

KOICA Master's Fellowship Program

Department of Future Convergence Engineering

Future Mobility · Smart Manufacturing · Advanced Materials · Energy

FULLY FUNDED · 10 FELLOWS · MARCH 2027 INTAKE

About the Program

Kongju National University (KNU) has been selected by the **Korea International Cooperation Agency (KOICA)** to operate a fully-funded Master's fellowship program in Future Convergence Engineering, focused on future mobility, smart manufacturing, advanced materials, and eco-friendly automotive & energy technologies.

The program is delivered by the **Department of Future Convergence Engineering**, an interdisciplinary graduate department integrating Mechanical, Automotive, Electrical & Electronic, Chemical, and Materials Engineering. It is operated together with KNU's **BK21 Future Automobile Education & Research Group**, with **18 participating professors** across mobility, manufacturing, materials, and energy. We welcome recommendations of outstanding graduates from our partner universities for the first March 2027 cohort.



Cheonan Campus · Kongju National University

Program at a Glance

Degree	Master of Engineering — 24 months (4 semesters)
Department	Future Convergence Engineering (interdisciplinary graduate program)
Focus areas	Future mobility · smart manufacturing · advanced materials · intelligent systems · thermal-energy
Language of instruction	English (Korean language course provided during the program)
Program start	March 2027
Cohort size	10 fellows
Location	Cheonan Campus, Kongju National University, Republic of Korea

Fellowship Benefits

Tuition Fully covered for all 4 semesters	Living allowance KRW 1,200,000 / month (≈ USD 900)	Accommodation University dormitory provided
Airfare Round-trip international flight	Korean language Intensive course + in-program support	Health insurance Full coverage throughout the program
Settlement & return Arrival settlement & repatriation support	Industry internship 3+ months at partner companies	Research support Conference, publication & lab support

Faculty & Research Strengths

Fellows are matched with a faculty advisor and research laboratory aligned to their interests. The department brings together 18 professors organized around four convergence themes. (Source: KNU BK21 Future Automobile Group, kj-bk21.or.kr.)

① Future Mobility, Design & Intelligent Systems

Jong-Seok Oh (오종석) · *Intelligent Control Lab*
Autonomous driving · chassis & suspension control

Daejong Yang (양대중) · *Nano Sensor & Transducer Lab*
Micro/nano engineering · bio & environmental sensors

Eui-Sik Jun (전의식) · *ASMD Lab*
Product design · process optimization

Ji-Hoon Kang (강지훈) · *Metamaterial Optics Lab*
Computational optics · metamaterials

② Smart Manufacturing & Processing

Seok-Moo Hong (홍석무) · *Smart Manufacturing Design Lab*
Plastic forming · material properties · mold design

Joonghan Shin (신중환) · *Laser Applied Processing Lab*
Laser application & thermal processes

Dong-Kyoung Lee (이동경) · *ADLAM Lab*
Laser processing

Ji-Woon Lee (이지운) · *Material Structure Control Lab*
Metal materials · forming · additive manufacturing

③ Advanced Materials

Jung-Hoon Yoon (윤정훈) · *Multiscale Polymer Synthesis & Design Lab*
Functional polymer composites

Ji-Hyun Eom (엄지현) · *Energy Materials Lab*
Electrochemistry · secondary-battery materials

Young-Soo Ko (고영수) · *Functional Materials Lab*
Functional materials · polymer synthesis

Jong-Eon Moon (문종언) · *Advanced Materials Design Lab*
Corrosion-resistant material development

④ Thermal-Fluid & Energy Systems

Bumjoo Kim (김범주) · *Micro/Nano Fluid Lab*
Micro/nano fluid mechanics · energy harvesting

Jun-Yong Seo (서준용) · *Computational Thermal Engineering Lab*
Thermal engineering · computational analysis & design

Sang-Hoon You (유상훈) · *Next-Generation Energy Systems Lab*
Hydrogen energy · electrochemical energy systems

Joong-Bae Kim (김중배) · *Thermal Energy Solutions Lab*
Heat transfer

Seungtae Oh (오승태) · *Advanced Thermal Energy Lab*
Thermal management for electronics · Heat transfer · micro/nano materials

Pil Rip Jeon (전필립) · *Sustainable Separation Process Lab*
Separation processes · machine learning

※ English names are romanized for reference; Korean names are authoritative. Full faculty profiles: kj-bk21.or.kr ▶ 사업단 구성 ▶ 참여교수.

Curriculum

The Master of Engineering requires **24 coursework credits** (plus up to 12 prerequisite/bridge credits for non-cognate majors), a **minimum GPA of 3.0 / 4.5**, and a passed thesis defense. Courses are grouped into the categories below; representative subjects are shown.

MAJOR FUNDAMENTALS · 전공기초

Engineering Foundations

- Applied Mathematics & Numerical Analysis (3)
- System Modeling · Continuum Mechanics (3)
- Fluid Mechanics · Advanced Heat Transfer (3)
- Machine Learning / Deep Learning for Engineering

MAJOR ADVANCED · 전공심화 — MATERIALS

Advanced Materials

- Solid & Fracture Mechanics, Fatigue
- Energy Materials · Nano-composite Materials
- Instrumentation & Non-Destructive Testing

MAJOR ADVANCED · 전공심화 — PROCESSES

Smart Manufacturing & Processes

- Nano/Micro-fabrication · Laser Processing
- Sheet-metal Forming · Six Sigma Optimization
- Advanced Control · Mobile & Human-Robot Systems
- Smart Factory & Next-Generation Mobility

MAJOR ADVANCED · 전공심화 — DESIGN

Design & Future Vehicle Systems

- Future Vehicle Design · Vehicle Dynamics & Control
- Powertrain & In-wheel / Electric Motor Design
- Optimal Design · TRIZ Methodology
- Friction-Vibration / Noise / Bio-mechanics

CONVERGENCE & ENERGY · 융합

Thermal-Fluid & Energy

- Computational Thermal Engineering
- Micro/Nano Fluid Mechanics · Energy Harvesting
- Hydrogen & Electrochemical Energy Systems

INDUSTRY-ACADEMIC · 산학 & 세미나

Industry Collaboration & Seminars

- R&D Planning · Patent & IP Strategy
- Industry-Academic Convergence Project (3)
- Graduate Field Practice / On-site Internship (3+ months)
- Expert Lectures · Research Seminars (1)

Research & Career Support

Mentoring system

Advisor – project leader – fellow pairing; English research-writing & presentation coaching.

Academic activities

Support for domestic/international conferences and SCI(E) journal publication.

Industry internship

Minimum 3-month placement with partner companies, matched by major.

Pre-internship

Graduate field-practice course used as preparation for industry placement.

Eligibility

- ✓ **Nationality** — citizen of one of the 13 KOICA partner countries (Bangladesh, Cambodia, Egypt, India, Indonesia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Uzbekistan, Vietnam)
- ✓ **Degree** — Bachelor's degree in a related engineering field (graduates or expected graduates)
- ✓ **English proficiency** — TOEFL iBT 71+ / IELTS 5.5+ / TOEIC 700+ / CEFR B2+ / New TEPS 326+ (applicants from English-official-language countries may be exempt)
- ✓ **Clearances** — no criminal record; no prior Korean-government master's scholarship; applicant and both parents non-Korean nationals
- ✓ **Preferred** — under 40 years of age · TOPIK Level 3 or higher

How to Apply

Applications are submitted via the **online application form**, and all **original documents must also be sent by mail / EMS or in person** to the Office of International Admissions, Cheonan College of Engineering. Required documents include the application & self-introduction (Form 3), research plan (Form 4), bachelor's diploma & transcript, certificate of family relation, passport copy, English proficiency certificate, and a letter of recommendation from the final academic institution.

Recommending a candidate (for partner universities): at this stage only a brief profile is needed — name & email · department / major · GPA · expected graduation · English score · one-line research interest. **Faculty-recommended candidates receive priority consideration.**

► Apply Now



Online application form
forms.gle/vEwDLCL768Awhu526

► Learn More



Department & program info
kj-bk21.or.kr/en

Timeline

STEP 1

Official Announcement

2026

STEP 2

Application & Document Screening

2026

STEP 3

Selection · Health Check · Visa

late 2026 – early 2027

STEP 4

Arrival & Program Start

March 2027

Contact

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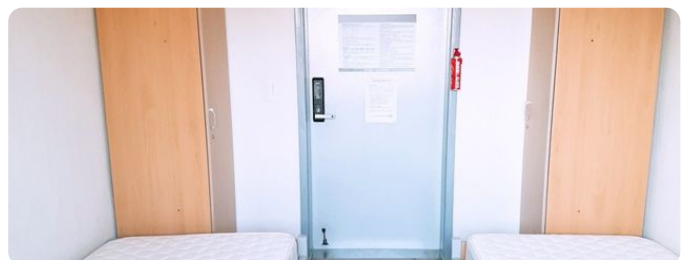
1223-24 Cheonan-daero, Seobuk-gu, Cheonan-si, Chungnam 31080, Republic of Korea

In-person / online information sessions available on request · Program & faculty details: kj-bk21.or.kr

Campus & Living



University dormitory · Cheonan Campus



Dormitory room (double) — provided to all fellows