

# YONAGO National College of Technology

We foster creative, highly skilled and professional engineers!

#### 7-year Bachelor's Degree Programs

**5-year Associate Degree Programs** 

Electrical & Computer Engineering
Electronic Control Engineering

**Mechanical Engineering** 

**Materials Science** 

**Architecture** 

Production Systems Engineering Materials Science Architecture



## About Yonago National College of Technology

#### History

Yonago National College of Technology (YNCT, or "Yonago KOSEN" as abbreviated in Japanese) was established in 1964 by the Japanese Government for the purpose of fostering highly skilled engineers. An organizational change in 2004 resulted in Yonago KOSEN being placed under the jurisdiction of the Institute of National Colleges of Technology, Japan (INCT), which is an independent agency administering 51 KOSEN campuses and about 50,000 students. The KOSEN educational system is very unique, admitting junior high school graduates into 5-year associate degree or 7-year bachelor's degree programs.

Yonago KOSEN started out as a college with three departments: Mechanical Engineering, Electrical Engineering, and Industrial Chemistry. The Department of Architecture was added in 1969, and the Department of Electrical Control Engineering in 1985. The Industrial Chemistry Department was reorganized into the Materials Science Department in 1994, and the Department of Electrical Engineering into the Department of Electrical and Computer Engineering in 2004. In addition, we saw the establishment of our 2-year Advanced Engineering Courses in 2004, commencing 7-year bachelor's degree programs in Production Systems Engineering, Materials Science, and Architecture. Yonago KOSEN is therefore currently composed of five departments and three advanced engineering courses, with about 1,100 students enrolled.

#### School Emblem



The name "Yonago", the city where Yonago KOSEN is located, is said to come from "Yonau no Sato", meaning 'the village where rice grows in abundance'. This later changed to "Yonau-go", and then, to "Yonago".

Our school emblem was made by stylizing the kanji「米」, read in Japanese as "yona", together with 「高専」, read in Japanese as "kousen" (which is a Japanese abbreviation of the phrase 'college of technology'). Japan's National Colleges of Technology are commonly known as "KOSEN".



View at the time of establishment



principal Shozo Himuro

From the Principal

Since its foundation in 1964, Yonago College of Technology provides an excellent educational environment as a higher education institution, training specialist with high abilities, and cultivating citizens who contribute to the community.

One of the missions of our school is to cultivate globally minded, creatively rich superior students. 4 and 5 year students as well as majors, can gain JABEE accreditation, a level equivalent to universities etc. which is accredited by ABET (Accreditation Board for Engineering and Technology) in the United States and ECUK (Engineering Council United Kingdom) in the UK.

In addition to cultivating engineers who respond to the global society through various international exchange programs, we are actively engaged in activities such as accepting international students and having exchange agreements with overseas educational institutions.

In our school, we established a liberal arts center in April 2016, where students acquire "generic skills" such as "ability to solve problems with their own knowledge", "communication ability", "autonomy". We are focusing on nurturing engineers who are active in society.

Another mission of our school is to foster roots in the community and contribute socially. In November 2016, we developed a collaborative agreement with Tottori University School of Medicine to establish a Medical Collaborative Research Center at our school. This collaboration aims to develop and advance medical and nursing care equipment in cooperation with local medical institutions and companies. While the environment surrounding the College of Technology changes dramatically, we hope to make further progress through education, research, and contribution to society with a concrete philosophy and direction.

## Accreditation by the Japan Accreditation Board for Engineering Education (JABEE)

The JABEE became a signatory member of The Washington Accord in 2005. The agreement provides a mechanism for mutual recognition between signatory bodies of engineering education accreditation processes. KOSENs nationwide have been eager to get JABEE accreditation in order to ensure internationally recognized quality. Accredited programs of KOSENs correspond to the level of an undergraduate engineering program at a university.

Advanced course 2nd year Advanced course 1st year

5th year

4th year

3rd year

2nd year

1st year

#### Programs accredited by the JABEE

Yonago KOSEN has adopted two JABEE programs since 2011.

The Interdisciplinary Systems Design Engineering Program consists of four regular courses (Mechanical Engineering, Electrical & Computer Engineering, Electronic Control Engineering, and Materials Science), and two of advanced engineering courses (Production Systems Engineering, and Materials Science).

The department of Architecture operates the Architecture JABEE program.

## Department of Liberal Arts



English class

The Department of Liberal Arts Education aims to teach the knowledge and skills necessary for society, to form personality, enrich culture and to cultivate the basic ability to acquire specialized education. Therefore, 49% of the total class time is assigned to lessons related to the Liberal Arts Education Department (general subjects). Graduates of the College of Technology will be active in all sectors ranging from production sites to research and development, overseas to domestic. As a specialist constantly adapting to, and making strides

in an advancing technology society, students are expected to have rich human nature, broad perspective, the ability to take action, as well as creativity. The Liberal Arts Education department plays an important role in building such a foundation.



English class using the CALL classroom

## Department of Mechanical Engineering



Programming Contest 2013 The third place in Japan

The Department of Mechnaical Engineering aims to train specialists who have creative abilities (to support the technology of manufacturing which will be

significant for the future of Japan.) The educational philosophy involves conducting practical technical education that emphasizes experiments and practical training in collaboration with local communities. In the Department of Mechanical Engineering, training of practical engineers who have the ability to handle mechanical control systems, as well as design and develop mechanical systems established on the fundamentals of mechanics and dynamics through

the study if mechanisms, structures, and materials is a main goal of the department.



Research on robotics, control, program and machining

## Department of Electrical & Computer Engineering

With the recent rapid development of information technology, the field of electrical engineering is becoming more and more diversified, and so is often considered the basis of engineering. The Department of Electrical & Computer Engineering presents the following three major subjects; Information Processing & Communications

Engineering, Electric Power Generation & Control, and Electronic Devices & Circuits. A flexible combination of these three subjects helps students to acquire a broad knowledge and wide range of skills in both software and hardware technologies. We strive to train and foster skilled engineers capable of designing, developing and maintaining systems in the fields of electrical and electronic engineering and information technology. The curriculum has at its base the study of electrical circuits, electromagnetism and information processing, and provides opportunities for study of applied subjects in electronic circuits, computer engineering, power electronics, information network engineering, control engineering, digital circuits, etc. In addition,

experiments and practical work in relation to each study field are included in the curriculum, further developing students' practical abilities. In the fifth year students are engaged in leading-edge research as a requirement for graduation.



of electric vehicles

## Department of Electronic Control Engineering

The Department of Electronic Control Engineering aims to train and foster creative and skilled engineers capable of supporting basic technologies in Monozukuri, or craftsmanship in manufacturing, by providing students with a wide range of expertise and skills regarding computers and robot control in the fields of information processing, electronic circuits and devices, and mechatronics.

To achieve the aforementioned educational aims, our course curriculum is designed to enable students to study both basic and applied subjects in a systematic manner. In the first three years, students will study fundamental subjects in each field, such as information processing, electromagnetism, digital circuits, electronic measurement, strength of materials, design and drawing. In the later years, they will study applied subjects in each field, including computer engineering, data communications, electronic devices, micro-computer control, robot control engineering, and machinery mechanisms. In the fifth and final year, elective subjects include software engineering and systems engineering, enabling students to broaden their knowledge in each field even further. Experiments and practical work are included in the curriculum of each

year in relation to each field in order for students to acquire practical abilities. In their graduation research students take on practical challenges to help develop their creativity.



Next-Generation ICT e-Learning Systems for **Educational Purposes** 

## Department of Materials Science and Engineering

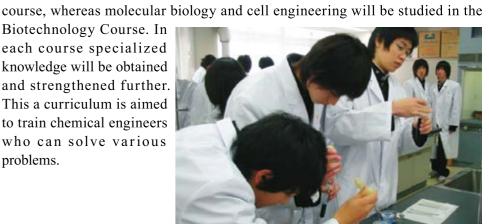


environmental science. (which are the basic subjects of material engineering). In the fifth year of study, stduents may choose to major in either the Materials Engineering course or Biotechnology Course. Applied courses such as polymer chemistry and materials engineering will be studied in the Materials Engineering Biotechnology Course. In each course specialized knowledge will be obtained and strengthened further.

This a curriculum is aimed

to train chemical engineers

who can solve various



Students conducting an experimen

Department of Materials Science and Engineering aims to train practical

engineers equipped with basic knowledge and skills of engineering based on

chemistry and living things. First, through lectures, exercises, and experiments,

studying of analytical chemistry, inorganic chemistry, organic chemistry,

physicochemistry, chemical engineering, biology, microbiology, biochemistry,

### Department of Architecture

problems.



Design Competition 2016

The Department of Architecture aims to foster creative and skilled architects competent in architectural planning, designing, and construction, by providing students with the knowledge and skills in line with technical and architectural design innovations. Our curriculum is tailored for the study of not only science-related subjects, such as structural mechanics and material science, but

also a wide range of specialized subjects including history, planning, design, and engineering subjects other than design. Special consideration is also given to the computerization of the architectural design process. Students gain the practical

experience of following a project through to its completion (a subject called Architectural Design and Drawing), by learning from an extensive number of practicing guest instructors from leading architectural firms. Students also take part in off-campus design competitions, further adding to their practical experience.



Unoccupied House Utilization Project



Programming Contest 2016 Free Category (company award winning)

## Advanced Engineering Courses



Refreshment room

The Advanced Engineering Courses are 2-year follow-up courses for students who wish to continue studying in their specialized fields after they have completed their regular 5-year course, earning them a Bachelor of Engineering degree upon completion and approval of the National Institute of Academic Degrees. The courses are aimed at training and developing highly skilled professional engineers rich in creativity and capable of conducting outstanding research and development. Students who earn this degree can enter the workforce on the same footing as university graduates, or continue on to graduate school.

#### **Production Systems Engineering Course**

As the field of engineering is becoming more interdisciplinary, especially with the computerization of engineering processes, we aim to train and foster adaptable and development-oriented engineers with a broad vision, capable of handling the latest technologies and highly sophisticated information systems in the fields of electrical and electronic engineering or mechanical and control engineering.



#### **Materials Science Course**

The Advanced Course in the Department of Materials Science is aimed at nurturing highly skilled and development-oriented engineers capable of solving a variety of problems from a broad perspective. To achieve these aims, our program is designed for students to acquire and develop the basic knowledge and skills in chemical, biochemical and materials engineering, and learn to apply this expertise to specific problems.



#### **Architecture Course**

The Advanced Course in the Department of Architecture is composed of four semi-autonomous training programs: Architectural Planning, City and Regional Planning, Environmental Engineering and Structural Engineering. We aim to train and foster highly skilled and creative engineers capable of solving problems from a broad perspective.



## Extra Curricular Activities



Brass Band Performance

As part of an enjoyable campus life, many students join a variety of athletic, cultural and academic clubs and circles. Yonago KOSEN students have made a spectacular showing in interscholastic and national athletic meets and at nationwide contests.

#### **Athletics**

Track and field, Volleyball, Basketball, Soft Tennis, Table Tennis, Judo, Kendo, Baseball, Soccer, Rugby, Handball, Swimming, Yacht, Tennis, Badminton, Karate

#### **Cultural and Academic Clubs**

Brass Band, Science, Broadcasting, Tea Ceremony, Flower Arranging, Stirling Engine, Calligraphy, Chorus Club

#### Clubs

Computer, B & C Research, Shogi, Dance, Light Music, English (ESS), Math, Model, Art

## Competitions and Contests



After Intel ISEF 2016 Awards Ceremon

As a member of an extracurricular activity or club, you will be given opportunities to participate in various national competitions and contests, in which students showcase their expertise, knowledge and skills.

Major achievements received include; Second Place Award in the Intel ISEF 2016 Energy-Chemical division, 3rd place in the National High School Broadcast Contest 2017, 1st place for the 9th consecutive year in the Stirling Techno Rally (2008 ~ 2016), and 1st place in the college design contest for the 9th consecutive year (2007 ~ 2015).

Other contests in which students participate include the College Robot Contest, The College Programming Contest, and the College Presentation Contest.

#### International Exchange







Overseas Internship (Korea) Language Training (Canada)





Community Cultural Exchange

At Yonago College of Technology,

We recognize the role and importance of Japan to the international community, and aim to cultivate resilient citizens who can collaborate with others and demonstrate their own expertise as well as understand the differences in religion, culture, behavioral characteristics, and values of the recipient (host) country.

In order to achieve the former, we have engaged in approximately 40 years of collaboration with the community, Contribution to internationalization · strengthening international competitiveness of the region by utilizing regional collaboration · strengthening international competitiveness of other technical colleges as a base of the Sea of Japan Sea gateway.

As a Global Citizen, Yonago College of Technology values,

- 1. Motivation; The ability to undertake projects actively and positively, and to achieve the goal with cooperation, flexibility, and sense of
- 2 Global Literacy; As a member of Japanese society it is necessary to collaborate while understanding the differences in religion, culture, behavioral characteristics, and values of the recipient country.
- 3. Communication; As a global citizen, using language skills as a communication tool, and selecting and the most effective vocabulary according to circumstances, as well as the ability to communicate concretely in global society are valued. Self-expression and consensus building ability in the community are also valued.

In order to foster the above three viewpoints, we are carrying out various international exchange programs such as overseas study tours, language training, overseas internships, and academic exchanges.. In addition, since 1986, Yonago College of Technology has accepted about 90 foreign students from 14 countries, and as part of international exchange activities, we are promoting regional exchange programs for foreign students.



## **Dormitories**

Yonago KOSEN has both male (Takazuna-ryo) and female (Shiratori-ryo) student dormitories, available to Japanese and international students. It is recommended that international students make use of the dormitories on campus, not only for the sake of convenience, but also to promote friendship, self-reliance and a cooperative spirit between students. Each dormitory has a student dormitory council, which falls under the guidance and authority of Yonago KOSEN's administrative body.

#### Campus Map



- 1. Administration Office & General Education Building
- 2. Lecture Building
- 3. Electrical Engineering Building
- 4. Materials Science Building
- 5. Architecture Building
- 6. Mechanical Engineering Building
- 7. Electronic Control **Engineering Building**
- 8. Advanced Engineering Courses Building
- 9. Workshop Center
- 10. Library and Information Center
- 11. Welfare Facilities
- 12. Dormitories
- 13. Gymnasium 1
- 14. Gymnasium 2
- 15. Martial Arts Gym
- 16. Swimming Pool
- 17. Baseball Field
- 18. Running Track
- 19. Tennis Court









