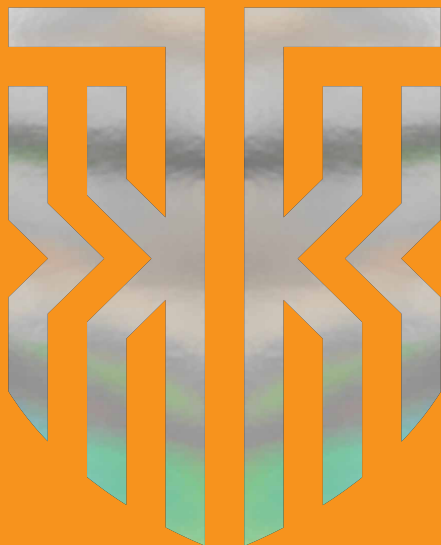


Technology for People  
Education that Changes the World

# KOREATECH





 School of Mechanical Engineering		 School of Mechatronics Engineering	
 Department of Employment Services Policy	Seeking Truth from Facts	 School of Industrial Management	Cultivation of Dadam-style talented individuals
Industry-university cooperation	 School of Electrical, Electronics & Communication Engineering	Student-centered learning support	 School of Industrial Design Engineering & Architectural Engineering
	Competency-based curricula	 School of Computer Science and Engineering	
 School of Energy Materials & Chemical Engineering		 School of Liberal Arts	Practical engineers
	 Department of Future Technology	Competency development for lifelong jobs	 Department of Human Resource Development

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**Today's Technology,  
Tomorrow's Brilliance**



# Connecting Technology to Humans, We Cultivate Korea's Best Practical Engineers



Founded by the Ministry of Employment and Labor in 1991, KOREATECH is leading the Fourth Industrial Revolution and playing a role as a national job competency development hub by fostering practical engineers, HRD experts, and TVET teachers, providing trainees with technology education.

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## Education Philosophy

實事求是

Seeking Truth from Facts

We contribute to the cultural prosperity of mankind through learning and teaching based on our education philosophy.

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## MISSION

To take the initiative in national human resource development by cultivating practical engineers and job competency development experts.

---

## VISION

A global leading university aiming for practical engineering education and lifelong job competency development.

KOREATECH





# KOREATECH's

## 30 Years,

## Competencies and

## Performances at a

## Glance

### 1990's

#### First step to practical engineering

**1991** Obtained permission from the Ministry of Education to found the Korea University of Technology and Education

**1992** Opened the Korea University of Technology and Education at the Ministry of Education 'specialized university founded and funded by the Ministry of Employment and Labor'

Yi Nak-ju, PhD appointed as the First President  
240 students entered 8 departments

**1996** Held the first commencement ceremony and established the Industry-University Cooperation Research Center

**1997** Established master's programs  
Graduates entered the Department of Mechanical Engineering and Department of Electrical and Electronics Engineering

**1998** Opened the "Human Resources Development Institute," South Korea's first university-affiliated education and training institute

The education institute for fostering the best on-site experts leading lifelong job competency development

**1999** Opened Business Incubator







2010'S

2020'S

## KOREATECH becomes the HRD hub of Korea

- 2011** Ranked 1<sup>st</sup> in the National College Student Hybrid Vehicle Competition (Driven Team)
- 2012** Completed the construction of Damheon Hall of Practical Education, opened Sigma Center, the creative convergence manufacturing laboratory  
Operated the first Industry Professional Practice (IPP) program among colleges in Korea  
Ranked 1<sup>st</sup> in the National College Student Hybrid Vehicle Competition
- 2013** Ranked 1<sup>st</sup> in the public institution integrity evaluation among 21 national and public universities in South Korea  
'KOREA TECH Humanities Academy' was awarded the grand prize in the field of student competency for the 2013 College Education Competency Intensification Project
- 2014** Selected as the best college for two consecutive years in the 'Evaluation of Industry-Academy Collaboration from Corporate Perspective' by Korean Society for Industry & Academy Collaboration  
Opened 'Online Lifelong Education Center'
- 2015** Operated IPP (Industry Professional Practice) hub project, Spread and disseminated to 36 universities nationwide  
Opened "Vocational Competency Review and Evaluation Center"
- 2016** Established Work-to-School Program  
85.1%, Ranked 1<sup>st</sup> among four-year colleges nationwide
- 2018** Awarded in the field of education in the Online Lifelong Education Center 'V (Virtual Reality)-AWARD 2018'  
Fourth Industrial Revolution Technology-based curriculum reorganization
- 2019** Opened the world's first "5G-based Smart Learning Factory"  
Opened the smart vocational training platform, 'STEP'
- 2020** The Korea Economic Daily, Evaluation of Science and Engineering Colleges  
- Ranked 1<sup>st</sup> for employment rate and field training participation rate  
The cumulative number of members registered to Online Lifelong Training Center exceeded 300,000  
2020 Youth Dream Best Practice College by the Dong-A Ilbo
- 2021** Employment Rate 84.7%, Ministry of Education's Announcement on College Information  
(Ranked 1<sup>st</sup> among four-year colleges producing more than 500 graduates)

2000'S

## Soar to the world, and to the future

- 2000** Selected as the nation's best college in the Comprehensive College Evaluation  
Selected as the technology teaching college designated by the Small and Medium Business Administration
- 2003** Established the 'Industry-University Cooperation Foundation' in the form of an independent corporation, marking the first case among colleges in Korea  
Awarded a citation for the excellent case of industry-academy cooperation
- 2005** Signed an industry-academy cooperation agreement with Samsung Electronics' LCD Headquarters  
Opened the Korea University of Technology and Education-Samsung Electronics Advanced Technology Training Center
- 2006** International Robot Contest (IRC 2006)  
Awarded the Presidential Prize in the Humanoid section (Gazette Team)
- 2010** Ranked 1<sup>st</sup> for employment rate among colleges nationwide

# KOREATECH HERE & NOW

## 2020

College Evaluation from an Industry perspective  
Machinery and Architecture Field



The Korea Economic Daily's  
College Evaluation on Employment  
and Start-up



The Korea Economic Daily's  
Evaluation of Science and  
Engineering Colleges  
Employment Rate, Field Training  
Participation rate



Selected as the '2020 Youth Dream Best Practice College' by the Dong-A Ilbo

Ranked 3rd in the '2020 Republic of Korea Private College Social Responsibility Index' by Le Monde Diplomatique

Selected for the Ministry of Education's Four-step BK21 Project (Convergence Talent Cultivation Project Group for  
Embodying Human-centered Smart City) (3.5 Billion Won / 7 Years)

## 2019

The JoongAng Ilbo College  
Evaluation  
Education-centered College



The Dong-A Ilbo  
Youth Dream College  
Evaluation



The Korea Economic Daily's Evaluation  
of Science and Engineering Colleges  
Employment Rate, Field Training  
Participation rate



Operation of 'Industry-Academy Cooperation Sophisticating' Leaders in Industry-university Cooperation + (LINC+)  
Promotion Project (16 Billion Won/5 Years)

Operation of College Innovation Support Project to Intensify College Autonomy and Increase Innovative Capability  
(9.8 Billion Won/3 Years)

Operation of ACE+ Project to Improve Undergraduate Education System, Aiming at 'College that Teaches Well'  
(4.9 Billion Won/4 Years)



## KOREATECH HERE & NOW

84.7 %

### Employment Rate

Among colleges producing 500 or more graduates, 1<sup>st</sup> among four-year college

3.29 million won

### Scholarship

per student

38.71 million won

### Annual Investment in Education

per student

77.3 %

### Scholarship Ratio

to Tuition Fee

88 %

### Rate of Full-time Faculty

per enrolled students

70.1 %

### Dormitory Accommodation Rate

100% of new students

150 credits

### Credits to graduate

Bachelor of engineering: Highest criteria among 4-year colleges in South Korea

5G **SMART  
LEARNING  
FACTORY**

### For the first time among universities in Korea

In collaboration with KT, established 5G infrastructure and solution

\* Based on the 2020 public announcement of the Ministry of Education

# Good Curricula, Satisfied Students

KOREATECH affiliated with the Ministry of Employment and Labor is funded by the government annually. Its tuition fees are as low as those of national universities. Students can have a quality education with low tuition fees. The reason why its tuition fees are very low is that KOREATECH students are regarded as important assets of KOREA. In addition, KOREATECH has a perfect student-centered education environment, including competent full-time professors and the latest lab/training facilities.

## KOREATECH

### Education Features



Korea University of Technology and Education is organizing the curriculum according to the characteristics of each school and department by reflecting industry's and society's requirements in order to foster teachers for vocational competency development training, manpower development managers, and practical engineering technicians required by the advanced knowledge industry, and employment service professionals with creative and practical skills. The university is operating a specialized curriculum that reinforces field-centered experiments and practices.



The curriculum is divided into (Basic, General, Elective) Liberal Arts, Basic MSC Major Basics, HRD, Major. It is organized into detailed curricular areas that must be completed according to the characteristics of each course. Graduation requires 150 credits for the bachelor's degree in engineering and 140 credits in business management and employment.



KOREATECH strengthens field-centered engineering education through in-depth theories, practice, and experiments so that students can respond to the rapidly changing industrial technology environment. It offers specialized major curricula, featured by over 50% of major courses include experiments and practical training.



The institute is operating liberal arts curricula to cultivate thinking and inquiring skills based on an in-depth understanding of people, society, and nature and basic mathematical skills required to master core skills as a professional in the field of engineering, management, and employment.



Also, the institute made it mandatory for students to develop qualities required by practical engineering technicians, teachers for vocational competency development training, and employment service professionals and complete HRD minor so that students would acquire a Vocational Competency Development Training Teacher's License upon graduation.



# KOREATECH

## Core Competencies & Sub-areas

1

### Problem-solving Capability based on Creative Convergence

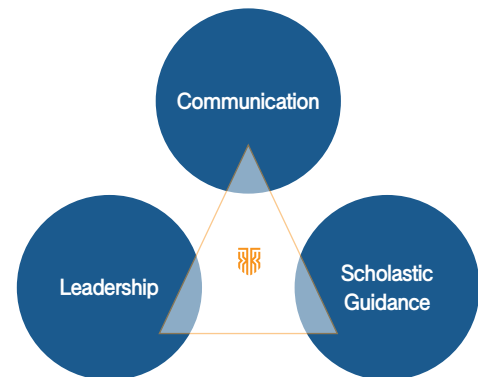
The ability to continuously obtain knowledge in various fields, understand the connection between areas, apply them to actual problem situations, and derive optimal solutions with innovative ideas



2

### Challenge-oriented Scholastic Leader Competency

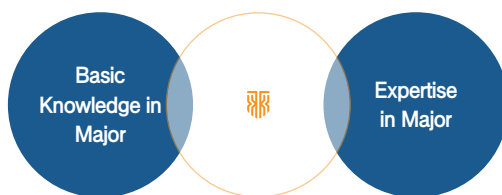
The ability to clearly communicate his/her own opinions based on an understanding of the situation and other people, set visions and goals for himself/herself, others, and the learning community, and lead them successfully



3

### Competency Related to Major Tuned to Field

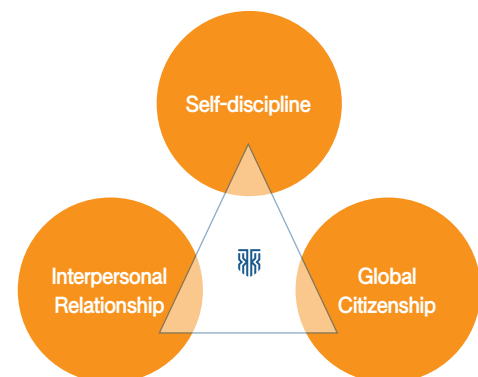
The ability to comprehensively explore and systematize expertise and skills related to the major and effectively apply them to the field



4

### Nauri Personality-based Competency

The competency to contribute to society based on the positive concept of oneself (Na: I), interpersonal skills (Neo: You), and global citizenship (Uri: We)



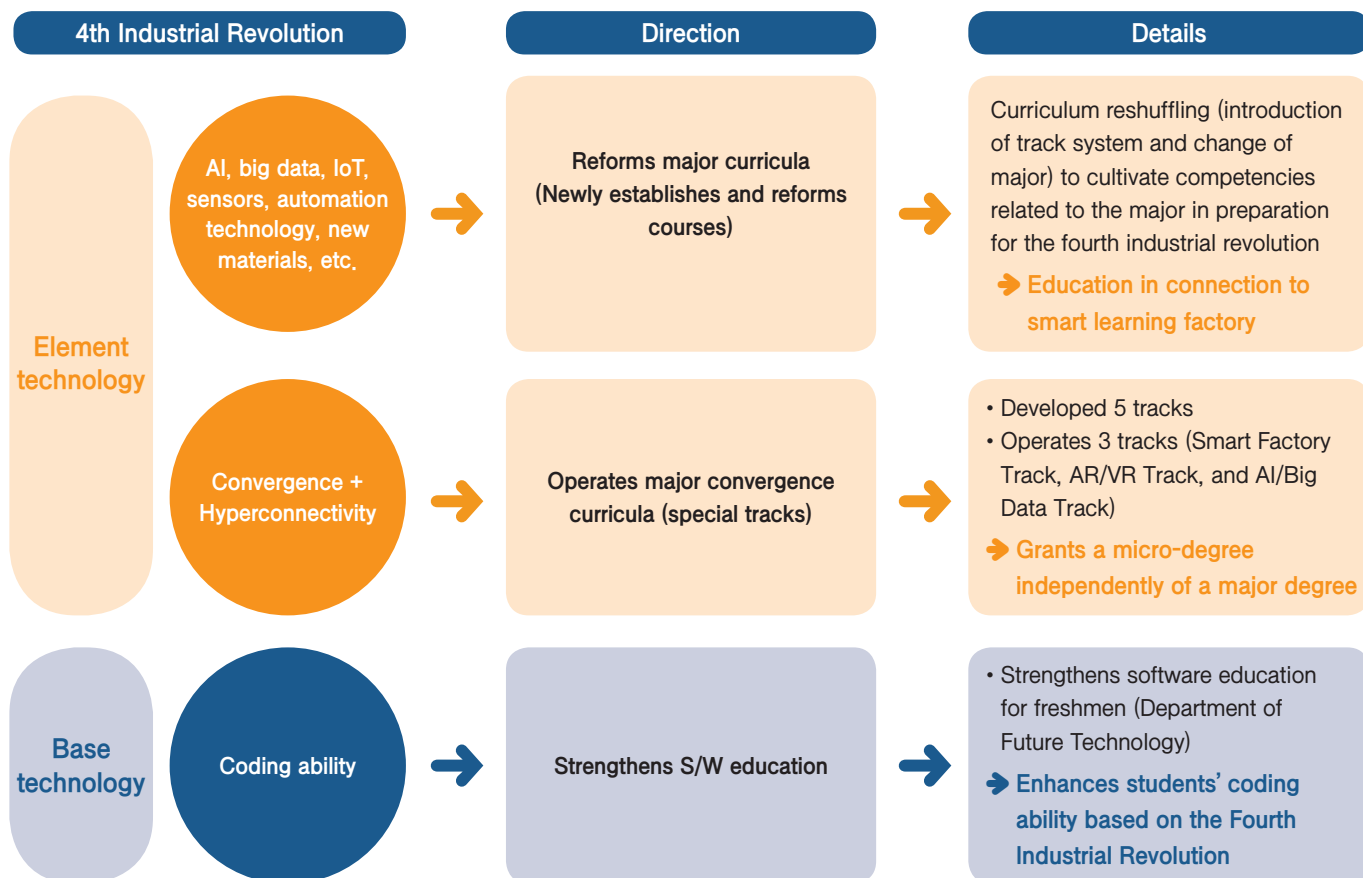


## Grow as Talented Individuals Tailored for the Fourth Industrial Revolution



### KOREATECH

#### Education System for the Fourth Industrial Revolution





## Restructure Curriculum

### Train Innovative Talents based on the Fourth Industrial Revolution Technology

KOREATECH is offering curricula for fostering innovative talents in the fields of future automobiles, system semiconductors, and artificial intelligence according to the school (department) specialization strategy to operate a curriculum to cultivate the knowledge related to the significant and essential competencies required for future industrial fields following the progress of the fourth industrial revolution and intelligence and information-oriented society.

### Learn the best at the best facility, Smart Learning Factory (K-Factory)

The Smart Learning Factory is equipped with a 5G network for the first time among universities in South Korea. Virtual reality (VR) and augmented reality (AR) are applied to a preexisting smart factory (intelligent factory). By doing so, the Smart Learning Factory (Smart Factory + Learning Factory) has become a research facility with a strengthened learning function. KOREATECH and Smart Learning Factory provide practical courses together so that students can respond to actual work and projects at an industrial site.

## Strengthen S/W Education for New Students

### Improving Coding Skills

KOREATECH is operating 'Computing Thinking' and 'Problem-solving and Programming' courses for all students to reinforce the thinking process and programming skills to express solutions to problems through computer calculations or algorithms beyond simply using computers.

### Complete Special Track Acquire Micro Degree

KOREATECH established extracurricular 'Special Tracks' as convergence courses to cultivate core technologies of the fourth industrial revolution and currently operates a total of three tracks (AR/VR Track, Smart Factory Track, AI/Big Data Track). Micro degrees are conferred to students who complete required courses or more in the special track, including the use of big data. To strengthen AI-related capabilities, AI-related subjects were added to all tracks, and PBL was applied to most subjects. As a result, 710 students completed the courses in 2020, showing higher satisfaction than general subjects.

# Become Practical Engineers Skilled at Field Work

## Understand theories and learn through practical training

At KOREATECH, the ratio of theoretical education to practical training is 5 to 5. Its major experiments and practical training always account for over 50% of the total lecture hours (4 to 5 times the experiment/practical training hours of general engineering colleges). Students should complete 150 credits for a bachelor of engineering and 140 credits for a bachelor of business administration. This system enhances students' competitiveness. Each professor manages 20 students intensively, thereby improving student satisfaction.

## Education meeting the needs of the industry, KOREATECH takes the lead

To reflect the opinions of the industry in developing and reforming major curricula, KOREATECH operates the Industry-University Advisory Committee. Through this committee, figures from the industrial world participate in the Major Curriculum Committees. In addition, KOREATECH offers industry-university courses to improve students' practical on-site job competencies. Full-time teaching staff and figures from the industrial world operate the industry- university courses together for less than 4 weeks in 15-week lectures. In 2020, 93 industry-academy cooperation courses were offered.



Current Status of Graduates Acquiring Engineering Education Certification			
	2020	2019	2018
Mechanical Engineering	126	141	138
Mechatronics Engineering	146	163	141
Electrical, Electronics & Communication Engineering	140	165	137
Computer Engineering	107	124	131
Energy, Materials and Chemical Engineering	89	91	100

\* 96% of graduates in the last 3 years acquired engineering education certification

Courses Running NCS

2020

NCS Courses

133

2019

NCS Courses

91



## Students must complete a graduation research project as the essence of major education and acquire a national technical license

KOREATECH students must complete a graduation research project that is part of the required courses. Students conduct their projects in association with local enterprises and mentors from the industry for more perfect work. In 2019, KOREATECH conducted a total of 28 industry-university research projects. Students conduct a graduation research project as the essence of four-year major education and acquire a national technical license related to their major. KOREATECH produces talented individuals who are ready to work at an industrial site.

2019 Korea Economic Daily's  
Natural Sciences and Engineering  
University Evaluation  
2019 JoongAng Ilbo's Education-  
Centered University Evaluation



## Powerful Solution to Increase Job Competency Company-linked Industry Professional Practice (IPP)

The company-linked Industry Professional Practice (IPP) that Korea Tech has offered for the first time in South Korea since 2012 is the Korean co-op education model, which combines the 'academic semesters reflecting the latest industrial trends and corporate needs' and the 'industrial fieldwork semesters related to the major.' Through IPP, students in the 3rd and 4th years receive practical training for four to six months at companies (companies of middle standing, public institutions, foreign investment companies, large corporations, and SMEs) that have signed an on-the-job training agreement with Korea Tech. IPP is a system that significantly improves employment competencies through career exploration, intensification of skills related to the major, and extensive work experience. Students can also win the credits required for graduation and economic benefits from scholarships and training subsidies provided by companies. Each year, 350 students are participating in IPP. Through the program, companies can use excellent manpower offered by college students to increase the effectiveness in recruiting people by discovering talents through verification.

### ★ Characteristics of Industry Professional Practice

As large corporations, public agencies, and companies of middle standing are reducing open recruitment and expanding on-call recruitment and 'job-related experience' comes first in screening new employees, IPP is a powerful tool that strengthens the job competency of enrolled students.



# Have Lifelong Self-Directed Learning Ability

## Required major courses

- Internship and on-site HRD training

## HRD

### Mandatory Subjects

- NCS-based Program Development
- Instructional Design and Teaching Method
- Vocational Competency Development Training Evaluation
  - Introduction to HRD
- Understanding Career Development and Counseling

### Optional courses

14 courses including Understanding of Job Competency Development Policy

## Required liberal arts courses

- Introduction to HRD
- Understanding of Career Development and Counseling



## Mandatory HRD Minor, National TVET Teacher's License

As a university specializing in job competency development founded by the Ministry of Employment and Labor, KOREATECH strengthened the human resource development (HRD) minor and designated it as a required course for all students to develop their lifelong learning ability. KOREATECH made its HRD minor program consistent with the mandatory curriculum for TVET teachers so that students acquire a national TVET teacher's license as soon as they graduate.

## Expansion of Seminars and Collaborative Lectures to Intensify Problem-solving Capabilities

Korea Tech places greater emphasis on lectures that apply new teaching methods, such as Flip Learning and Project-based Learning (PBL) have been expanded to strengthen students' creative problem-solving capabilities. Korea Tech has developed flip learning courses since 2014 and is operating 67 courses as of 2020. PBL courses also have been developed since 2017, and 19 courses were offered as of 2020.

Division	Total	2018	2019	2020
PBL Courses	49 Courses	14 Courses	16 Courses	19 Courses
e-Learning Courses (Online-centered, Flipped Learning, and Blended)	243 Courses	78 Courses	80 Courses	85 Courses

## Add humanities to technology, Humanities programs

KOREATECH puts emphasis on humanities as well as field-centered practical engineering education. Since KOREATECH designated every Wednesday as Humanities Day in 2013, it has been providing a variety of humanities programs such as Humanities Lecture and Journey to Humanities, The Celebrity Lecture Human Academy, Discussion with President Nauri Sarangbang, and Lecture-Field Trip-Meeting Program Humanities on the Road will make students' college life more fruitful.

## Cross sense and sensibility, Human Academy

Human Academy is KOREATECH's representative humanities lecture program, which has been held since 2006 and is reaching its 100th lecture. In order to overcome the geographical disadvantage that makes it difficult to participate in liberal arts and cultural programs, KOREATECH invites renowned figures including Korean celebrities so that students can broaden their horizons in culture and establish a new human network.

## TED<sup>x</sup> KoreaTechU

x = independently organized TED event

TED x KoreaTechU has been held every November since 2013. Students plan a lecture, decide a theme, and invite a lecturer by themselves. As the lecture theme of the 2019 "Turning Point," TED x KoreaTechU will draw more empathy and communication from students.

## Talented Individuals with Good Character and Humanities Knowledge



Human Academy Guest Lecture, Film Director Lee Joon-ik





## Proud of Well-Organized Infrastructure and Optimal Educational Environment



### Open space exclusive for KOREATECH students

- Students can utilize a variety of equipment in the labs, which are open 24 hours a day. Students can understand theories better and get used to an actual work environment.
- Students can use the newly built indoor gymnasium. (Basketball court, squash court, gym, shower, etc.) Students can become intelligent and healthy individuals of virtue.

### Reasonable tuition fees as low as those of national universities

- KOREATECH's tuition fees are only half of those of private universities. Students can focus on their studies without worrying about tuition fees.
- Average tuition of engineering schools per semester: 2,380,000 won  
Liberal arts: 1,670,000 won  
(average tuition of 4-year private universities: 3,600,000 won)

### High Dormitory Accommodation Rate, Differentiated system

- Dormitory Accommodation Rate: 100% of first-year students, 70.1% of enrolled students (as of January 2021, the Ministry of Education announcement on college information)
- Eleven dormitories in total (Haeul, Yeji, Hamji, Dasol, Hanul, Cheongsol, IH, Yesol, Eunsol, Chambit, and Solbit)
- Convenience facilities exclusively for boarders: Humanities Café "Banghachak," Study Café, reading room, lounge space, etc.
- Evening Counseling Center tailored to boarders' schedule (emotional support system)

### 4 out of 5 get a scholarship, A variety of scholarship programs

- Amount of scholarship per enrolled student: 3.29 million won, ratio of scholarship to tuition: 77.3% (announced by the Ministry of Education in January 2021)
- **Actual tuition fees per student: Around 1 million won**
- 36 types of school scholarships (14 tuition remission scholarships, 18 life support scholarships, and 4 work-study scholarships)

# The Consultation & Career Development Center Helps You Find Students' Happiness Through Empathy

## Support for students with disabilities

Libraries' learning support and facilities

### Education equipment

- Reading enlargers and portable reading enlargers
- Bone conduction sound amplifiers
- Sense readers (voice service program)

### Facilities

- Elevators for persons with disabilities
- Braille signs in front of the main gates of the libraries

## Scholarships

Individual interview every semester

(Provides information about job programs, scholarships, and mentor-mentee programs)

Moves into the dormitory with priority



## Highly regarded student counseling group

- KOREATECH's Consultation & Career Development Center received the excellent counseling agency award from the Counseling Council for University Students in 2015 and 2018 for its specialized counseling service (Counseling Council for University Students, Counseling segment)
- Full-time qualified counselors provide comforting counseling services. (19 qualified counselors, 7 counseling rooms)

## Enjoy a healthy college life through a variety of counseling services

- The Consultation & Career Development Center provides face-to-face/online counseling services including one-to-one private counseling, e-mail counseling, and group counseling. You can recover from various mental health issues that may occur during your college life.
- Counseling services are provided in a variety of themes including interpersonal relationships, characters, emotions, study, future exploration, behaviors, and habits. All counseling sessions are confidential.



## Make the World Faster and More Convenient

Research Performance based on the Principle of Seeking Truth from Facts

KOREATECH





## 2020

- Excellence Award, the "Campus Patent Universiade" (Department of Energy, Materials and Chemical Engineering, Park Jong-gwan, Im Ji-ho, Hwang Hyun-jun)
- Grand Prize in the titration technology section of the 'Creative Design Online Contest for 90% of the Neglected' hosted by the Ministry of Education
- Gold Prize and Bronze Prize in the general section of the "2020 Global Start-up Camp" held in cooperation with 4 universities of Cheonan
- Excellence Prize at the '2nd Practical Start-up Contest' in 2020 hosted by Ministry of SMEs and Startups, Start-up Promotion Agency, Almaden, and Gyeonggi Center for Creative Economy & Innovation
- Gold Prize and Bronze Prize, the 'IIBC 2020 Comprehensive Academic Conference' hosted by the Institute of Internet, Broadcasting and Communication and the International Promotion Agency of Culture Technology
- Excellence Award at the 'Arirang Satellite Image AI Object Detection Contest' hosted by Korea Aerospace Research Institute, SIA Co., Ltd.

## 2019

- Excellence Prize at the "Creative Comprehensive Design Contest" hosted by the Ministry of Trade, Industry and Energy (Polymer Materials Laboratory, School of Energy, Materials and Chemical Engineering)
- Encouragement Prize at the "Capstone Design Contest" hosted by Chungcheongnam-do (Polymer Materials Laboratory, School of Energy, Materials and Chemical Engineering)
- Encouragement Prize at the "Campus Patent Universiade" (School of Energy Materials and Chemical Engineering, Hwang Seong-jin, Lee Yun-seon, Hwang A-yeon)
- Corporate Contest Prize at the College Creative Invention Contest by the Korean Intellectual Property Office (Kang Ji-hwan, Park Min-soo, Kim Heon-wook)
- Minister of Employment and Labor Prize at the Education and Training Equipment and Media Development Contest (Kim Sang-seop, Kim Woo-seok, Kim Soo-young, Kim Yoon-chan)
- IT Service Excellent Researcher Prize at the Korea Society of IT Service Fall Conference (Lee Sang-gon, School of Industrial Management)
- Grand Prize at the 6th National ICT Smart Device Contest (Gazette Team, School of Mechatronics Engineering)
- Excellent Demonstration Prize at the 11th Korea Haptics Research Association (Interaction Laboratory, Kim Tae-hoon and Lee Seok-han, School of Computer Engineering)

- Champion, the College Student Autonomous Vehicle Contest hosted by Hyundai Motor Company (Pharos Team, School of Mechanical Engineering)
- Grand Prize at the 17th Embedded Software Contest (Yoon Sang-jun, Kim Kwang-nam Kim, School of Computer Engineering)
- Grand Prize, at the 10th LH Land Development Technology Competition (School of Design and Architectural Engineering, Park Jeong-min, Cha Jin-gyeong, Kim Shin-ah)

## 2018

- Won an academic award at Architecture & City in Seoul 2018 of the Architectural Institute of Korea (Lee Seong-jae, School of Industrial Design Engineering & Architectural Engineering)
- Won an academic award at the Korea Auto-Vehicle Safety Association Spring Conference (Park Ji-yang, School of Mechatronics Engineering)
- Won at Spain IROS 2018 in the Fan Robotic Challenge segment (Kim Yong-jae, School of Electrical, Electronics & Communication Engineering)
- Won the grand prize at the Capstone Design Competition of the Ministry of Education (Heo Gyu-ri and Kim Bo-gwang, School of Industrial Design Engineering & Architectural Engineering)
- Won the gold prize at the 5th Donggyo Talent Awards (Yun Yeong-gyu and Lee Hyun-gyu, School of Mechatronics Engineering)

## 2017

- Won the excellent academic paper award from the Korean Institute of Information Scientists and Engineers (Hong Gil-seok, Kim Hong-yeon, and Gang Seong-hyeon, School of Computer Science and Engineering)
- Won the best academic paper prize at the US AHRD Conference (Kim Woo-cheol, Department of Human Resource Development)
- Won the gold prize at the KSAE (Korean Society of Automotive Engineers) College Students' Electric Car Contest in the EV part (Team Das Stern, School of Mechatronics Engineering)
- Won the grand prize at the Assist Device Idea Contest in the design segment (Lee Chang-min, School of Industrial Design Engineering & Architectural Engineering)
- Won the grand prize at the International Student Car Competition in the electric car segment (Team Volts, School of Mechatronics Engineering)





KOREATECH's job placement rates have been ranked the highest for 5 consecutive years  
among 4-year universities in Korea

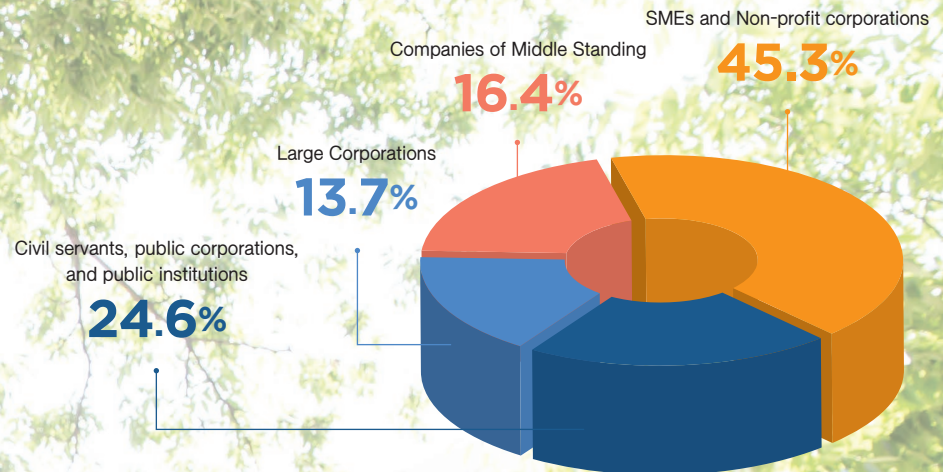
(based on the public announcement of the Ministry of Education)

## Differentiated Job Quality Differentiated Satisfaction

KOREATECH operates career development processes and programs by year and career preparation stage so that students can choose and develop their careers systematically.







## K-CDP (KOREATECH Career Development Program)

It is KOREATECH's unique career development support program for systematic career development and career goal management by year.

## Distribution of employment rate by company size

(Source: Ministry of Education, Korea Educational Development Institute)

Counseling and Career Development Center		Career Development and IPP Center	
Purpose	Program	Purpose	Program
Problem Exploration	Psychological counseling	Provide information on career and employment	- Mentoring by job/company - Special lecture on finding jobs at companies of middle standing, overseas, etc. - Online career/employment information platform - Job counseling
Self-understanding	- Psychological test and counseling (MBTI, STRONG, U&I) - Psychological counseling		- Online employment solution (Providing information on company/job) - Special lecture and training camp on corporate/job analysis and employment - Self-introduction letter, interview training camp, and counseling - Employment training camp to improve job skills
Enhancement of self-efficacy/ Adjustment to College Life/ Human Relationship	- Group counseling program for improving self-efficacy - Group counseling program on the adjustment to college life (adaptation to major) - Interpersonal relationship improvement program	Information utilization (Company, job analysis, etc.)	- Short and long-term Industrial Professional Practice and counseling - Special lecture for excellent IPP trainees
Decision	- Group counseling to improve decision making and programs - Consultation using decision-making comparison table (in connection with employment team)	Job experience	

Division	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year
Goal	Understanding Self/Major	Major/Job/Career Exploration	Career Preparation and Adjustment	Career Execution (Graduate School/Job/Start-up)
Goal Input	Setting the goal while attending Korea Tech		Survey of Desired Career (Graduate School/Job/Start-up) - Job: Desired company, job, area, salary, etc. - Start-up: Start-up business category, etc. - Graduate School: University, major, etc.	
Basic Employment/ Career Education	Curriculum	College Life and Vision (Mandatory)	Understanding Career Development and Counseling (Mandatory)	
	Associated Activities	- MBTI Test and Interpretation - Guide to Career/Job/Start-up Program	- Guide to Career/Job/Start-up Program - Outreach Job Mentoring (Acquiring vocational information)	
	Diagnosis	Check satisfaction with major and career goal setting		Career preparations, career
			Job/Corporate Analysis (Online)	Special Lecture on Writing Self-introduction Letter (Online)



# Korea's Technology Leaders Meet the World

## Student exchange programs

Students can develop their global competencies and take major and liberal arts courses at the renowned universities in 17 countries including the US, Netherlands, Germany, France, Czech Republic, Spain, and China. The programs consist of intensive major, intensive language, and intensive major+language. Up to 5 million won is provided depending on the country.

## Global Lounge Program (GEC)

### Enrolled students

Linguistic Skills Enhancement Program  
(Free Talking, Writing Clinic, English Conversation Skills, etc.)

### International students

Provides Korean language courses and cultural experience

## Expanded exchanges with overseas sister organizations

KOREATECH has concluded 'exchange agreement' with leading international organizations in TVET and around 150 institutions(universities) to provide students with a variety of exchange programs.



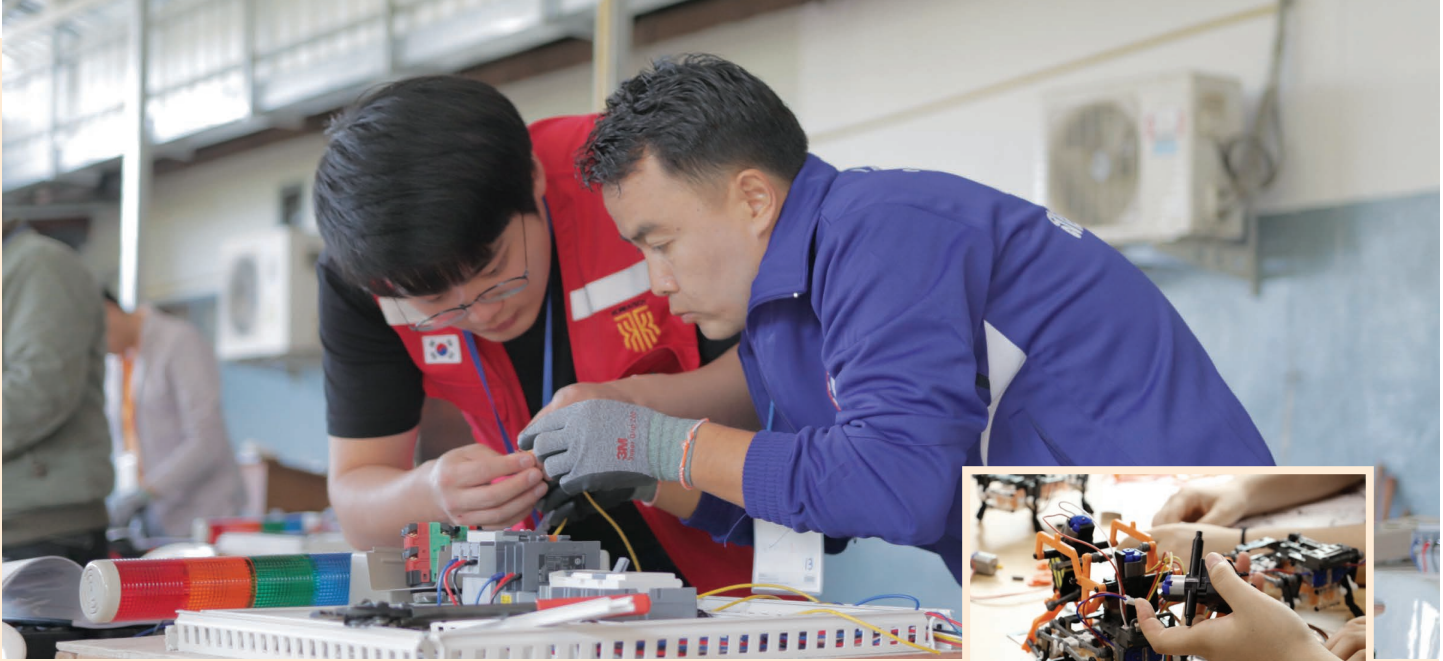
## Master's course for Global TVET

### (Technical Vocational Education and Training)

KOREATECH offers a Global TVET Management Master's Course in order to cultivate TVET (Technical Vocational Education and Training) policy developers and workers for the relevant organizations of major ASEAN nations (Vietnam, Indonesia, Philippines, Laos, Cambodia, etc.).

## Global TVET (Technical Vocational Education and Training) Forum

In order to strengthen its international network in global TVET (Technical Vocational Education and Training), KOREATECH invites foreign experts from the private and public sectors and officials from international organizations such as International Labor Organization (ILO) and Organization for Economic Cooperation and Development (OECD) and holds a regular forum for discussing the future development plan.



## Values of Technology and Humans We Contribute to Society and Communities

### Overseas technical volunteer work

**Vietnam, Cambodia, Laos, Uzbekistan, etc.**

As a technology leader in Korea, KOREATECH provides students with an opportunity for overseas volunteer work in developing countries every year. Through volunteer work, KOREATECH cultivates talented individuals with global perspective and leadership, and flexible thinking based on an understanding of different cultures.

Around 100 students serve as members of the KOREATECH Volunteer Group every year.

#### IT/CAD/Basic coding education

Cambodia and Vietnam

#### Creative science camp

Laos

#### Network installation

Laos

#### Basic computer HW/SW education

Uzbekistan, etc.

### Technical and teaching volunteer in South Korea

#### Technical volunteer work in South Korea

Repairing agricultural machinery, replacing electrical wiring, repairing outdated houses, etc.

#### Knowledge sharing

Tutoring for middle/high school students, science camp for elementary school students, smartphone education at welfare centers, etc.

#### Love sharing

PR campaign for the dead zone of welfare, volunteer activities for rural communities, 1:1 volunteer activities for senior citizens living alone, local children's center cleaning, etc.

#### Talent donation

Mural painting, teaching art, music, and sports at a local children's center, etc.

### Career exploration

In order to cultivate future practical engineers and job competency development experts, KOREATECH, which is taking the initiative in national human resource development, operates a practical engineering experience program that is a type of specialized education model. KOREATECH provides teenagers with an opportunity to consider a career as practical engineers.

In 2019, around 3,000 students from 30 elementary/middle/high schools experienced future technology education and its values at KOREATECH.



## Campus Life Teeming with Culture and Romance



### A perfect culmination of campus romance with diverse club activities

KOREATECH has highly diverse student clubs with as many as one in every two students enjoying at least one main club's activity.

As of 2019, KOREATECH students have actively participated in a total of 45 clubs in 6 different areas: arts, performance, sports, voluntary service, and religion. Moreover, undergraduate and graduate students who are interested in business startups can organize venture business clubs with extensive support.

They can foster their dreams of starting star venture businesses with phased operational funding as well as support programs required for startups at all phases (operational expenses, funds for the production of trial products, workspace, mentoring service, etc.).

### Hanmaek Festival, the crowning glory of campus life

KOREATECH hosts the Hanmaek Festival every spring as a venue of harmony and unity of all school members.

Many different groups constituting KOREATECH, including undergraduate departments, student clubs, student associations, student councils and honorary ambassadors, make the festival more colorful by providing diverse content.

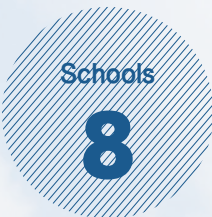
The romantic atmosphere of the campus life is further intensified as graduating students hold graduation exhibitions and club performances in the fall, demonstrating their skills and competencies.





# KOREATECH Fosters Talented Individuals through Field-Centered Engineering Education

## Undergraduate School



School of Mechanical Engineering  
School of Mechatronics Engineering  
School of Electrical, Electronics & Communication Engineering  
School of Computer Science and Engineering  
School of Industrial Design Engineering & Architectural Engineering  
School of Energy Materials & Chemical Engineering  
School of Industrial Management  
Department of Employment Services Policy

\* Receives applications for admission (freshmen): 7 schools

School of Liberal Arts  
Department of Human Resource Development  
Department of Future Technology

## Graduate School



Graduate School  
Graduate School of IT Convergence, Science, Management, and Industry  
Techno-HRD Graduate School

## College of Work and Study in Parallel



Department of Machinery & Electricity Convergence Engineering  
Department of Machine Design Engineering  
Department of Small Business Administration  
Department of Machine & Equipment Control Engineering (for Highly Skilled Professionals)  
Department of IT Convergence Software Engineering (for Highly Skilled Professionals)  
Department of Smart Factory Convergence (for Highly Skilled Professionals)

# School of Mechanical Engineering



## Website

G206, Engineering Building 1  
+82-41-560-1290~1

## Track

### Eco-friendly Automobile & Energy Track

New Renewable Energy,  
Power Plant, Contamination  
Measurement and Reduction  
Technology, Thermal Fluid  
System Modeling,  
Bio Applications

### System Design and Manufacture Track

Material/Element/System  
Design, Nano/Micro  
Technology, Optimization/  
Convergence Technology,  
3D Printing, Smart Factory

### Smart Mobility Track

Autonomous Mobile, Drone,  
Robot, Artificial Intelligence,  
Microprocessor Application,  
etc.

**Career path** Samsung SDI, Samsung Display, Samsung Electronics, Korea Midland Power, Korea East-West Power, Korea Railroad Corporation, Hyundai Mobis, Hyundai Motor Company, Hyundai Heavy Industries, Hyundai Powertech, SK C&C, etc.

## Competent automobile manpower + Mechanical engineering students with IT knowledge

School of Mechanical Engineering aims to cultivate outstanding people who can design and produce advanced machinery and maximize productivity by incorporating information and internet technologies. To this end, the school is operating the latest mechanical engineering curriculum, allowing students to acquire substantial mechanical engineering knowledge. Furthermore, the school strives to provide entire-cycle education from career counseling to employment. Also, the school operates clubs where students can produce hybrid vehicles, electric vehicles, and autonomous vehicles by providing material support to enable research in the laboratory around the clock. As a result of this, the PHAROS Team of the School of Mechanical Engineering had a landslide victory at the Autonomous Vehicle Competition (2019) hosted by Hyundai Motors and the school achieved the best evaluation result in the field of machinery (automobile) in the College Evaluation from an Industry perspective in 2020.

## Employment rate ✕ School of Mechanical Engineering = 88.4%

Mechanical engineering is an engineering field based on dynamics. The School of Engineering is cultivating competent engineers in a wide range of industrial fields including general machinery, automobile, aviation, environment, electricity, electronics, semiconductors, and computer information and communication, maintaining a wide industry-university cooperation relationship with domestic and overseas enterprises. Graduates are carving out their career in a variety of fields. They are working as quality management, design, manufacturing, or management researchers at private or government-funded research institutes, key engineers handling design and production at companies, and teachers at government-affiliated technology education institutions, vocational high schools, or meister schools. Some graduates are running a venture, with some working as professors after finishing graduate school.



# School of Mechatronics Engineering



**Career path** Hyundai Motor Company, LG Electronics, Hyundai Transys, Korea Hydro & Nuclear Power, Korea Energy Agency, Korea Electric Power Corporation, KEPCO KPS, Korea Western Power, Korea National Oil Corporation, ASML, Applied Materials Korea, Edwards Korea, etc.

**Mechanical engineering technology + Electrical and electronics engineering and computer technology**

The compound word “mechatronics engineering” is formed from the words mechanical engineering and electronics engineering. The School of Mechatronics Engineering provides industrial site-oriented technology education so that its graduates play a pivotal role in the industries. In addition, its liberal arts education and character education help graduates adapt to informatization and globalization. Its goal is to cultivate highly skilled practical engineers and human resource development experts who will lead the mechatronics field as the core technology in the era of the Fourth Industrial Revolution.

**Employment rate ✕ School of Mechatronics Engineering = 83.4%**

Since its opening, mechatronics engineering graduates have been entering various leading companies, public corporations, foreign enterprises, and middle-standing enterprises and have been gaining recognition for their competencies. Some students enter excellent graduate schools at home or abroad for further deeper studies. Mechatronics engineering keeps evolving and developing as a core technology of the Fourth Industrial Revolution, with the relevant industries continuing to grow as well. We are certain that future mechatronics engineering graduates will have wider opportunities.



## Website

217, Engineering Building 3  
+82-41-560-1376, 1377

## Majors

### Production System

System design, precision processing, quality management, etc. in machinery, automobile, machine tool and mold fields

### Control System

Electricity/Electronics/Computer control, understanding of state-of-the-art systems, control function analysis and design

### Digital System

Machinery and electricity system design and implementation, real-time IT control technology, semiconductor/display equipment technology, and intelligent system



# School of Electrical, Electronics & Communication Engineering



## Website

F201, Engineering Building 1  
+82-41-560-1292~3

## Majors

### Electrical Engineering

Circuit analysis techniques, high-quality power systems, and electrical application systems

### Electronics engineering

Semiconductors, displays, circuits, systems, control/measurement, robotics, electromagnetic field, communications, and embedded systems

### Information & Communication Engineering

Communications systems, network/security, embedded systems, and intelligent software

**Career path** Kia Motors, Samsung Electronics, Samsung Heavy Industries, Lotte Data Communication Company, Hyundai Mobis, Hyundai Elevator, Seoul Metro, Korea Electrical Safety Corporation, Korea Electric Power Corporation, Korea Southern Power, etc.

**Electrical engineering** + **Electronics engineering** + **Information and communications engineering**

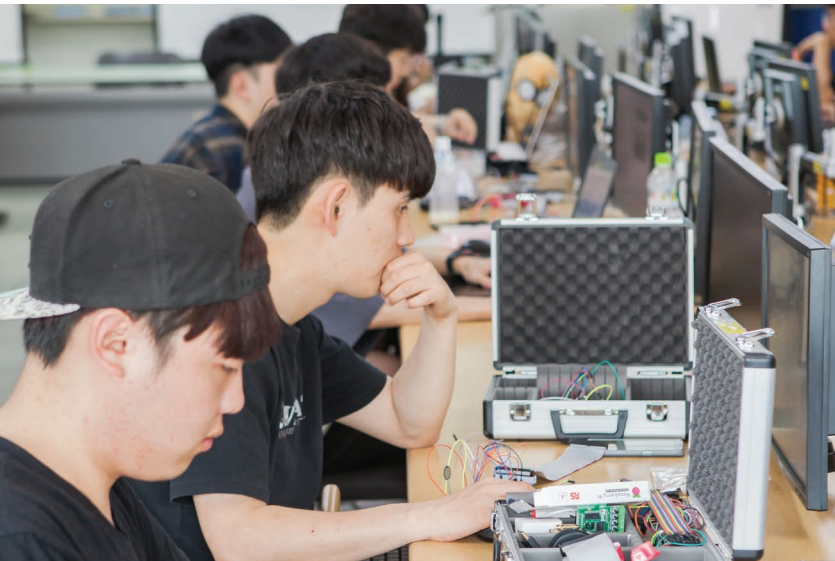
School of Electrical, Electronics & Communication Engineering is studying and teaching how to provide a better environment for people based on electrical, electronics, and communications engineering as the driving force of the hi-tech informatization industry of the 21st century. To achieve this, the School offers three majors: Electrical Engineering, Electronics Engineering, and Information and Communication Engineering. The School is cultivating talented individuals who are immediately needed by industrial fields. Students will learn theoretical and practical knowledge of state-of-the-art applied technology. Students can take some courses of other majors in the School of Electrical, Electronics, and Communications Engineering while acquiring professional knowledge of their major. They can also learn comprehensive information and knowledge.

**Employment rate** ✖ **School of Electrical, Electronics & Communication Engineering**

**= 86.8%**

Graduates of the School of Electrical, Electronics & Communication Engineering are now working as competent engineers in a variety of public corporations, government agencies, and industrial fields including electricity, electronics, and information and communication. Some of them are working as teachers at technology education institutions, vocational high schools, and meister schools. Some graduates are pursuing their research in graduate school.

# School of Computer Science and Engineering



**Career path** Samsung Electronics, Kakao, Naver, Nexon, NHN, AWS, Korea Internet & Security Agency, National IT Industry Promotion Agency, National Health Insurance Corporation, Korea Employment Information Service, KEPCO KDN, NH Nonghyup Bank, National Federation of Fisheries Cooperatives.

## Fostering Professional People for Human-centered Intelligence Digitalizing Computing Technology

### + Leading Global Education of Human-centered Intelligence and Information Technology

School of Computer Engineering has established its vision to cultivate professional people for human-centered intelligence digitalizing computing technology and its mission to lead the global education of human-centered intelligence and information technology. It can be achieved in three fields: Internet of Things, software, and artificial intelligence. Considering the nature of the field, strong interconnection, the school provides in-depth education in specialized fields through three tracks: smart IoT track, software track, and AI track, to enable convergent education in various fields based on the key theory and knowledge education in computer engineering/computer science. Through this, the School of Computer Science and Engineering aims to cultivate “core computer engineering talents who will lead a human-centered intelligence and information-oriented society.” Also, the school is providing short- and long-term industry professional practices through extensive industry-academy cooperation and doing its best to provide whole-person education through individual academic and career guidance provided by major advisors assigned from the first year.

**Employment rate** ✕ **School of Computer Science and Engineering** = **81.1** %

After graduation, students may start their career at leading companies, research institutes, government agencies, financial institutions, or computer-related companies. Some students start their own ventures. Those who go to graduate school become college professors or work as researchers at a research institute. In addition, the School of Computer Science and Engineering operates an engineering education certification that proves that its graduates have the necessary expertise in the industrial fields.



#### Website

232, Engineering Building 2  
+82-41-560-1460, 1461

#### Track

##### Smart IoT Track

Basic IoT Design, Digital System Design, Intelligent IoT, IoT Embedded System, Real-time System

##### Software Track

Mobile Programming, Software Engineering, Virtual/Augmented Reality, Network Design, Computer Security

##### AI Track

Basic Artificial Intelligence and Applications, Natural Language Processing, Data Mining, Big Data, Signal/Image Processing

# School of Industrial Design Engineering & Architectural Engineering



## Website

224, Engineering Building 2  
+82-41-560-1221, 1227

## Majors

### Industrial Design Engineering

Design engineering, product design, UX service design, CAID, human factors and ergonomics, interface design, etc.

### Architectural Engineering Major

Construction and Material Design  
Construction Process and Business Management  
Structural Design and Smart Steel Structure  
Architectural Design Studio  
Architectural Eco-friendly Planning

**Career path** (Industrial Design Engineering) ACE BED, SK Magic, Ssangyong Motor, Korea Institute of Industrial Technology, Korea Airports Corporation, Jeju Province Development Co., etc.  
(Architectural Engineering) POSCO E&C, Hoban Construction, Kyeryong Construction, Korea Technology Finance Corporation, Korea Land & Housing Corporation, etc.

## Design for humans and architectural engineering + Creative convergence education leading the Fourth Industrial Revolution

Design Engineering major aims to cultivate the smart product and emotional convergence service design experts in the era of the fourth industrial revolution with the emphasis on modeling, design theory, design tools, prototyping, human interaction, design project for developing creative problem-solving skills and design expression skills. Architectural Engineering major emphasizes architectural theory using advanced ICT convergence technology, design process, structural system, eco-friendly construction and materials, advanced construction technology, construction business management techniques for planning and embodying future-oriented architecture.

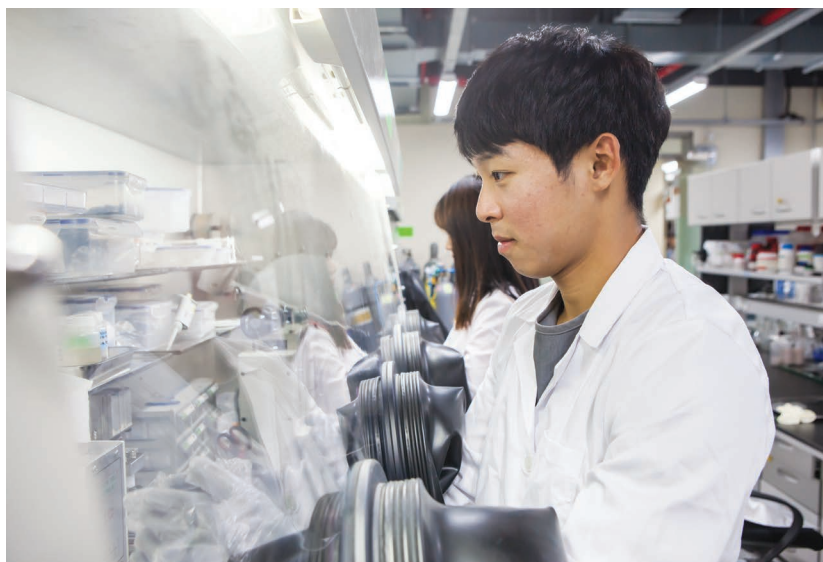
## Employment rate ✕ School of Industrial Design Engineering & Architectural Engineering

**= 86.8%**

Graduates of the Industrial Design Engineering Major are working as college professors, teachers, researchers of central/local government-funded research institutes, government officials, and designers of leading/small and medium-sized companies. Graduates of the Architectural Engineering Major are playing an active role in a variety of fields such as construction companies, engineering companies, consulting companies, project development companies, and construction management(CM) companies.



# School of Energy Materials & Chemical Engineering



**Career path** Samsung Electronics, Samsung SDI, LG Chem, Hyundai Motor, Hyundai Steel, SK Hynix, SK Innovation, POSCO, Lotte Chemical, Chong Kun Dang, Green Cross, Yuhan Corporation, Celltrion, CJ, Hanmi Pharm, ASML Korea, MEMC, Dow Chemical, BASF, Merck, Korea Electric Power Corporation, Korea SMEs and Startups Agency, Korea Midland Power, Korea Western Power, Korea Southern Power, etc.

**New materials as the source of national industries + Practical engineers with theoretical knowledge and practical job competency**

Energy and Materials major offers a variety of training such as basic theory on materials such as metals, ceramics, polymers, semiconductors, magnetic materials, and information and communication alongside training on the preparation for energy depletion, clean energy, new renewable energy, hydrogen energy, and energy storage technology.

Applied Chemical Engineering major is fostering creative and convergent practical engineering professionals who will lead the development of cutting-edge chemical materials in the fields of bioengineering technology (vaccine/pharmaceutical), eco-friendly/energy technology (battery/hydrogen energy), advanced convergence technology (space, aviation, automobiles) and information and communication technologies (semiconductors/displays) and play a pivotal role.

**Employment rate ✕ School of Energy Materials & Chemical Engineering = 87.1 %**

The School of Energy Materials & Chemical Engineering is related to a wide range of industries including South Korea's key industries such as semiconductors, displays, automobile, shipbuilding, steel, metal, chemical industry, and electronic industry as well as promising industries such as biotechnology and energy. The demand for experts in such fields is expected to increase rapidly.



## Website

237, Engineering Building 3  
+82-41-560-1301

## Majors

### Energy Materials Engineering

Semiconductors/Displays,  
new and renewable energy,  
steel/automobile, etc.

### Applied Chemical Engineering Major

Bio Materials (Pharmaceuticals,  
Vaccines, Drug Delivery)  
New Renewable Energy  
Materials(Lithium Battery,  
Hydrogen Fuel Cell)  
Advanced Convergence  
Materials(Space, Air, Automobile)  
Information And Communication  
Materials (Intelligent  
Semiconductor,  
Next Generation Display)  
Gas, Refining/Petroleum,  
Fine Chemical/Cosmetics, Etc.  
chemical process, etc.

# School of Industrial Management



## Website

Rm. K223, Humanities and Management Building  
+82-41-560-1437~8

## Majors

### Convergence Management Major

Marketing and Advertising  
Publicity, Global Business,  
Organization and HR Management,  
Entrepreneurship and Start-up  
Management,  
Technology Management),  
Management Strategy, etc.

### Data Management Major

Big Data Analysis  
Management Information System  
(MIS) and Digital Business  
(e-Business), Production Operation  
Management and Smart Factory,  
Financial Management and FinTech  
Management, Accounting, etc.

### Common for All Schools

Computing Ideas and Programming  
Language (Basic), Economics, etc.

**Career path** SK Bioland, GS Retail, Korean Air, Shinhan Bank, Woori Bank, Korea Investment & Securities, Chong Kun Dang, Lotte Nestle Korea, Korea Water Resources Corporation, Korea Electric Power Corporation, National Health Insurance Corporation, Korea Midland Power, etc.

## Fostering Professional Management Talents with Expertise in Business Administration

**+** Data Analysis **+** Convergence and Integration Competency

School of Industrial Management aims to cultivate professional management talents with data analysis capabilities and convergence and integration capabilities, which are the core competencies required by the fourth industrial revolution, who can lead problem-solving and changes in the industry. The school supports students to grow into professional business manager through on-site management education that combines the design and operation, theory and practice of a digital knowledge convergence and integration curriculum such as the data of the Department of Business Administration, so that they can use their skills creatively in the management field after graduation.

**Employment rate** **✕ School of Industrial Management = 80.0%**

Students majoring in business administration are finding jobs in all industries that they can advance into. In the private sector, they are finding jobs at not only large companies, but also companies of middle standing, and SMEs, and venture companies. In the public sector, graduates are finding positions in public corporations, public agencies, and government-affiliated organizations, advancing into a wide variety of fields, such as manufacturing, finance, distribution, broadcasting and communication service, education and culture service, civil servants, quasi-civil servants of public agencies.



# New Department of 2022 Department of Employment Services Policy



**Career path** Civil servants (Ministry of Employment and Labor, local governments), related public institutions (Human Resources Development Service of Korea, Korea Workers' Compensation and Welfare Corporation, Korea Employment Information Service), private employment service institutions (Ingeus, Steps, Job Center, Zeniel, etc.), quasi-governmental organizations, and HR departments of large and medium-sized companies, etc.

## Fostering Professional Manpower Assuring the Professional Life Bringing Happiness to People

### + Providing the Best Employment Services

The Department of Employment Services Policy aims to foster professionals who provide the best employment services for the people to enjoy a happy professional life, such as national employment insurance, Korean unemployment assistance, job counseling, job placement, and job change support assistance.

With the differentiated infrastructure in the field of employment and training, such as Competency Development Center, Vocational Competency Review and Evaluation Center, and Online Lifelong Training Center, it provides the best education related to employment services. Enrolled students can acquire Class 1 Vocational Counselor's license upon the completion of the long-term and short-term Industry Professional Practice (IPP), the specialized program provided by the faculty with extensive work experience in government and national research institutes, and the special certificate course during the breaks in the second and third year. (Given preference in finding employment in organizations related to the Ministry of Labor and private employment service organizations, and additional points for civil service examinations.)

### Employment ✕ Department of Employment Services Policy

Job-related employment services (employment, training, unemployment, change of jobs, retirement, etc.) are a field in which the demand for manpower is rapidly expanding. The employment outlook for the Department of Employment Services Policy to be established at Korea University of Technology and Education in March 2022, the only one in four-year universities in Korea, is expected to be at the highest level.

#### Department of Employment Services Policy

Main Number

+82-41-521-8181, 8185

E-mail

es2021@koreatech.ac.kr

#### Majors

##### Major Curriculum

Job Counseling and Psychology, In-depth Counseling, Use of Big Data and Employment Information, System of Employment Insurance Law, Human Resource Management, Labor Law, Economics, Job Information Studies, Statistics, Administrative Law, Employment Services, Understanding Labor Market Policy, etc.

##### Liberal Arts and HRD,

##### Free Choice

Basic Liberal Arts, General Liberal Arts, MSC Employment Basics, HRD

# School of Liberal Arts



## Website

Rm. 102, Humanities and  
Management Building  
+82-41-560-1294~5

## Education details

**Basic Liberal Arts**  
Communications

**General Liberal Arts**  
Global, history and philosophy,  
art and culture,  
society and psychology,  
and convergence

**Collegiate Liberal Arts**  
Nauri character

**MSC**  
Mathematics, science,  
and computer

## Cultivation of Liberal Arts + Basic Knowledge of Mathematics

The liberal arts curriculum is divided into Basic Liberal Arts, General Liberal Arts, MSC Major Basics, and Liberal Arts Electives, organized to cultivate the core competencies of Korea University of Technology and Education. Basic Liberal Arts are subdivided into Language and Thought, and Basic Mathematics, and General Liberal Arts is divided into Character and Refinement, History and Philosophy, Art and Literature, Society and Psychology, Nature and Science, and Future and Convergence. Basic MSC deals with topics related to mathematics, science, and computer science. Students may choose Liberal Arts Electives to broaden the range of choices to complete all subjects available in the School of Liberal Arts and K-MOOC subjects.

## Curriculum

The liberal arts curriculum is divided into the humanities “liberal arts” sector and the basic mathematics and information “natural science” sector. All the courses of each sector are connected to KOREATECH’s core competencies. The liberal arts sector is divided into basic liberal arts, general liberal arts, and college liberal arts. The basic mathematics and information sector is divided into mathematics, science, and computer. Optional liberal arts courses are established to provide a wider selection. Students can take all the courses and K-MOOC courses of the liberal arts sector and the basic mathematics and information sector.



# Department of Human Resource Development



## Cultivation of practical engineers + Job competency development experts qualified as learning leaders

The goal of the Department of Human Resource Development is to cultivate job competency development experts and practical engineers needed by the nation and society in cooperation with all of KOREATECH's schools and departments.

The Department of Human Resource Development operates the HRD Minor Program based on vocational training, human resource development, education technology, and counseling for all students. The Department is cultivating learning leaders by teaching all the qualifications required for vocational training teachers, practical engineers, HR development experts, and workplace trainers. In addition, it helps students develop the abilities required of vocational training teachers at job training institutes and competencies required of practical engineers who can lead learning organizations and on-the-job-training (OJT) at companies and public organizations. Lastly, students can develop the abilities required of HR development experts who plan, develop, execute, and evaluate corporate education at companies and public organizations and competencies required of workplace trainers in the Korean-style work-study system.



### Website

Rm. 102, Humanities and  
Management Building  
+82-41-560-1294~5

### Majors

#### Common

Introduction to HRD,  
Development of NCS-Based  
Programs, Understanding  
of Career Development and  
Counseling, Instructional Design  
& Education Methods, and  
Job Competency Development  
Training Evaluation

#### Job competency development training

NCD Education Planning,  
Micro-teaching, Learning  
in Adulthood, Vocational  
Rehabilitation for Persons with  
Disabilities, etc.

#### Practical engineering technology

Learning in Adulthood,  
Introduction to e-Learning,  
HRD Project Practice, In-house  
Education, etc.

# Department of Future Technology



## Website

G402, Engineering Building 1  
+82-41-560-1489

## Majors

### AR/VR Track

Introduction to AR/VR (AD), AR/VR programming, VR controller programming, realistic interaction contents design (PBL), etc.

### Smart Factory Track

Introduction to smart factory (AD), digital twin, intelligent process data management, IoT application (PBL), Introduction to CPS (PBL), etc.

### AI/Big Data Track

Utilization of machine learning, deep learning application, utilization of computer vision (PBL), cloud computing and AI service, data modeling and inference, etc.

## Cultivation of talented individuals with convergence qualifications + Education meeting industrial demands

Department of Future Technology aims to cultivate talented people with convergent knowledge and competence by organically integrating professional knowledge that reflects the demands of the future industrial society and the unique academic fields of each department. This department intends to cultivate interdisciplinary convergence and integration capabilities by flexibly opening and operating a curriculum suitable for the future society following changes in the society. Currently, the department is operating AI/Big Data Track, Smart Factory Track, AR/VR Track and Global Creativity Convergence Major (joint major program operated by four universities in Chungcheongnam-do region) for all students, centering on new educational methods and using Edutech and PBL lectures to strengthen problem-solving competency.



# College of Work and Study in Parallel

## Undergraduate courses

**Department of Machinery & Electricity Convergence Engineering,**  
**Department of Machine Design Engineering,**  
**Department of Small Business Administration**

**Department of Machinery & Electricity Convergence Engineering** | The Department of Machinery & Electricity Convergence Engineering cultivates engineers who can design and implement intelligent machinery/electronic systems. Students will be able to integrate their knowledge and technologies in electrical/electronics engineering and computer engineering based on mechanical engineering technology.

**Department of Machine Design Engineering** | The Department of Machine Design Engineering fosters professional engineers who can understand the entire design and production processes as well as manufacturing and assembly processes and design machines creatively based on broad understanding.

**Department of Small Business Administration** | The aim of the Department of Small Business Administration is to provide differentiated management education for students who work and study in parallel. The Department is cultivating talented individuals specializing in small but competitive enterprises.



## Highly Skilled Meister Course (Master's Course)

**Department of Machine & Equipment Control Engineering,**  
**Department of IT Convergence Software Engineering**

**Department of Machine & Equipment Control Engineering** | The informatization and automation of production facilities are essential for all production processes in order to enhance productivity and strengthen national competitiveness. The Department of Machine & Equipment Control Engineering is cultivating a professional workforce who can create added values and revolutionize products, services, and processes based on control engineering technology.

**Department of IT Convergence Software Engineering** | As the information society is developing, the need for IT increases in all industrial fields. The Department of IT Convergence Software Engineering cultivates software experts who can create added values. Students can develop practical job competencies based on their theoretical knowledge in IT projects.

**Department of Smart Factory Convergence** | It is a department operated based on a contract designed to train incumbent employees of companies participating in the work-to-school program in the intelligent automated manufacturing facilities development/operation field required in the fourth industrial revolution era based on the traditional manufacturing industry. The department cultivates convergent experts in the field of smart manufacturing facility design and operation based on mechanical system design, control, IoT, and data processing that are commonly required by smart factory demanding companies and suppliers.



### Website

902, Damheon Hall of Practical  
Education  
+82-41-640-8730~2

The KOREATECH College of Work and Study in Parallel was founded as part of the government's work-study system project. The College of Work and Study in Parallel operates 3 undergraduate courses and 2 highly skilled meister (master's) courses considering the demand of local industries.

# Graduate School



## Website

**Education & Scholarship Team, General Graduate School/Graduate School of IT Convergence, Science, Management, and Industry**  
1F, Administration Building  
+82-41-560-1220

**Education & Scholarship Team, Graduate School of IT Convergence, Science, Management, and Industry**  
506, Practical Education Hall, Campus 2  
+82-41-521-8203~4

Based on its education philosophy of “seeking truth from facts,” the Graduate School of KOREATECH helps graduate students develop their creative thinking and ability to execute and fulfill their potential. Ultimately, the Graduate School fosters talented individuals who can contribute to national development and human prosperity.

Today, the Graduate School of KOREATECH consists of 3 graduate schools and 24 departments (including 2 contract departments). The Graduate School fosters creative technical experts and technology management experts who are needed by the knowledge-based society of the 21st century.



**Cultivates creative technical experts, technology management experts + National HR development experts**


**Graduate School** | The Korea University of Technology and Education Graduate School was established to cultivate high-quality professional technical manpower with subjective academic research skills and creative technology development skills. The graduate school comprises the Department of Mechanical Engineering, Department of Mechatronics Engineering, Department Electrical, Electronics & Communication Engineering, Department of Computer Engineering, Department of Industrial Design Engineering, Department of Architectural Engineering, Department of Energy, Materials and Chemical Engineering, and Department of Management of Technology and Innovation.

**Graduate School of IT Convergence, Science, Management, and Industry** | Operates a total of ten departments, including the Department of Mechanical Engineering, Department of Mechatronics Engineering, Department of Electrical, Electronics & Communication Engineering, Department of Computer Engineering, Department of Engineering, Department of Design Engineering, Department of Architectural Engineering, Department of Energy, Materials and Chemical Engineering, Department of Management, Department of IT Convergence and Management, and Department of Safety and Environment Engineering (operated on contract) to train and re-educate industrial engineers and managers with knowledge in science, technology, and management and practical problem-solving skills through the training on interdisciplinary convergence and industry-academic cooperation in basic source technology fields,

**Techno-HRD Graduate School** | The goal of the Techno-HRD Graduate School is to conduct interdisciplinary and practical studies in a wide range of academic fields related to human resources. For this purpose, the School offers the Employment Policy Major, Human Resource Development Major, Human Resources Management Major, and Career and Job Counseling Major.

In order to establish an academic foundation for the HR field and promote academic activities, the School provides in-depth specialized curricula through basic researches, applied researches, diagnosis and problem-solving consulting researches, R&D activities in education and training programs and education media, publication of academic journals and special books, and establishment of information and academic DB. Its specific goal is to cultivate an HR workforce in various fields, including national human resource development (NHRD) experts, employment and job competency policy experts, employment service experts, employment insurance experts, industrial accident compensation insurance experts, in-house HRD experts, HR management consultants (for small and medium-sized enterprises), career and job counseling experts, technology education experts, and e-learning experts.





心虛則禮虛 심허즉례허

禮虛則事無不虛 예허즉사무불허

虛於己則虛於人 허어기즉허어인

虛於人則天下無不虛 허어인즉천하무불허

Construction of Korea Tech in 1991

If your mind is vain, your body is vain.

If your body is vain, everything is vain.

If you are vain to yourself, you will be vain to others.

If you are vain to others, all the world will be vain.

- From "Dialogue on Iwulü Mountain, by Hong Dae-yong -



Whole View of Korea Tech in 2021



**Technology for People**  
**Education that Changes the World**

The 30th anniversary of the opening  
**KOREATECH**



# The Alumni of KOREATECH



**SAMSUNG SAMSUNG SDI**



**Kwon Yong-guk**

Class of '13, School of Mechanical Engineering,  
Got a job in 2020

In the lab, I could experiment on the theories I had learned at lectures. KOREATECH's learning environment was very helpful for me.



**EDWARDS**



**Gang Yu-yeon**

Class of '14, School of Mechatronics Engineering,  
Got a job in 2020

I could get a job successfully thanks to KOREATECH's practical training-centered education systems and well-organized career support.



**KEPCO**



**Ha Bo-hyeon**

Class of '16, School of Electrical, Electronics & Communication Engineering, Got a job in 2019

I joined the Industry Professional Practice (IPP) Program in Korea Electric Power Corporation. It was a great opportunity for me to learn and experience a working environment as well as field work.



**nipa** National IT Industry Promotion Agency



**Oh Byeong-ho**

Class of '14, School of Computer Science and Engineering,  
Got a job in 2019

I got to open my eyes to new fields I had never experienced before while I was taking AI and VR courses tailored for the Fourth Industrial Revolution.



Ask Your Questions to Graduates, the Pride of KOREATECH.

How is KOREATECH able to take the lead? What are the secrets of its differentiated competencies?



**Kim Tae-yeong**

Class of '14, Industrial Design Engineering Major, School of Industrial Design Engineering & Architectural Engineering, Got a job in 2020

The industrial design engineering major encompasses industrial design and engineering. One of the merits of this major is that you can realize your design using a variety of programs and equipment.



**Choi Gang-sik**

Class of '13, Architectural Engineering Major, School of Industrial Design Engineering & Architectural Engineering, Got a job in 2019

I could learn deeper knowledge in my major through the IPP and lab. Such experience was very helpful for me in adjusting to my job fast.



**Kim Yeong-bok**

Class of 2011, School of Energy, Materials & Chemical Engineering, Employed in 2019

With a practice-oriented training system and systematic consultation with professors, I could quickly decide on a job and start preparing for employment.



**Gang Jin-mo**

Class of '10, School of Industrial Management, Got a job in 2017

The difference between the KOREATECH School of Industrial Management and other business schools is that students can learn engineering as well as business administration. It would be a great advantage to develop your competitiveness.

# The Faculty of KOREATECH

Mentors who can lead mentees are important to cultivate talented individuals. Here, we introduce KOREATECH's professors who will foster the technology leaders of Korea.



School of Mechatronics Engineering  
Professor **Kim Hong-keun**  
(Nonlinear Control, Seoul National University)

The School of Mechatronics Engineering fosters convergence experts in mechanical engineering, electrical engineering and electronics engineering in the era of the Fourth Industrial Revolution.



The Department of HRD is fostering job competency development experts and practical engineers who are capable of becoming learning leaders.

We will offer new mechanical engineering that the new era wants.



School of Mechanical Engineering  
Professor **Woo Chang-gyu**  
(Mechanical Engineering, Seoul National University)

I'm so proud of the computer science and engineering students who always complete even difficult projects.



School of Computer Science and Engineering  
Professor **Kim Sang-yeon**  
(Haptics, KAIST)



Department of Human Resource Development  
Professor **Kim Mi-hwa**  
(Education Technology, Teachers College, Columbia)



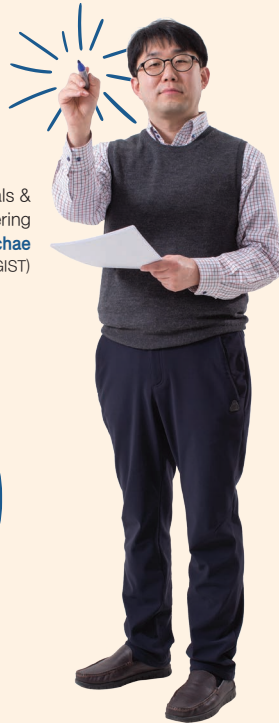
Students' pure passion and efforts are the true competitiveness of KOREATECH.



School of Electrical, Electronics & Communication Engineering  
Professor **Ahn Chi-hyeong**  
(Super High Frequency, Texas A&M University)



Prepare for your future with  
KOREATECH.



School of Energy Materials &  
Chemical Engineering  
Professor **Nah Yoon-chae**  
(New Materials Engineering, GIST)

The potentials of  
KOREATECH stem from  
its practical expertise-  
centered curricula.



School of Industrial Design Engineering  
& Architectural Engineering  
Professor **Jeong Ju-yeong**  
(Integrated Product Design, TU Delft)



We invite you to  
our voyage to the  
sea of studies.

The School of Industrial  
Management is full of students  
and professors' passion all the  
year over.



School of Industrial  
Management  
Professor **Kim Dong-tae**  
(Marketing,  
Seoul National University)

The Department of  
Future Technology is  
a bridge connecting  
your major to new  
technologies of the  
Fourth Industrial  
Revolution.



Department of Future  
Technology  
Professor **Lee Seung-ho**  
(Machine Learning, KAIST)



School of Liberal Arts  
Professor **Son Yong-chang**  
(Philosophy, University of Strasbourg 2)







# KOREATECH is leading the Fourth Industrial Revolution as the hub of Practical Engineering and HRD

Welcome to KOREATECH.

KOREATECH was established by the Ministry of Employment and Labor in 1991 based on the educational philosophy of 'Seeking Truth from Facts'. KOREATECH has made the remarkable progress so far as the hub of national lifelong competency development.

The highest employment rate among four-year college nationwide (84.7%, announced by the Ministry of Education in January 2021), the highest percentage of students participating in the industry professional practice (The Korea Economic Daily, Evaluation of Science and Engineering Colleges), and 2020 Youth Dream Best Practice College (by the Dong-A Ilbo) are some of the representative achievements that prove the excellence of Korea University of Technology and Education.

In fostering creative convergence competency of the Fourth Industrial Revolution, KOREATECH has newly established and reformed a total of 72 courses to teach the basic technologies of the Fourth Industrial Revolution. We have developed 5 special tracks for convergence education, which is a feature of the era of the Fourth Industrial Revolution. KOREATECH is currently operating 3 tracks (Smart Factory, VR/AR and AI/Big data) in 5 special tracks. In order to support the convergence education of the era of the Fourth Industrial Revolution, KOREATECH opened the Smart Learning Factory in March 2019 based on 5G for the first time, which is the largest among universities in Korea. The Smart Learning Factory is open to everyone including students, trainees, TVET teachers and vocational high school teachers.

KOREATECH's affiliated organizations including the Human Resources Development Institute, Online Lifelong Education Institute, Korean Skills Quality Authority and Industry-University Cooperation Foundation assist trainees in strengthening their lifelong competency development. KOREATECH has developed into Korea's leading university in academic and lifelong education.

We always welcome both students leading the future cutting-edge technology and trainees taking the interest of their competencies development in preparation for the era of the Fourth Industrial Revolution. In commemoration of the upcoming 30th anniversary in 2021, KOREATECH will grow as a global leader of practical engineering and lifelong job competency development, contributing to the national and local development. I would appreciate it if you could give your enthusiastic support to KOREATECH.

Thank you.

President of KOREATECH

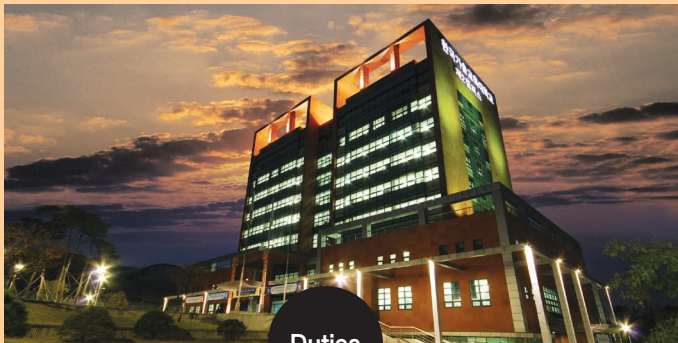


# Premium Affiliated Agencies of KOREATECH

## 1

### Human Resources Development Institute

The Competency Development Center is leading the qualitative growth of the vocational training market by cultivating teachers and instructors for vocational competency development training, corporate instructors operating in the field, and employment service professionals, strengthening the job competency of vocational high school teachers. By developing tailored education programs and introducing the latest education system to quickly respond to changes in the industrial structure and jobs, the center will continue to display leadership as a specialized institution for global vocational training and re-training.



Duties

- Vocational competency development training teacher qualification training
- Vocational competency development training teacher and instructor refresher training
- Training of the staff dedicated to work-to-school program
- On-the-job training for teachers of specialized subjects in vocational high schools
- Selection and appointment of the star training teacher
- Training with overseas experts invited
- Training of the staff dedicated to employment service

## 2

### Online Lifelong Education Institute

The Online Lifelong Education Institute (OLEI) is developing and operating technology/engineering e-learning and VR training contents in order to support the lifelong job competency development of employees and job seekers. Its education and training system enables students to study excellent field-centered contents anytime. In addition, OLEI is planning and operating the Smart Training Education Platform (STEP, [www.step.go.kr](http://www.step.go.kr)) with the Ministry of Employment and Labor in order to remove the dead zone of vocational training. STEP is expected to play the role of hub of online vocational training.



Duties

- Establishes and operates the Smart Training Education Platform (STEP)
- Develops and operates e-learning content
- Develops and operates AR/VR technology-based virtual training content
- Studies new training techniques for job competency development and provides consulting services
- Awarded the grand prize in the Educational Institution Category at the 2020 Korea Human Resource Development Awards
- Awarded the Minister of Education Prize at the 2020 Remote Education Training Institution Evaluation
- Won the grand prize at the 2019 National Consumer-Driven Brand Award in the vocational education training segment
- Won an achievement award at the 2018 VR EXPO in the VR education segment



## 3

### Korean Skills Quality Authority

Vocational Competency Review and Evaluation Center was established in April 2015 to contribute to the building of a competency-centered society by intensifying the national-level review and evaluation quality management system for vocational competency development training program under the slogan of 'Fair review and evaluation, vocational training for mutual growth.'

The center is inducing the correct vocational training market by increasing the efficiency in the review and evaluation program and establishing a virtuous cycle based on related policies, involving training institution certification evaluation, training course evaluation, evaluation of vocational competency development projects of central ministries, evaluation of trainees, and illegal training management, etc. As of 2020, the center evaluated about 4,300 training institution certifications and reviewed 65,000 training courses. The center is making efforts to strengthen the global network by signing MOU (Memorandum of Understanding) with overseas related organizations (ASQA Australia, SSG Singapore, HKCAAVQ Hong Kong).

## 4

### Dasan Information Hall (Library)

Dasan Information Hall is the library of Korea University of Technology and Education (Korea Tech). It preserves and manages book and electronic information resources and leads the diffusion and sharing of knowledge and information in response to users' demands. Today, Dasan Information Hall is fully operating as a digital library by promoting digital literacy and providing and utilizing multimedia data in addition to the traditional role of the library. It started in one corner of the main building (currently the Humanities and Management Building) when it opened, and it moved to the Global Education Center building as of 1997. In 2009, the current building was constructed with one basement and four aboveground stories, covering a total floor area of 9,720 m<sup>2</sup>. It was named "Dasan" after the pen name of Jeong Yak-yong, the master of Silhak, the Practical Thought. It is an active agent for the education and research support within Korea Tech, which practices the spirit of "Seeking of Truth from Facts(實事求是)" and plays a role as a space for sharing knowledge and information.

## 5

### Industry-University Cooperation Foundation

In November 2003, the KOREATECH Industry-University Cooperation Foundation was established to take the initiative in strengthening national competitiveness through domestic and overseas industry-academe-research-government cooperation. The Industry-University Cooperation Foundation supports the teaching staff's personal projects, national projects, and business incubation and handles patent management and technology transfer. In addition, the Industry-University Cooperation Foundation demonstrates its ability to resolve the issues of the nation, communities, and enterprises based on creativity and practicality. Since 2010, the Industry-University Cooperation Foundation has been holding Samsung's Skills Competition with Samsung, gaining recognition for its role and competencies. Today, the competition has been expanded as Samsung's International Skills Competition. The Foundation has held a total of 12 competitions, and it has been cooperating with a variety of enterprises.





● Education facilities    ● Supporting facilities    ● Dormitories    ● Gate

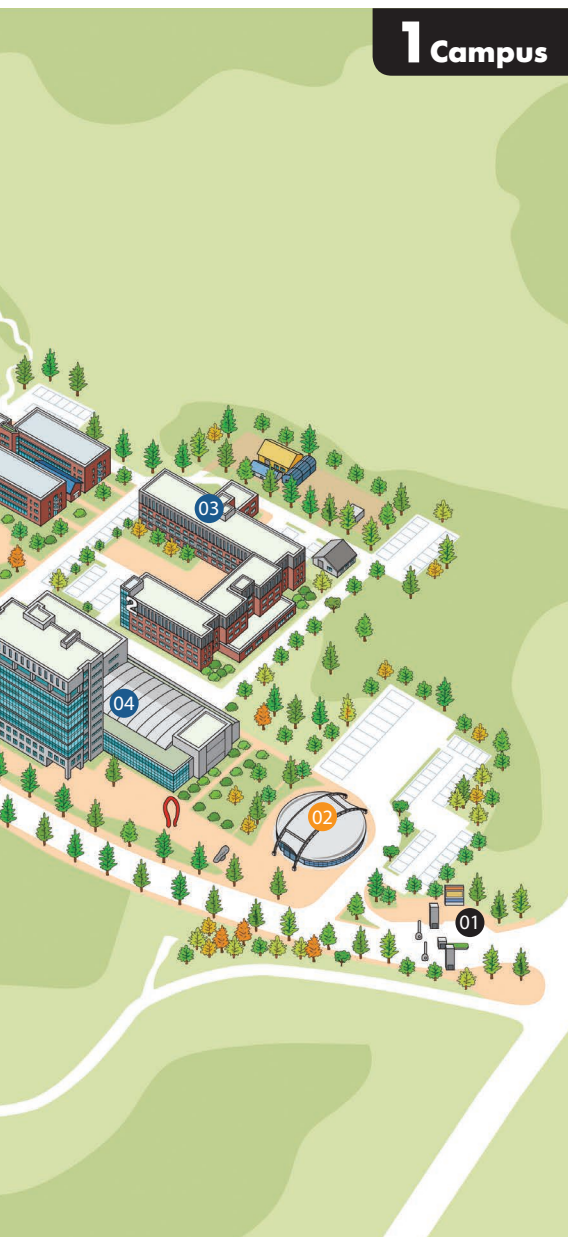
# 1 Campus

## Dongnam-gu, Cheonan, Chungnam

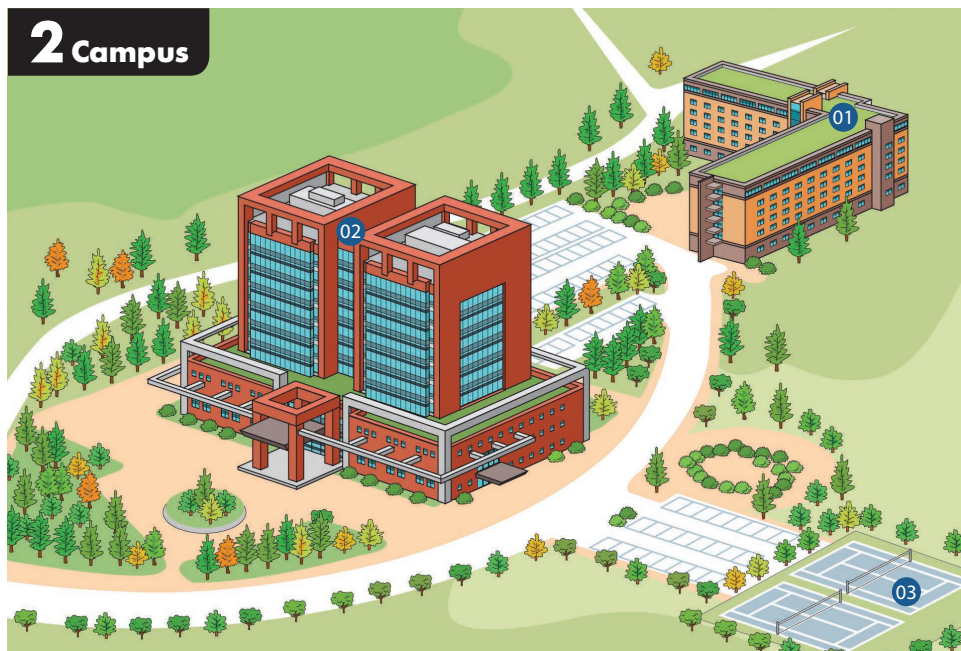
Undergraduate School,  
Graduate School,  
Graduate School of IT Convergence,  
Science, Management and Industry,  
Online Lifelong Education Institute,  
Academic Information Service Center,  
Industry-University Cooperation  
Foundation (Campus 1)

- |  |   |  |                                    |
|--|---|--|------------------------------------|
| 01 Main Gate                           | 11 Integrated Student Support Center          | 20 Industry-University Cooperation Foundation Workplace Daycare                | 28 Dormitory (International House) |
| 02 Narae Dome                          | 12 Student Union Building                     | 21 Campus Company  | 29 Dormitory (Cheongsol)           |
| 03 Engineering Building 2              | 13 Welfare Building                           | 22 Business Incubator  | 30 Dormitory (Solbit)              |
| 04 Damheon Hall of Practical Education | 14 Dasan Information Hall                     | 23 1 Campus 23 Engineering Building 4 (A), Online Lifelong Education Institute | 31 Dormitory (Hanul)               |
| 05 Engineering Building 1              | 15 Dormitory (Soul)                           | 24 Saerom Hall   | 32 Dormitory (Hamji)               |
| 06 Humanities and Management Building  | 16 Personality Development Center             | 25 Engineering Building 4 (B)  | 33 Dormitory (Yeji)                |
| 07 Engineering Building 3              | 17 K-Factory                                  | 26 Dormitory (Chambit)   | 34 Dormitory (Haeul)               |
| 08 Auditorium                          | 18 Industry-University Cooperation Foundation | 27 Dormitory (Eunsol)  | 35 Dormitory (Yesol)               |
| 09 Global Education Center             | 19 West Gate                                  |  | 36 Dormitory (Dasol)               |
| 10 Administration Building             |   |  | 37 Dormitory Office                |
|  |   |  | 38 Tennis Court                    |
|  |   |  | 39 Gymnasium                       |
|  |   |  | 40 Playing Field                   |
|  |   |  | 41 South Gate                      |

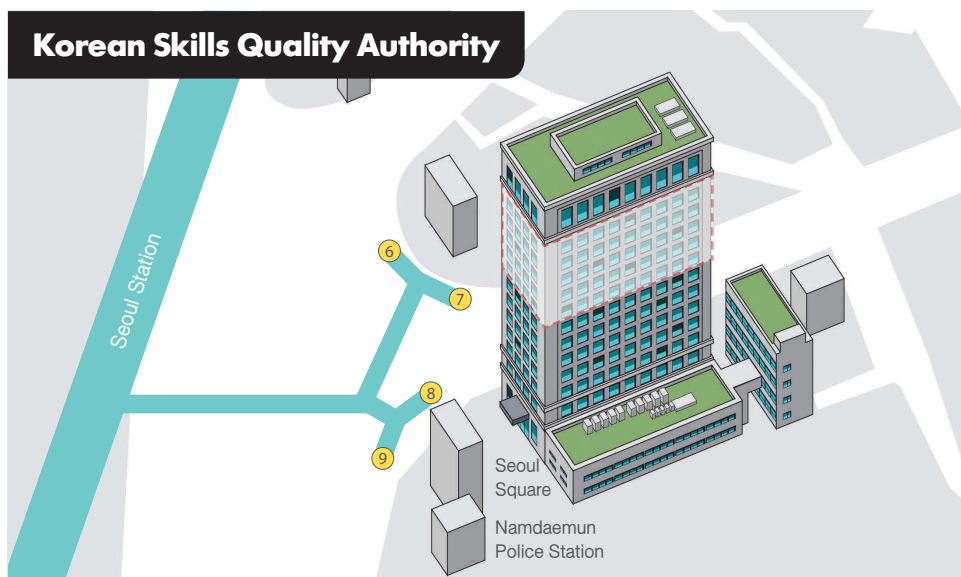




## 1 Campus



## Korean Skills Quality Authority



## 2 Campus

Seobuk-gu, Cheonan-si,  
Chungnam

Human Resources Development  
Institute, Industry-University  
Cooperation Foundation (Campus 2),  
Techno-HRD Graduate School

- 01 Hanbit Hall
- 02 Practical Education Hall
- 03 Tennis Court

## Korean Skills Quality Authority

Jung-gu, Seoul

- 9F Planning & Operation Team  
Training Institution Certification &  
Evaluation Center  
Training Performance Evaluation Center  
Fraud Training Management Center
- 10F Conference Room
- 12F Integrated Training Screening Center  
Distance Training Screening Center



**H** Website  
[www.koreatech.ac.kr](http://www.koreatech.ac.kr)

**blog** Blog  
[blog.naver.com/koreatech91](http://blog.naver.com/koreatech91)

**You Tube** YouTube  
[www.youtube.com/TheKOREATECH](http://www.youtube.com/TheKOREATECH)

**f** Facebook  
[www.facebook.com/koreatech91](http://www.facebook.com/koreatech91)

**Instagram** Instagram  
[www.instagram.com/koreatech\\_since1991](http://www.instagram.com/koreatech_since1991)

**TALK** KakaoTalk Channel  
Search the channel "Korea University of Technology & Education (KOREATECH)" on KakaoTalk



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