼ 3D cad Design Software Solid Works
- ▼ 3D Printer (STRATASYS Dimension Elite)
- ▼ Precision material-testing machine
- ▼ Universal material-testing machine (Hydraulic type)
- ▼ High speed camera
- ▼ Hydraulic experiment equipment
- ▼ Small channeling-back formula wind tunnel experiment equipment
- ▼ Centrifugal pump module
- ▼ Laser process machines
- ▼ CNC lathe
- ▼ 5-axis machining center
- ▼ Machining center
- ▼ Wire cut electrical discharge machining
- ▼ NC Milling machine
- ▼ FA control learning system
- ▼ Low-temperature wind tunnel experiment equipment (Community cooperative research center installation.)
- ▼ Evaluation system for fuel cell
- ▼ Spark plasma sintering machine
- ▼ Evaluation house for the energy system



▲ 3D Printer



▲ 5-axis machining center



▲ 3D cad design software



▲ FA control learning system

## ■ Division of Civil Engineering

- ▼ Hydraulics experimental system
- ▼ Dynamic loading apparatus
- ▼ Independent stress control testing apparatus
- ▼ Multipoint strain digital measurement system
- ▼ Universal testing machine, Compression & bending testing machine
- ▼ Shaking table apparatus
- ▼ Triaxial compression apparatus
- ▼ Wave flume with absorbing-type wave generator
- ▼ Measurement system of flow velocity (Laser-doppler velocimeter, Total station)
- ▼ Precision thermostatic oven
- ▼ Gyrotory compactor
- ▼ Asphalt pavement analyzer
- ▼ Air supply equipment (ESPEC ASE-200)
- ▼ Electric Muffle Furnace
- ▼ Center cross mixing
- ▼ Concrete specimen grinding machine
- ▼ Bench saw



▲ Civil Engineering Materials



▲ Hydraulics experimental



▲ Practice on Surveying



▲ Compressive strength test



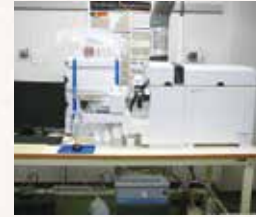
## ■ Division of Applied Chemistry and Biochemistry

### Laboratory Equipment and Research Facility

- ▼ Nuclear Magnetic Resonance Spectrometer
- ▼ ICP-Mass Spectrometer
- ▼ Atomic Absorption Spectrometer
- ▼ UV-VIS-NIR Spectrophotometer
- ▼ X-ray Diffractometer
- ▼ Scanning Electron Microscope
- ▼ Energy Dispersive X-ray Spectrometer
- ▼ Energy Dispersive X-ray Fluorescence Spectrometer
- ▼ Thermal Analysis Instrument
- ▼ Surface Area and Porosity Analyzer
- ▼ Dynamic Viscoelasticity Measuring Device
- ▼ Universal Testing Instrument
- ▼ Confocal Laser Scanning Micrometer
- ▼ Vacuum Freeze Drying Equipment



▲ Nuclear Magnetic Resonance Spectrometer



▲ ICP-Mass Spectrometer



▲ Surface Area and Porosity Analyzer



▲ Chemistry Laboratory

## ■ Division of Electrical and Electronic Engineering

- ▼ Experimental Equipment for Electromechanical System & Power Electronics
- ▼ Experimental Equipment for Power Semiconductor
- ▼ Experimental Equipment for Wind & Photovoltaic Power Generation
- ▼ The power Transmission System Simulator
- ▼ Experimental Equipment for Robot controller system
- ▼ High-deposition rate equipment and film thickness gauge monitor
- ▼ High Voltage Testing Generator Equipment
- ▼ High Vacuum Drift Tube Chamber Equipment
- ▼ Vacuum Coater Equipment
- ▼ High frequency magnetron sputtering system
- ▼ Vibrating Sample Magnetometer (VSM)
- ▼ Clean Bench
- ▼ Experiment Equipment for Parallel Computing



▲ The power Transmission Systems Simulator



▲ High frequency magnetron sputtering systems



▲ Experimental Equipment for Electromechanical Systems & Power Electronics



▲ High frequency magnetron sputtering systems

## ■ Division of Computer Science and Engineering

- ▼ Windows Servers
- ▼ PC-UNIX Servers
- ▼ Personal Computers
- ▼ Software for Computer Engineering Laboratory
- ▼ Arduino Leonard
- ▼ Raspberry Pi
- ▼ LEGO Mindstorms EV3
- ▼ H8 Microcomputer Boards
- ▼ RX62N Microcomputer Boards
- ▼ Programmable Logic Devices



▲ LEGO MINDSTORMS EV3



▲ PC-UNIX Servers



▲ Technology Education Computer Laboratory

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## Library and Information Center

Library and Information Center consists of two section, Library section (Library and Audio-Visual Room) and Information Processing section.

### Library

Library has 126 thousand Japanese and foreign books and 1.3 thousand kinds of art and scientific journals.

<Books>											2019.4.1
Classification	General	Philosophy	History	SocialScience	Natural Science	Technology	Industry	Art	Language	Literature	TOTAL
Japanese	7,652	5,053	6,211	10,297	23,953	35,381	1,187	3,227	4,713	15,923	113,597
Foreign	267	415	131	201	5,299	3,086	131	102	1,925	866	12,423
TOTAL	7,919	5,468	6,342	10,498	29,252	38,467	1,318	3,329	6,638	16,789	126,020

### <Periodicals>

Japanese	1,009	Foreign	311	TOTAL	1,320
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### Library Open to the Public

Library is available for the purpose of learning, research and study.

Everybody can use it by showing your identification to the staff.

Open time : Monday to Friday 8 : 30 ~ 20 : 00

Saturday 8 : 30 ~ 17 : 00 (Open during long vacations 8 : 30 ~ 17 : 00 Closed on Saturday)

### Audio-Visual Room

The Audio-Visual Room has a large screen, a projector, a speaker, a piano and CD/LD/DVD devices and 47 computers.

### Information Processing Section

The information processing section is inaugurated, as an institute to contribute for use in information processing education and in educational research of the faculty. And it has played the role of practical use and management of campus network system and educational electronic computer system.

### Educational Electronic Computer System

The educational electronic computer system consists of 150 computers, using Windows as operating system, which are placed in CAI room, practice room and terminal room. They are based on high-performance educational servers and file servers for client PC. And the internet can be utilized in the practice room, and terminal room.

Open time : Monday to Friday 8 : 30 ~ 20 : 00

Saturday 8 : 30 ~ 17 : 00 (Open during long vacations 8 : 30 ~ 17 : 00 Closed on Saturday)

### Campus Network System

Campus network system consists of client PC in the headquarters and teachers' the room connected to campus facilities by a Layer3 Switch. Connected to Science Information Network (SINET) via exclusive circuits, it widely enables domestic and international exchange of information via E-mail and the internet.

## Career Education Center

Since 2013, the Career Education Center has been established for the purpose of supporting students who try to design their career direction after graduation and preparing to achieve their career goal. In addition to current job hunting and educational advancement support, it also conducts more organized and systematic career education from lower grades in Tomakomai College.

### The Center serves the followings

- Daily counseling for career design
- Fostering of students' career awareness
- Planning and conducting career education programs
- Supporting students' search for employment and higher education availability



## Community Cooperative Research Center

The Community Cooperative Research Center (CCRC) was established in order to enrich the research activity and the lifelong learning environment in the close cooperation between our college and the local industry, and to support the engineering education.

CCRC is equipped with various experimental devices. With this equipment, CCRC conducts cooperative research, technology development, and material testing/analysis with companies and institutions.

CCRC contributes to local communities through visiting elementary and junior high schools to give science demonstrations. Public lectures and scientific experiment events have also been held.

### ■ Collaboration

#### Collaborative research

We carry out this research with staffs or financial aid from the private enterprises.

#### Requested research

We carry out this research at the request of private enterprises.

#### Requested material study

We carry out this study at the request of private enterprises by utilizing the experimental devices in this center.



▲ Community Cooperative Research Center

### ■ Consultation for the development of technology

The Community Cooperative Research Center (CCRC) deals with the requests of research from the local industrial world, and also answer questions about collaborative research, accepted research, accepted material study, and external financial aid.

### ■ Extension courses

We offer extension courses for elementary and junior high school students in and around Tomakomai City.



▲ Extension courses



▲ Extension courses



▲ Extension courses

## Technical Education Support Center

Technical Education Support Center is in charge of various technical supports for students' experiment and training as well as faculty research. It also conducts extension lectures and visiting lessons as regional cooperation activities. Technicians in the center actively participate in technical training seminars and improve their own skills through such staff development.

### ■ Technical education support

Experiment / Practice

Research support

### ■ Facility management

Library & Information Center

Machine Practice Workshop

Laboratory equipment in each department

### ■ Regional cooperation

Extension lectures

• Let's make comma-shaped gem !

Science fair for kids

• Let's make paper-based LED light !

Visiting lessons

• Let's make super-bouncy ball !



▲ Welding



▲ Lathe manufacturing



▲ Let's make paper-based LED light !



▲ Let's make super-bouncy ball !



▲ Let's make comma-shaped gem !

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## Welfare Facilities

### Houshou Hall

Houshou Hall was established for the purpose of enhancing the welfare of students, teachers and staff, and enriching the students' extracurricular activities.



▲Welfare Facilities (Houshou Hall)



▲Infirmary



▲Infirmary



▲Cafeteria



▲Cafeteria



▲Shop

## Dormitories

### Dormitories

Tomakomai College has two dormitories named Somei-Ryo (for male students) and Fuka-Ryo (for female students) .



▲Dormitory



▲Private room



▲Private room

### Number of Dormitory Residents

As of April 3, 2019

	Mechanical Engineering / class1			Civil Engineering / class2			Applied Chemistry and Biochemistry / class3			Electrical and Electronic Engineering / class4			Computer Science and Engineering / class5			Total		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1st year	14	11	3	13	10	3	13	10	3	12	11	1	17	16	1	69	58	11
2nd year	18	17	1	25	21	4	12	11	1	16	14	2	14	12	2	85	75	10
3rd year	12	11	1	① 12	① 8	4	① 9	① 6	3	12	12	0	① 12	① 10	2	③ 57	③ 47	10
4th year	14	13	1	① 15	① 13	2	① 18	12	6	6	5	1	① 10	① 8	2	③ 63	② 51	① 12
5th year	① 11	① 10	1	① 13	① 11	2	13	8	5	12	11	1	① 16	① 15	1	③ 65	③ 55	10
Total	① 69	① 62	7	③ 78	③ 63	15	② 65	① 47	① 18	58	53	5	③ 69	③ 61	8	⑨ 339	⑧ 286	① 53

○ : Foreign Student

## Present Number of Students

As of April 1, 2019

Department	Admission Capacity	1st year	Division	2nd year	3rd year	4th year	5th year	Total
Engineering for Innovation	200	Class 1 41 (33,8)	Mechanical Engineering	43 (39,4)	43 (40,3)	43 (36,7)	—	797 (642,155) ⑥
		Class 2 40 (32,8)	Civil Engineering	43 (34,9)	44 (30,14) ①	45 (36,9) ①	—	
		Class 3 40 (32,8)	Applied Chemistry and Biochemistry	40 (28,12)	34 (25,9) ①	40 (26,14) ①	—	
		Class 4 40 (32,8)	Electrical and Electronic Engineering	34 (30,4)	46 (39,7)	30 (27,3)	—	
		Class 5 40 (32,8)	Computer Science and Engineering	38 (32,6)	35 (27,8) ①	38 (32,6) ①	—	
Mechanical Engineering	40	—		—	—	—	35 (32,3) ①	35 (32,3) ①
Civil Engineering	40	—		—	—	—	41 (34,7) ②	41 (34,7) ②
Science and Engineering for Materials	40	—		—	—	—	33 (19,14)	33 (19,14)
Electrical and Electronic Engineering	40	—		—	—	—	33 (29,4)	33 (29,4)
Computer Science and Engineering	40	—		—	—	—	40 (37,3) ①	40 (37,3) ①
Total	200	201 (161,40)		198 (163,35)	202 (161,41) ③	196 (157,39) ③	182 (151,31) ④	979 (833,146) ⑩

## Advanced Engineering Courses

Courses	1st year	2nd year	Total
Electronics and Production Systems Engineering Course	13 (13,0)	15 (15,0)	28 (28,0)
Environmental System Engineering Course	13 (10,3)	10 (10,0)	23 (20,3)
Total	26 (23,3)	25 (25,0)	51 (48,3)

※ (male, female), ○ : Foreign Student

## Students Home Background

Iburi	Hidaka	Ishikari	Sorachi	Shiribeshi	Oshima	Hiyama
366	40	457	44	48	1	0
Kamikawa	Rumoi	Souya	Okhotsk	Tokachi	Kushiro	Nemuro
2	1	1	1	4	1	0

Inside Hokkaido 966

Outside Hokkaido 3 (Kanagawa (2), Saitama (1))

Overseas 10 (Malaysia (4), Mongolia (5), Laos (1))

Total 979



## Applicants

	Engineering for Innovation	Mechanical Engineering	Electrical and Electronic Engineering	Computer Science and Engineering	Science and Engineering for Materials	Civil Engineering	Total
2011	-	52	69	62	51	46	280
2012	-	101	65	65	66	64	361
2013	-	59	36	73	61	73	302
2014	-	84	69	78	80	79	390
2015	-	73	76	94	58	59	360
2016	330	-	-	-	-	-	330
2017	321	-	-	-	-	-	321
2018	423	-	-	-	-	-	423
2019	411	-	-	-	-	-	411

## Scholarship Students

	Japan Student Service Organization	Other Scholarship Grantees	Percentage of Scholarship antees
2011	160	18	16.5%
2012	157	33	17.8%
2013	136	21	14.8%
2014	120	26	13.9%
2015	109	27	13.1%
2016	102	40	13.6%
2017	91	50	13.5%
2018	79	61	13.6%

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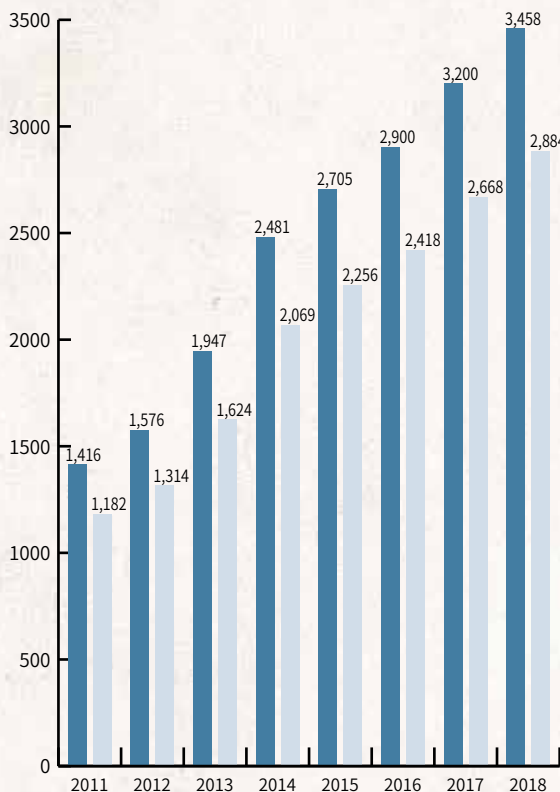
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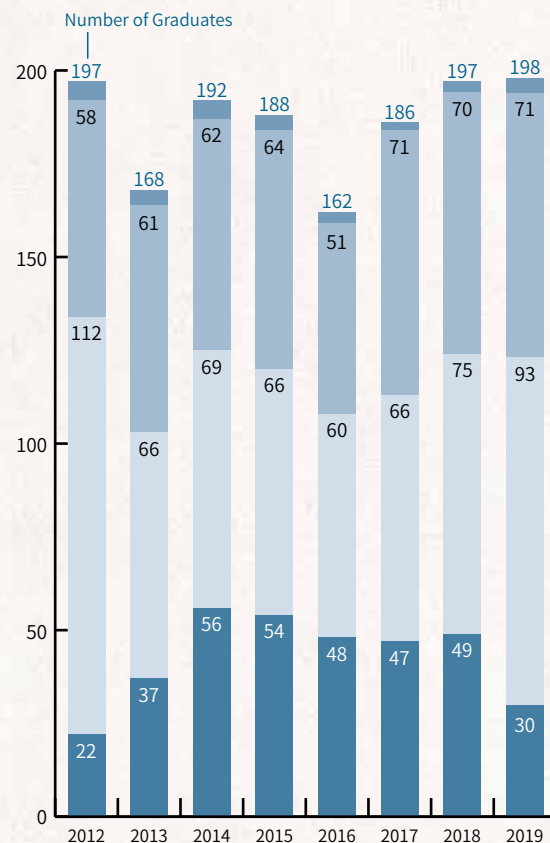
### Job Offers

Job Offers  
Job Offer Companies



### Career Choice

Number of those who find employment in Hokkaido  
Number of those who find employment outside Hokkaido  
Going on to Universities  
others



### List of Employment

	Company
Mechanical Engineering	ANA Engine Technics CO.,LTD / ANA Base Maintenance Technics Co.,LTD / ANA Line Maintenance Technics Co.,LTD / SUBARU TECHNO CORPORATION / Olympus Corporation / Calbee, Inc. / Kirin Holdings Company.Limited. / SUNTORY HOLDINGS LIMITED. / SUNTORY HOLDINGS LIMITED. / Sony Storage Media Manufacturing Corporation / PERSOL RESEARCH & DEVELOPMENT CO., LTD. / Panasonic Corporation / FANUC CORPORATION / Asahi Kasei Corporation. / EBARA CORPORATION. / Hitachi Power Solutions Co.,Ltd. / Fueling Facilities Co., Ltd. / OSAKA GAS CO.,LTD / J-POWER / NATIONAL PRINTING BUREAU. / NIKKEI HOKKAIDO Co.,Ltd / NIPPON STEEL TEXENG.CO.,LTD. / Japan Freight Railway Company. / JATEC Co.,Ltd. / Japan Nuclear Fuel Limited. / Hitachi High-Tech Fielding Corporation. / HOKKAIDO AIR WATER INC.
Electrical and Electronic Engineering	JX Engineering Corporation / KDDI CORPORATION / Idemitsu Kosan Co.,Ltd. / Canon Marketing Japan Inc. / KONICA MINOLTA JAPAN, INC. / DAIKIN INDUSTRIES, LTD., / CHUBU Electric Power Co.,Inc. / Japan Electric Meters Inspection Corporation / FUJITSU LIMITED / FUJITEC CO., LTD. / Hokkai Electrical Construction Co., Inc. / MARUMO ELECTRIC CO.,LTD. / MITSUBISHI ELECTRIC BUILDING TECHNO-SERVICE CO.,LTD. / UNITIKA LTD. / NHK Technologies, Inc. / NTT FACILITIES. / Tamadic Co., Ltd. / TSUKEN Co.,Ltd. / DOCOMO CS Hokkaido INC. / Hitachi High-Tech Fielding Corporation. / Hitachi Power Solutions Co.,Ltd. / YASKAWA ELECTRIC CORPORATION. / Hokkaido Electric Power Co., Inc.
Computer Science and Engineering	NTT Com Solutions Corporation / NTT East Corporation / Advanced Planning Corporation / WELLNET CORPORATION(2) / NlandC NETSYSTEM Inc. / Canon System & Support Inc.(2) / Canon Inc. / Qualysite Technologies Inc. / Sony Engineering Corporation. / Computer Institute of Japan, Ltd. / DNP Digital Solutions Co., Ltd. / JAL Engineering Co., Ltd. / NTT DATA MSE CORPORATION. / NTT DATA FRONTIER CORPORATION. / J-MAC SYSTEM, Inc. / SAISON INFORMATION SYSTEMS CO.,LTD. / TECHNO LABO Co.,Ltd. / HIMACS, Ltd. / Central Japan Railway Company / NIPPON STEEL TEXENG.CO.,LTD. / JATEC Co.,Ltd. / FUJITSU LIMITED
Science and Engineering for Materials	DIC CORPORATION / JSR Corporation / Kirin Holdings Company, Limited. / SUNTORY HOLDINGS LIMITED / NIPRO CORPORATION / Mebius Packaging Co.,Ltd. / Lion Corporation. / Foundation for Promotion of Material Science and Technology of Japan / Japan Blood Products Organization / Oji Paper Co. / Kao Corporation.(2) / MITSUBI CHEMICAL ANALYSIS & CONSULTING SERVICE / Otsuka Pharmaceutical Factory, Inc. / Mitsui Chemicals, Inc. / SANYOKASEI CO.,LTD. / SIBATA SCIENTIFIC TECHNOLOGY LTD / Idemitsu Kosan Co.,Ltd.(2) / Dainichiseika Color & Chemicals Mfg.Co.,Ltd. / DKS Co. Ltd. / DAIICHI SANKYO CHEMICAL PHARMA CO., LTD. / TORAY INDUSTRIES, INC. / TOHO Chemical Industry Co.,Ltd. / TOYO INK SC HOLDINGS CO., LTD. / NITTO DENKO CORPORATION. / NIPPON SHOKUBAI CO., LTD.
Civil Engineering	Itogumi Construction Co., LTD. / NTT InfraNet(2) / PENTA-OCEAN CONSTRUCTION CO., LTD.(2) / Showa Shell Sekiyu K.K. / Dai Nippon Construction / Tokyu Construction. / TODA CORPORATION(2) / Naigai Engineering Hokkaido Co., Ltd. / NITTOCO Co., Ltd. / East Nippon Expressway Company Limited / East Japan Railway Company / Civitec co.Ltd., / ZENITAKA CORPORATION / Nexco-Engineering Hokkaido Company Limited / Aqua Technology Engineering Consultants Corporation. / Yokogawa System Buildings Corp. / Central Japan Railway Company
Electronics and Production Systems Engineering Course	Canon System & Support Inc. / GREE, Inc. / Komatsu Ltd. / Sony Engineering Corporation. / Panasonic Corporation / FUJITEC CO., LTD. / Yahoo Japan Corporation. / GLOBIS CORPORATION / DYNAX Corporation / MAKINO MACHINE CO.,LTD / Mitsubishi Electric Plant Engineering Corporation / Fuji Electric Co., Ltd. /
Environmental System Engineering Course	Asahi Kasei Corporation. / Idemitsu Kosan Co.,Ltd. / Oji Paper Co. / Kao Corporation. / Tokai Trading Co., Ltd. / Hokkaido Sumiden Precision Co, Ltd.



## ■ Admission into Higher Schools

Universities	2013	2014	2015	2016	2017	2018	2019	TOTAL
Hokkaido University	3	3	3	5	6	2	4	153
Hokkaido University of Education			1					12
Muroran Institute of Technology	7	3	7	6	12	14	9	280
Otaru University of Commerce				1				3
Obihiro University of Agriculture and Veterinary Medicine		2	1			1	1	17
Kitami Institute of Technology					1	1	3	67
Hirosaki University			1				1	8
Iwate University	1			1		1	1	36
Tohoku University		1						12
Akita University					1		1	11
Yamagata University								5
Ibaraki University	1			2				13
University of Tsukuba		1	1					12
Gunma University								4
Chiba University	2	2	2		1	1	2	28
University of Tokyo							1	6
Tokyo University of Agriculture and Technology				2			1	16
Tokyo Institute of Technology	1							17
National University of Electro-Communications					1			11
Niigata University		1			2	1	1	16
Nagaoka University of Technology	6	13	12	9	8	6	12	238
Kanazawa University	1		1	2	1		1	12
Shinshu University	1	1	1	1				24
Gifu University								7
Shizuoka University								4
Toyohashi University of Technology	4	5	2	4	5	9	5	165
Mie University								2
Kyoto University								3
Osaka University								1
Kobe University								4
Other Public Universities	1				1	3	1 (Sapporo City 1)	13
Other Private Universities	2	3	1			1		37
Other Universities	4	5	2	2	9	4	1 (Kagawa 1)	63
Utsunomiya, Saitama, Tokyo foreign country, Tokyo industrial textile, Tokyo city, Yokohama national, Fukui, Yamanashi, Nagoya, Kyoto industrial textile, Okayama, Hiroshima, Yamaguchi, Kagawa, Kyushu, Kyushu industrial, Saga, Kumamoto etc.								
Advanced Engineering Courses of Tomakomai College	27	21	29	16	23	26	26	412
Advanced Engineering Courses of other College		1						23
Total	61	62	64	51	71	70	71	1735

## ■ Admission into Higher Schools by Departments

Department	2013	2014	2015	2016	2017	2018	2019
Mechanical Engineering	13	15	16	13	18	11	11
Electrical and Electronic Engineering	10	13	10	10	16	12	16
Computer Science and Engineering	9	8	7	10	10	18	10
Science and Engineering for Materials	15	11	16	11	14	14	13
Civil Engineering	14	15	15	7	13	15	21
Total	61	62	64	51	71	70	71

## ■ Admission into Graduate School

University	2013	2014	2015	2016	2017	2018	2019	TOTAL
Hokkaido University	3	1	2	3	4	1	3	41
Muroran Institute of Technology		1						6
Tohoku University								1
Nagaoka University of Technology		1	3		2	2	2	14
University of Tokyo								2
Tokyo Medical and Dental University								1
National University of Electro-Communications								1
Other Universities		3	4			1	1 (Yamanashi)	17
Yamanashi, Shinshu, Nagoya Industry, Kobe, Hiroshima, Hokuriku Advanced Science and Technology, Nara Advanced Science and Technology, etc.								
Total	3	6	9	3	6	4	6	83

## ■ Admission into Graduate School by Advanced Courses

Courses	2013	2014	2015	2016	2017	2018	2019
Electronics and Production Systems Engineering Course	1	2	6		3	2	4
Environmental System Engineering Course	2	4	3	3	3	2	2
Total	3	6	9	3	6	4	6

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In order to perform a role as an institution of higher education open to local communities, we offer opportunities for lifelong education to the local residents. We currently visit local schools and hold public lectures and scientific events. In recent years, local industries have asked us for our professional assistance to solve various problems. To fulfill this requirement, the Community Cooperative Research Center provides consultation for technological development at local firms and institutions.

## The Association for Tomakomai College

The Association for Tomakomai College was founded in April 1993, for the purpose of forming a close relationship between local industries and our college, promoting our educational and research activities, and contributing to the progress of the community through the assistance for the technological development and the reeducation of engineers of the local industries. Tomakomai Chamber of Commerce and Industry is the liaison office for this association. Currently, about 170 firms in Tomakomai and the neighboring areas hold the membership.

In recent years, the Association have held regular general meetings and job fairs to encourage students to find employment in and around Tomakomai.

The Association has also provided our college with financial support for our education and research.

## C-base: Technology Management Consulting Desk

We established C-Base at Tomakomai Economic Center Building on October 12th, 2018. C-base is a satellite office of Tomakomai KOSEN, which provides local companies with consultation about technology management. Tomakomai city office, Tomakomai Chamber of Commerce and C-base organize a team to help solve the business problems.

# 15 Facilities

## Site

Total Area	Detail	
133,251㎡	College Buildings and Dormitory	127,758㎡
	Faculty Residence	5,493㎡
	Total	133,251㎡

## Buildings

Classification	Name	Structure	Floor Space	Total Floor Space
College Buildings	Building A (Classroom Building)	R-3	970	2,868
	Building B (Administration Building)	R-3	704	1,261
	Building C (Electrical Building)	R-3	792	1,856
	Building D (Mechanical Building)	R-3	556	1,668
	Building E (Machine Practical Workshop)	S-1	702	702
	Building F (Science and Engineering for Materials Building)	R-3	532	1,596
	Building G (Civil Building)	R-3	805	2,367
	Building H (Computer Science and Engineering Building)	R-4	584	2,204
	Building I (Science and Engineering for Materials Laboratory)	R-3	256	519
	Building J (Advanced Engineering Courses)	R-4	316	1,271
	Rainfall Simulator	S-1	49	49
	Subtotal		6,266	16,361
	Administrative Storehouse	S-1	79	79
	Mechanical Engineering Storehouse	B-1	20	20
	Chemical and Pharmaceutical Storehouse	B-1	30	20
	Chemical and Pharmaceutical Storehouse	B-1	20	30
	Garage	R-1	101	101
	Bus Garage	R-1	78	77
	Boiler and Machine Room	R-1,B-1	324	339
	Receiving tank Installation Room	S-1	38	37
	Others		25	25
	Subtotal		715	728
	Library	R-2	1,224	1,600
	Information Processing Section	R-1	300	300
	Community Cooperative Research Center	R-2	220	416
	Subtotal		1,744	2,316
College Buildings	1st Gymnasium	S-1,R-1	998	995
	2nd Gymnasium	S-1,R-1	902	879
	Judo & Kendo Hall	S-1,B-1	277	277
	Judo & Kendo Hall Storehouse		38	38
	Connecting Corridor	B-1	44	44
	Ice Hockey Rink	R-1	1,947	1,947
	Ice Hockey Rink Storehouse	S-1	26	26
	Ice Hockey Rink Locker Room	R-1	63	63
	Archery Range	B-1	43	43
	Subtotal		4,338	4,312
	Welfare Facilities	R-2	467	903
	Facilities for Club Activities	B-1,S-1	242	242
	Subtotal		709	1,145
Dormitories	Dormitory Administrative Building	R-1	1,324	1,324
	1st Dormitory	R-3	368	1,104
	2nd Dormitory	R-4	448	1,792
	3rd Dormitory	R-3	393	1,179
	4th Dormitory	R-3	339	999
	Women's Dormitory	R-3	490	1,132
	Self-study Building	S-1	117	117
	Connecting Corridor	B-1,R-1	165	165
	Subtotal		3,644	7,812
	total		17,416	32,674



- 1 Building A (Classroom Building)
- 2 Building B (Administration Building)
- 3 Building C (Electrical Building)
- 4 Building D (Mechanical Building)
- 5 Building E (Mechine Practical Workshop)
- 6 Building F (Science and Engineering for Materials Building)
- 7 Building G (Civil Building)
- 8 Building H (Computer Science and Engineering Building)
- 9 Building I (Science and Engineering for Materials Laboratory)
- 10 Building J (Advanced Engineering Courses)
- 11 Boiler Room and Machine Room
- 12 Library and Information Center (Library)
- 13 Library and Information Center (Information Processing Section)
- 14 Community Cooperative Research Center
- 15 Career Education Center
- 16 Support Center (for Engineering and Education)
- 17 Rain Fall Simulator
- 18 Facilities for Club Activities

- 19 1st Gymnasium
- 20 2nd Gymnasium
- 21 Judo & Kendo Hall
- 22 Club Room
- 23 Club Room
- 24 Ice Hockey Rink
- 25 Archery Court
- 26 Welfare Facilities
- 27 Garage
- 28 Bus Garage
- 29 Dormitory Administrative Building
- 30 Dormitory Kitchen and Cafeteria
- 31 1st Dormitory
- 32 2nd Dormitory
- 33 3rd Dormitory
- 34 4th Dormitory
- 35 Women's Dormitory



## Transportation

- By Bus : Take the Nishikioka line bus (No.17) from JR Tomakomai Station (Bus Station) and get off at Kougyoukousen-mae. (about 40 min.)
- By Taxi : Take a taxi from JR Tomakomai Station  
It takes about 20 min. (about 2,500yen)
- By Car : It takes about 3 min from Tomakomai-Nishi Interchange

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