

KURE NATIONAL COLLEGE OF TECHNOLOGY



Mechanical Engineering

Electrical Engineering and Information Science

Civil and Environmental Engineering

Architecture and Structural Engineering

About KNCT

Kure National College of Technology

Kure National College of Technology, one of 55 colleges of technology in Japan, was established in 1964. Colleges of technology differ from other higher educational institutions such as high schools and universities: they administer a 5-year comprehensive education program to foster engineers with practical skills.

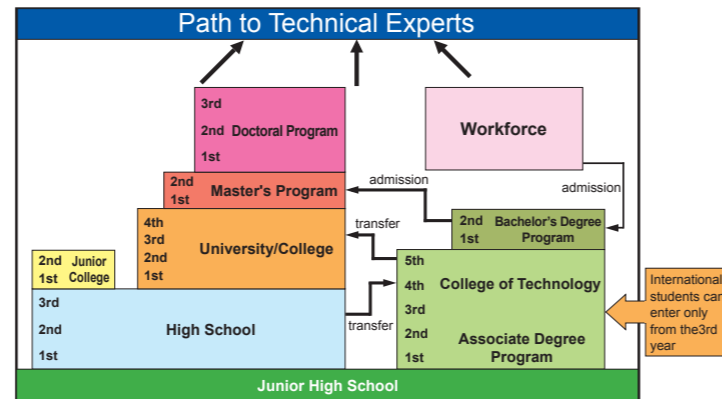
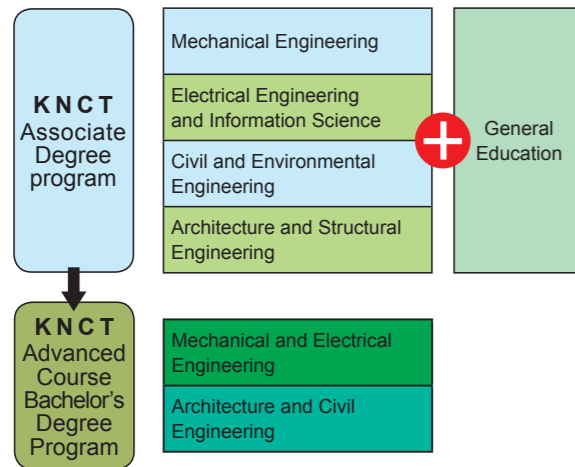
KNCT's 5-year Associate Degree Program comprises four departments: Mechanical Engineering, Electrical Engineering and Information Science, Civil and Environmental Engineering, and Architecture and Structural Engineering. In addition, KNCT offers a 2-year Bachelor's Degree Program with two departments: Mechanical and Electrical Engineering, and Architecture and Civil Engineering.

In the Associate Degree Program, about 200 students—from 1st year to 5th year—are studying in each department: KNCT's enrollment is about 850 students. In the Bachelor's Degree Program, which has about 50 students, 20-30 students are enrolled in each department.

Our faculty consists of 22 Professors, 22 Associate Professors, 11 Lecturers, 5 Assistant Professors, and 1 Assistant. They conduct their own research activities. Most are experts with a doctor's degree.

Associate Degree Program

In our 5-year associate degree program, we aim at well-rounded development of human resources, balancing needs for general education such as math, English, and Japanese with specialized subjects. We emphasize laboratory training in specialized subjects to provide students with specialized know-how and skills that are equivalent to the four-year university level. Students work on graduation research to improve their practical ability to become independent as engineers, and some research efforts have been presented at conferences. Students graduating from this program are awarded an "Associate Degree".



International students can enter colleges of technology only from the third year of the course or thereafter. At present, all international students are sponsored by the Japanese government (the Japanese Government Scholarship Program) or their own local governments.

Advanced Course (Bachelor's Degree Program)

Students of the Advanced Course (Bachelor's Degree Program) for two years after completing our 5-year program, study advanced and specialized subjects that conform to the criteria of Japan Accreditation Board for Engineering Education (JABEE). They can obtain a Bachelor's degree in engineering by obtaining the required advanced engineering credits and passing the examination held by the National Institution for Academic Degrees. Graduates of this course are also qualified to apply for admission to university graduate schools.

KNCT Features

University level engineering education

The KNCT educational program is of an international standard.

The 5-7 year consecutive curriculum

KNCT offers an early start in specialized programs.

Good quality programs for a bachelor's degree

Completing our two-year advanced course is equivalent to graduating from a four-year college.

Good employment opportunities

All graduates become employed or proceed to advanced education immediately after graduation.

Favorable access to prestigious universities

Most of those who proceed to advanced education transfer to Japanese national universities.

Wide range of equipment

Each department has widely various laboratory equipment. Information facilities and sport facilities of several kinds are also situated on campus.



Our campus, approximately 100,000m², is equipped with academic facilities including workshop buildings for practical training, a computer room, and a library. The total stock of the library is now over 70,000 books and is open to the people in the neighboring communities. We have sporting facilities, such as two gymnasiums, a martial arts hall, a swimming pool, an athletic sports ground, a baseball/soccer field, and 7 tennis courts. Our dormitory on campus consists of 6 buildings. Foreign students are required to live under the dormitory rules, but they are permitted to cook their own meals because of their different customs and religious reasons. In addition to these facilities, we have a welfare service building in which are a cafeteria, a stationary shop, a barber, a lounge, study and training rooms, and Japanese style rooms.

International Exchange

- Maui Community College (Hawaii, USA)
- Tomsk Polytechnic University (Tomsk, Russia)
- Dongeui Institute of Technology (Pusan, Korea)
- Northwestern Polytechnical University (Xi'an, China)

Maui Community College

KNCT faculty members and selected students visit Maui Community College (MCC) every year to enhance mutual understanding between the two colleges. Our students participate in Japanese language classes held at MCC, and both KNCT and MCC students practice speaking English and Japanese in turn, making the most of the opportunity. During the visit, MCC students host our students and spend most of their time together. MCC faculty members and students visited Kure in 2006 as well.



Tomsk Polytechnic University

KNCT concluded an Agreement of Cooperation in Education and Research with Tomsk Polytechnic University (TPU) in 2007 to promote mutual visits by students and faculty not only for special research, but also for cultural exchange in the future. Two researchers from TPU visited KNCT to create English teaching materials for radiation-related physics in September 2008.



Mechanical Engineering



The objectives of the Department of Mechanical Engineering are to train mechanical engineers who can deal with industries of various kinds, with ambition to contribute to the progress of society as well as to achieve their own dreams.

Students in the lower grades are required to pursue fundamental education related to machinery, although students in the upper grades study specialized subjects to obtain new technology such as information processing, robot control, and computer aided design (CAD). We also offer many creative subjects to foster students' ability to think for themselves. Our consecutive curriculum from the 4th year through the advanced course meets the international standard. It is also accredited by the Japan Accreditation Board for Engineering Education (JABEE).



Electrical Engineering and Information Science



Since recent industrial innovations have been developed by technological integration of electrical information and its related engineering fields, expectations are running high for engineers with technical abilities not only of electrical engineering but also with abilities related to information sciences. From the fourth grade, Energy Control Course and Information Communication Course are provided to nurture engineers with the capability in research and development skills through lectures of special subjects, advanced exercises, and a graduation thesis.

Graduates will progress to the widely opened hardware and software fields of information and communication engineering as well as conventional electrical engineering fields.



Active discussion

Experiment in well-equipped facilities



URSI Conference in Boulder, Colorado, USA

ISAP in Singapore

ROBOCON

Robot Contest of Colleges of Technology

Students of colleges of technology across the country compete with ideas and technology on given issues. This nationwide educational event allows students to experience the fascination of designing and building a robot by themselves, and to realize the importance of expressing ideas as well as the joy of creating something.



Advanced Course of Mechanical and Electrical Engineering

This course offers two educational programs: "Mechanical Engineering" and "Electrical Engineering and Information Science". The course is aimed at fostering creative engineers and enhancing their ability to research and develop designing process and control systems related to mechanical and electrical assembly equipment, which are produced using technological and professional skills related to robotics and mechatronics.

Examples of subjects:

Vibration Engineering, Heat Transfer, Computational Thermo-Fluid Dynamics, Tribo-Design Engineering, Machine Elements, Introduction for Medical Engineering, Motor Electronics, millimeter-Wave Engineering, Plasma Science, Electromagnetic Wave System Engineering, Quantum Engineering

Electrical Engineering



Meet Our Teacher

Dr. Toshihiko Yoshimura
Professor, Dept. of Mechanical Engineering

"I teach classes such as Materials, Advanced Materials, and Instrumentation Technology in the associate degree program. I am also in charge of Laboratory Work to conduct hardness tests and microstructural observations, in addition to Machine Design and Drafting using 3D-CAD. In the Bachelor's Degree Program, I teach a Nanotechnology course in which students study about analyses and nanometer-scale processing. My research themes include "development of carbon nanomaterial and nano-level evaluation", "development of water jet peening in air", and the "study of ballast water purification using water jet cavitations and steam condensation cavitations". I enjoy working on these projects with the 5th year students and the advanced course students in my lab."



Meet Our Teacher

Dr. Futoshi Kuroki
Professor, Dept. of Electrical Engineering and Information Science

Dr. Kuroki is an internationally recognized expert in the field of millimeter-wave engineering. He has applied for more than 40 patents and has authored 15 books and over 350 technical publications including international conference proceedings.

Students in his advanced electromagnetic systems laboratory are given no holiday. They spend more than 50 hours each week on their studies. Through the research program, they will be able to master the necessary skills to design and develop electromagnetic circuits using CAD-based simulator tools and fabrication process together with experimental equipment. They must present the progress of their research activities every week in Japanese and English to make presentations at national meetings and international conferences of several kinds. Some students were awarded outstanding prizes such as the Best Paper Presentation Prize in 1995 from the IEE, Japan, the Young Researchers' Award in 1998 and 2002, the Electronics Society Student Award in 2007 from the IEICE, Japan, and the Best Paper Award in 2008 from the China Japan Microwave Conference.

Presentations by students in international conferences



Yusaku Kobayashi
5th year student, Electrical Engineering and Information Science major

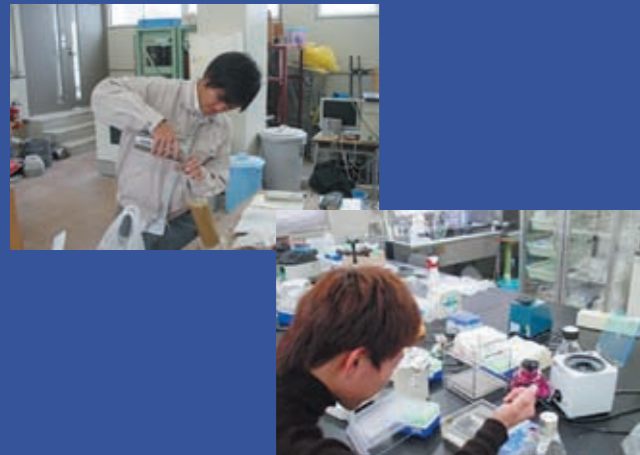
Student's Voice

"KNCT has distinctive characteristics. People of various kinds gather here from various places; this atmosphere cannot be experienced at a local high school. After spending 5 years at KNCT, you can discover a new world of your own. In the Department of Electrical Engineering and Information Science, you will learn in specified courses including "information technology" and "electrical energy" which will continue to draw more attention in the future. Those subjects will be a big help for creation of a future society. KNCT is neither an ordinary high school, nor a university, but it is a great place to develop yourself."

Civil and Environmental Engineering



Civil and Environmental Engineering is “engineering for people”, and is essential to building the social infrastructure necessary for people to live comfortably together with nature. The purpose of the Department of Civil and Environmental Engineering is to bring up engineers who have the advanced skills and broad vision to handle environmental problems. This department has two courses. In the “Construction System” course, students study the maintenance skills of infrastructure, such as bridges, tunnels, and roads. In the “Environmental System” course, students study atmospheric air, water quality, and soil. This system of courses provides training of specialists in each field through study of the foundation of civil and environmental engineering in the lower grade, in addition to learning of specialized knowledge and the newest skills in the higher grade.



Meet Our Teacher

Dr. Shin-ichi Kawamura

Associate Professor, Dept. of Civil and Environmental Engineering

“I study bridges. I teach steel structure and design methods of bridges, in order for our students to be able to design simple plate girder bridges. I have done researches on the efficient construction and maintenance of real bridges. Recently, I developed the support system for cable tensioning of cable-stayed bridges in cooperative research with a cable maker. Each strand is tensioned using the PC-controlled hydraulic jack while watching the monitor. In order to achieve safe and efficient operation, the computer calculates in real time optimum manipulated variables for hydraulic jacking from the data of the tension of the strand and the measurement data of the bridge.”
(Photo) Taken from the top of the tower of the cable-stayed bridge constructed with our system

Architecture and Structural Engineering

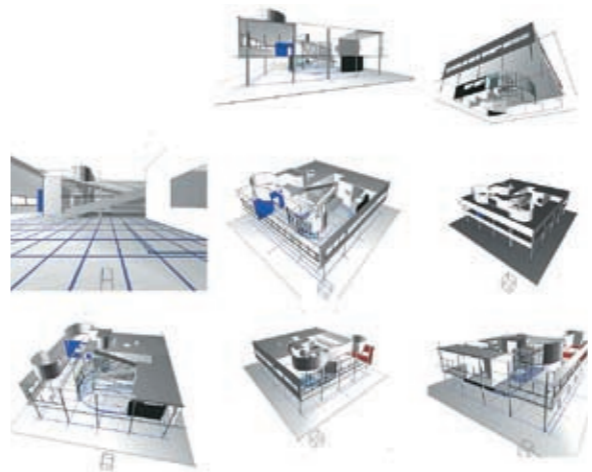


Meet Our Teacher

Dr. Jitsuro Mase

Associate Professor, Dept. of Architecture and Structural Engineering

“In my laboratory, we research 3D Computer Aided Architectural Design, aiming to visualize objects or spaces that one might picture as quickly as possible, for example, using CAD systems in which designers can draft 3D buildings as if they were sketching them. We also develop CAD with high efficiency of modeling and high visual quality using a great amount of image data.”



This CG image is a combination of a sketch and a 3D model. It is calculated to visualize the interior automatically while the user's viewpoint changes.

Architecture and structural engineering consist mainly of four fields: structure, environment, planning, and designing. Students therefore need a diverse education, not only in natural sciences such as mathematics and physics, but also in the humanities such as history and arts. In the Department of Architecture and Structural Engineering, students acquire technical knowledge and skills to plan and design safe and comfortable living spaces, ranging from small private homes to large cities. The curriculum includes building construction, construction environment, computer drawing, computer graphics, and architectural model production. Graduates find jobs at architectural design offices, housing contracting firms, and construction companies; many graduates acquire a license as the first-class architect and have been active in this field.



Advanced Course of Architecture and Civil Engineering

This course offers two educational programs: “Civil and Environmental Engineering” and “Architecture and Structural Engineering”. The course is aimed at fostering creative engineers and enhancing their ability to resolve environmental problems. It helps students design and construct a city and a dwelling environment, including houses for elderly people and earthquake-resistant structures with amenities and functionalities.

Examples of subjects:

Materials of Construction, Seismic Proof Structures, Environmental Geo-Mechanics, Applied Analysis, Landscape Design, Design of Architecture, City and Regional Planning, Concrete Structures, History of Modern Design



The Department of Architecture and Structural Engineering has been accepting international students from China, Thailand, Vietnam, Iran, Brazil, Gabon, and other countries. While studying here, all international students enjoy the Japanese life style such as taking off their shoes before entering a home, and sitting on the floor, not in a chair. In Hiroshima, we have some notable architecture including the A-bomb Dome and Itsukushima Shrine, each of which is designated as a World Cultural Heritage Site. This environment is suitable for studying architecture. After graduating from KNCT, most international students choose



to attend other universities and graduate schools and serve in active roles as architectural engineers. Currently, Gregory Leopold Robert (4th year) is studying in this department. He is from Gabon in Africa, and is hoping to transfer to a four-year university.

General Education Program



The General Education Program provides students with the necessary knowledge as well as fundamental scholarship skills in preparation for their study. Because students move to a higher grade, the number of general subjects decreases while the students are required to take more specialized subjects. Moreover, elective subjects are provided (*Japanese Literature I, Economics, Mathematics Lectures, Biotechnology and Oral Communication II* for 4th year students; *Japanese Literature II, History Lectures, International Relations, Psychology and Management* for 5th year students). The students are allowed to take a course in one of these subjects, reflecting on current trends in modern society, according to their interests. Moreover, fourth and fifth year students can take one of the following foreign languages: *German, Chinese, Korean, or English.*



Meet Our Teacher

Dr. Takeshi Kurihara
Lecturer, General Education Program

“My name is Takeshi Kurihara. I teach English at this school. Aside from my educational activities, I also have been studying contemporary American literature and culture. The focus of my academic pursuit is on the short stories and poems of Raymond Carver, a writer who became famous in the American literary world in the 1970s and 1980s. I have been trying to understand his stories and poems in relation with his autobiographical facts and the social and cultural background in contemporary America. I not only enjoy studying American culture; I am also always trying to motivate my students by introducing various aspects of American popular culture such as movies and music. I hope more students will become interested in studying English after taking my classes.”

Club Activities

Many students enjoy extracurricular activities to pursue their own interests. Why not have fun after spending hours in a classroom!

Sport Clubs

- Baseball Club
- Soft Tennis Club
- Table Tennis Club
- Basketball Club
- Volleyball Club
- Track and Field Club
- Judo Club
- Kendo Club
- Hiking and Ski Club
- Association Football Club
- Swimming Club
- Archery Club
- Handball Club
- Tennis Club
- Rugby Club

- Karate Club
- Softball Club
- Badminton Club
- Women's Volleyball Club
- Women's Basketball Club
- Dance Club

Cultural Clubs

- Photo Club
- Computer Club
- Literary Arts Club
- International Friendship Club
- Art Club
- Tea Ceremony and Floral Art Club

- Music Club
- Brass Band Club
- Amateur Radio Club
- Automobile Club
- Physical and Chemical Research Club
- Architectural Design Club
- Folk Song Club

Circles

- Movie Circle
- Shogi Circle
- Go Circle
- Kansei Engineering Research Circle
- Fishing Circle
- Gin-ei Circle
- Women's Tennis Circle

Others

- Human Rights Issues Research Group
- Interact Club
- Robot Production Club



Student's Voice

Hitoshi Sasaki
5th year student, Mechanical Engineering major

“KNCT is not only for academics. We have a variety of club activities such as soccer, track and field; of course we have a Robot Production Club, too. The members of the Robot Production Club are working hard every day with the goal of attending the All Japan National College of Technology Robot Contest. I belong to the Baseball club. We won the regional tournament and went to the All Japan National College of Technology Tournament this year. We have very nice sporting facilities on campus. KNCT is a great place to enjoy both academics and sports.”



Academic Calendar

Most of the higher educational institutions in Japan set its academic year to begin from April to March of the following year.

April

- Spring Vacation
- Entrance Ceremony



- Opening Ceremony
- Orientation
- School Foundation Day
- Medical Examination
- Boarders' General Meeting

May

- Interclass Matches



- Students' General Meeting

June

- Mid-term Examination

July

- Athletic Intercollegiate (Chugoku area)



- The First-term Examination
- Meeting of Students, Parents and Teachers

August

- Summer Vacation
- Open College
- National Athletic Intercollegiate

September

- Summer Vacation

October

- Demonstration for Robot Contest
- Research Tour (4th class)



- Step Camp (3rd class)
- International Exchange Training with Maui Community College
- Excursion
- KNCT Technology Seminar
- Counseling Lecture
- College Athletic Festival
- Boarders' General Meeting

November

- Cultural Event
- Winter Athletic Intercollegiate (Chugoku area)
- Open College
- Intercollege Speech Contest in English (Chugoku area)
- Students' General Meeting
- Dormitory Complex Festival

- College Festival



December

- Mid-term Examination
- Winter Vacation

January

- Winter National
- Athletic Intercollegiate
- College Road Relay

February

- Final Examination

March

- Closing Ceremony
- Graduation Ceremony
- Spring Break
- Career Planning Meeting

After Graduation

After graduation, some students can advance to our Bachelor's Degree Program, or enter a national university as a third-year student. Some graduates choose to enter public service, or work at major general contracting companies, power utilities, or leading manufacturers. KNCT graduates have been playing active roles in various business fields, where they have been highly praised.

Mechanical Engineering

Mazda Motor Corporation/ Honda Motor Co., Ltd./ Toyota Motor Corporation/ Mitsubishi Heavy Industries, Ltd./ IHI Corporation/ JFE Steel Corporation/ Sharp Corporation/ Canon Inc.

Electrical Engineering and Information Science

The Chugoku Electric Power Co., Inc./ The Kansai Electric Power Co., Inc./ Mitsubishi Electric Corporation/ Sharp Corporation/ Sony Corporation/ IBM Japan, Ltd./ NHK (Japan Broadcasting Corporation)/ Nippon Telegraph and Telephone Corporation

Civil and Environmental Engineering

Shimizu Corporation/ Penta-Ocean Construction Co., Ltd./ Toyo Construction Co., Ltd./ Yokogawa Bridge Corp./ The Kansai Electric Power Co., Inc./ Osaka Gas Co., Ltd./ Central Japan Railway Company/ West Japan Railway Company

Architecture and Structural Engineering

Obayashi Corporation/ Takenaka Corporation/ Taisei Corporation/ West Japan Railway Company/ Osaka Gas Co., Ltd./ The Chugoku Electric Power Co., Inc./ NTT Facilities, Inc./ Daiwa House Industry Co., Ltd.

Student's Voice

Haruki Saiyama
5th year student,
Civil and Environmental
Engineering major



“I was worried whether I should have gone to a college of technology or to a high school when graduating from junior high school. However, I found that KNCT has a very good employment placement rate and supports students in their transfer to four-year universities. For those reasons, I decided to enter KNCT. After I entered, I felt a sense of increased possibilities through classes and club activities. KNCT values practical experimentation. Thanks to those practices, I can understand my studies more deeply. The teachers teach pleasantly and students help one another and study together. We can keep up our motivation high and enjoy an enhanced school life. Through five years, I have made many friends. Moreover, I found a good job. I think that it is great to be part of KNCT.”

Study at KNCT

Studying in another country can be challenging, but it is also fulfilling in many ways. KNCT has been accepting international students since 1992. We have a support system for international students. In addition, some Japanese students, called tutors, are available to help with studies and to give advice about daily life.

For more information, visit

http://www.kure-nct.ac.jp/englishver/e_index.htm or
e-mail intl@kure-nct.ac.jp

International Students by Country(1992-2008)

Malaysia	18	Laos	2	Myanmar	1
Vietnam	5	Brazil	1	Philippines	1
Cambodia	3	China	1	Sri Lanka	1
Indonesia	2	Gabon	1	Thailand	1
Iran	2	Mongolia	1		

Studying at Kure National College of Technology

Enkhtaivan Munkhbat

4th year student, Department of Electrical Engineering and Information Science major



Now I feel it was my divinely ordained course of life to come to Kure. I deeply appreciate the Japanese Ministry of Education for bringing me here (laughs). Before I came to Japan I had already been informed that I would study at KNCT, but I had no idea where it was or what kind of school it was. I opened the web site, but I gave up reading it because of my poor English.

After arriving in Japan, I was given 1-year incentive Japanese education in Tokyo. Finally, I came to Kure on March 27, 2007. My first impression was that Kure seemed a small rural town. However, originally I am from countryside of Mongolia, so soon I was able to get familiar with the place. What amazed me most on that day was the smiling face of Ms. Kanemoto, who turned out to be my host mother. She seemed very kind. Moreover, the students in the fifth grade were

thoughtful enough to cook my first dinner here. The next day they showed me around the school. Since then I have been grateful for the kindness of the people around me, staff of the dormitory and the members of *Satooyakai*, the Support Families Association. Thanks to them, I have no problems in my life here.

Recently I found that very few national colleges of technology have an organization like *Satooyakai*. I can not help feeling how lucky I am when I hear that Mongolian students of other colleges of technology envy me.

I surely can define this school as a "thoughtful college". I want to study as hard as possible to meet their expectations and enter a good university. This is my only wish now.

How fortunate I have been to be able to study in Kure!



LIVING

in

KURE&JAPAN

Kure city, with a population of approximately 247,000, is located in the southwest part of Hiroshima prefecture, facing the Seto Inland Sea.

Kure city was once a thriving naval town. It had one of the largest arsenals in Japan. After WWII, the technologies cultivated in the time before and during the war were combined with subsequent advances. Thereafter, the city continued to develop as an industrial city. Being blessed with a mild climate and natural surroundings, residents and visitors can enjoy cherry blossoms surrounding the entire city in spring, swimming in the calm inland sea in summer, and traditional shrine festivals in autumn. The winter is the best season for oysters, one of Kure's local specialties.

Places of interest and visitor attractions around Kure



A-bomb Dome and Peace Park



Irifuneyama Museum



Miyajima



Yamato Museum



Shukkeien Garden



Hiroshima Castle

SATOOPYAKAI

Always With International Students

Kuniko Kaio

The Support Families Association for International Students

Every April, international students come to Kure National College of Technology not only full of expectations, but also full of anxieties related to their new lives and studies in an unknown place. It is with much happiness that *Satooyakai*, the Support Families Association for International Students that was established 12 years ago, meet them. The 12 member families living

in Kure want to alleviate the students' concerns, and support them so that they can fully enjoy their three years here at school. A welcome party is followed by various annual events: a tea ceremony party, a Japanese-style *somen* noodle eating party, a sports event, cooking and sale of foods from their countries at the College Festival, a bus tour, a New Year party, and a graduation party. Through these events, we hope that they start to understand a little about Japanese culture and society.

However, we realize that we learn more from them than they do from us. We are impressed with their sincere attitude toward studying, their simple thoughtfulness, and the respect they show to others. It is also a great chance for us to feel closer to their countries, which, of course, are far away. Growing families who can share the same joy experience something priceless.



Campus Information

Access from Hiroshima Airport: Approx. 1 hour and 20 min by bus
Access from Hiroshima Railway Station: Approx. 40 min by train



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