

WORLD TOP 10 BY 2030

UNIST is going to become world top 10 research university in science and technology by the year 2030 through creative, interdisciplinary and global education and research.



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PRESIDENT'S MESSAGE

Making Quantum Leaps to Become a World Class University

UNIST is training global leaders in science and technology

It has been three years since UNIST opened in the Korean industrial capital of Ulsan, where world-renown industries in automotive, shipbuilding, petrochemical, and secondary cells are clustered. A new turning point for the growth of our university was realized this year with both the government-backed specialization plan for four science and technology universities and its decision to participate in the National Science Business Belt project.

Striving towards its goal of being ranked a Top 10 science and engineering university globally by 2030 through its focus on creativity, the convergence of scientific fields and an outstanding educational statutes and research, UNIST has already demonstrated its competitiveness in Korea, and its international recognition also is being elevated day after day.

With a strong emphasis on research, many of UNIST's professors and their laboratories have published in the top scientific journals, including Nature, Science, and Cell.

UNIST not only encourages the pursuit of scientific discovery but also the practical application of this knowledge. For instance, cathodic materials commonly found within secondary cells are now being developed here at UNIST, off-setting Korean import costs by as much as 100 million USD annually.

Furthermore, UNIST has recently established two research centers focusing on revolutionary ideas and research. The first, the Hans Schöler Stem Cell Research Center, was established jointly with the Max Planck Institute for Molecular Biomedicine. This center is striving to advance stem cell research as well as their eventual application to medical issues. The second center, the Graphene Research Center, has the 2010 Nobel Laureate in Physics, Dr. Novoselov from Manchester University in the UK, as its honorary director. This center is investigating the nature of graphene and its derivatives on the atomic scale and exploring avenues where this "dream material" can be applied.

To ensure UNIST's standing among the best universities, UNIST boasts 100% English lectures, and is currently the only university in Korea that can make this claim. The application of foreign students from more than 30 countries is increasing year after year and the students of Michigan University, one of the top 3 state universities, have completed the year's summer session at UNIST, which shows the synergy effect in the international interchange as well.

Dreaming makes thinking, and thinking makes activity.
UNIST is going to try its best for the students who are dreaming of the future Einstein, future Edison, and future Bill Gates to unfold their dreams and hopes to the utmost.

Moo Je Cho, President of UNIST



VISION

“World leading university to advance science and technology for the prosperity of humankind”

To make the leading global science & technology university contributing to human life through the realization of convergence science & technology to cultivate creative global leaders in science & technology for exploiting the future and to indicate new paradigms for green growth.

GOALS

Ranked within the Top 20 science & engineering universities by 2020, and in the Top 10 by 2030

- Education : Cultivation of the creative science & technology leaders
- Research
 - Realization of convergence science & technology indicating the new paradigm of green growth
 - Cultivation of 2 Nobel Prize winners as well as 10 other globally recognized scientists by 2030 (Winners of Fields Medal, Lasker Award, Curie Award, etc.).

STRATEGIES

• Creativity

LMS (Learning Management System)-based discussion classes

• Interdisciplinary Studies

All students admitted are required to take general courses during their first year before declaring their majors. For graduation, they then need to complete two or more majors, i.e. tracks of study. Furthermore, all professors are obligated to belong to 2 or more schools.

• Globalization

All lectures are given in English, a first for Korean universities. As well, the student body and faculty will be international, with up to 20% coming from other nations.

• Thrust Areas

UNIST has selected several research areas where we will primarily focus our efforts through the UNIST Multidisciplinary Institute (UMI)

UNIST will be writing the new history of the world's science and technology



2007

- 04. 06 Establishment and public announcement of the Act on the Establishment and Operation of the National University Corporation, Ulsan National Institute of Science and Technology (Act #8221)
- 07. 18 Enactment of the Enforcement Decree of the Act on Establishment and Operation of the National University Corporation, Ulsan National Institute of Science and Technology
- 09. 01 Inauguration of UNIST's 1st President, Moo Je Cho, PhD

2008

- 05. 07 Registered as a corporation with Kyungdong Scholarship Foundation
- 08. 11 MOU with The National Research Foundation of Korea for academic exchange
- 08. 12 MOU with the Korea Institute of Energy Research for joint research
- 09. 16 MOU with Georgia Tech, USA, for academic exchange
- 09. 17 MOU with the Pohang Accelerator Laboratory for joint research

2009

- 03. 02 1st Matriculation Ceremony
- 03. 02 Opening of the UNIST Central Research Facility (UCRF)
- 04. 27 Two UNIST professors awarded World Class University (WCU) grants
- 05. 12 Official opening ceremony
- 06. 18 Designated as a leading university for its Admissions Officer System (First Introduction of an Applicant Evaluation System in Korea)
- 06. 24 Designated as a Principal University in the field of new materials/nano fusion research, the Converging Research Center Program
- 07. 01 MOU with the Alan G. MacDiarmid Nano Tech Institute at the University of Texas, Dallas, USA, for academic exchange
- 07. 24 MOU with UC-Irvine, USA, for academic exchange
- 09. 09 MOU with the Indian Institute of Tech (IIT), India
- 09. 22 MOU with the Max Planck Institute for Molecular Biomedicine, Germany
- 10. 06 MOU with the Fine Chemical Industry Center of Ulsan Technopark for academic exchange
- 10. 08 MOU with the National Cancer Center, Korea, for joint research
- 10. 28 MOU with Olympus Co. for support of UNIST-Olympus Biomed Imaging Center (UOBC)
- 12. 01 MOU with the Korea Institute of Science and Technology Information (KISTI) for joint research
- 12. 08 MOU with the University of Science & Technology of China (USTC) for academic exchange



2010

- 04. 14 MOU with the Korea Institute of Science and Technology Evaluation and Planning for mutual research cooperation and joint promotion of education
- 05. 11 MOU with the Korea Atomic Energy Research Institute
- 05. 12 MOU with Korea University for academic exchange
- 06. 24 Opening of the Supercomputing Center
- 08. 13 Opening of the Hans Schöler Stem Cell Research Center
- 08. 30 MOU with Virginia Tech, USA
- 09. 01 MOU with Ulsan Technopark
- 09. 01 MOU with the Hanoi University of Science and Technology, Vietnam
- 10. 07 MOU with the National Fusion Research Institute, Korea, for joint research
- 10. 11 MOU with Far Eastern National University, Russia
- 10. 18 MOU with Korea Hydro & Nuclear Power Co., Ltd.
- 11. 22 MOU with Kyrgyz State Technical University, Kyrgyzstan
- 11. 23 MOU with North Carolina State University, USA
- 12. 07 Opening of the Basic Atomic Energy Research Institute

2011

- 01. 13 MOU with Sabanci University, Turkey
- 01. 18 MOU with the Kazakhstan Institute of Management, Economics and Strategic Research
- 01. 27 MOU with the Korea Research Institute of Bioscience and Biotechnology (KRIBB)
- 02. 01 MOU with Yonhap Infomax for educational support
- 03. 03 Opening of the Center for Cell-to-Cell Communication in Cancers (C5)
- 03. 07 MOU with the Sejin Group establishing technology transfer of materials for lithium secondary cell electrodes
- 03. 08 MOU with Florida State University
- 03. 29 MOU with the University of Sydney (Faculty of Engineering and Information Technologies)
- 05. 16 MOU with the Eindhoven University of Technology (Department of Industrial Engineering), Netherlands
- 06. 01 Establish KIER-UNIST New Generation Batteries Research Center
- 06. 16 Designated as IT Research Center Supported by MEST
- 07. 25 MOU with KITECH in terms of mutual cooperation
- 09. 19 MOU sign-up for mutual cooperation with the University of North Carolina at Chapel Hill
- 09. 20 Inauguration of UNIST's 2nd President, Moo Je Cho, PhD
- 10. 20 UNIST 2030 vision Proclamation



UNIST POWER

The research competitiveness of UNIST has already attracted attention from around the world

UNIST Research Center

· Science Research Center (SRC) appointed by Ministry of Education, Science and Technology (MEST) 2010

: Cellular Communication Research Center with 10 billion funds for 10 years

· IT Research Center (ITRC) granted by Ministry of Knowledge Economy (MKE) 2011

: Lithium Ion Battery Materials Research Center with 5 billion funds for 4 years

· Green Electric Vehicle (GEV) Project Team

: Leaders in green growth and research with developments in hi-tech green electric vehicles

· Supercomputing Center

: Support numerical, theoretical research with high-performance computing, IBM p690+, SUN cluster and Dell cluster

· Hans Schöler Stem Cell Research Center (HSSCRC)

: Focus on induced pluripotent stem cell and developing patient specific cell therapy products

· Graphene Research Center

- Applied research for the mass production of graphene and polymer compound materials

- Supporting advanced materials industries, particularly local companies

· Unist-Olympus Biomed Imaging Center (UOBC)

Laser scanning confocal microscopes, a total internal reflection fluorescence microscope, a virtual microscope, a live cell imaging system, an in vivo radiograph system, a fluorescent microscope and an imaging analysis system.

· UNIST Central Research Facilities (UCRF)

: Atomic resolution aberration-corrected transmission electron microscopy 600MHz Nuclear Magnetic Resonance Spectrometer (NMR) and the High Resolution Transmission Electron Microscopy (HR-TEM)

Major Achievements

· Two World Class University (WCU) Projects : 20.9 million USD grant for 5 years supported by MEST

Type1. Energy Engineering : 'Energy harvest and storage development via Technology Convergence'

Type2. Nano Technology : 'Nano Science and Technology for Advanced Diagnostics and Personalized Medicine'

· The New Growth-Engine Project :

Research and development on Flexible All Solid State Battery with 18 million USD grant for 5 years supported by MEST

· Two Basic Research Labs (BRL) :

1. MoF-based New Generation Convergence Materials (2010)

2. TonEBP transcription factor in chronic kidney disease and renal inflammation, and development of novel anti-inflammatory agent (2011)

· Published Papers :

6 papers appeared in Nature, Science and Cell for recent 2 years (vs. 5 papers by KAIST, 4 papers by POSTECH, 1 paper by GIST)

· Technology for Battery Materials for Mobile IT Devices-Transferred to an Ulsan-based company with 5.4 million USD

- Reduction in prices to the level of one seventh

- Three times high of its capacity and life expectancy

- An annual profit amounting to 100 million USD is expected to be made thanks to import substitution

· Developments on Green Electric Vehicle Parts and Research Infrastructure

1.6 million USD funds supported by MKE

· Excellent Young Investigator Award

Two professors selected as recipients by MEST with 2.1 million USD for 5 years



Preparing tomorrow's leaders through advanced educational systems



Creative Program



UEE (UNIST e-Education)

- Enhancing each student's educational experience and resources with on-line discussions, quizzes, study aids, etc.
- User-oriented education based on a IT-based Learning Management System (LMS)
- Lecture contents available on Blackboard*
- On-line management of each student's scores, progress, attendance, etc.
- Effective learning with both traditional and on-line classes

What is Blackboard?

The Blackboard system is a Learning Management System (LMS), i.e., a web-based system that manages the academic affairs of each student, such as their scores, progress, attendance, etc., as well as the class materials, including assignments, quizzes, etc.

Global Program



100% English lectures

- All classes are conducted in English

Official use of English on campus

- International dormitory and Center
- Provide a student service system in English
- Publication of the campus bulletin board and "Guide for Academic Affairs" in English
- Conduct campus events and meetings in English

An internationally friendly campus

- International professors and students - up to 20%
- International staff - up to 5%

Overseas study programs

- UNIST provides many opportunities for our students to participate in diverse overseas study programs
- Exchange student programs, summer sessions, Lab Tour program, short-term cultural programs

Global partners participating in student exchange programs

- Georgia Institute of Technology, USA
- University of California, Irvine, USA
- Virginia Polytechnic Institute and State University, USA
- University of North Carolina, Chapel Hill, USA
- University of Cambridge, UK
- Max Planck Institute for Molecular Biomedicine, Germany
- Eindhoven Univ. of Technology, Netherlands
- Univ. of Science and Technology of China
- Hanoi University of Science and Technology, Vietnam

Interdisciplinary Program



Interdisciplinary Major Program

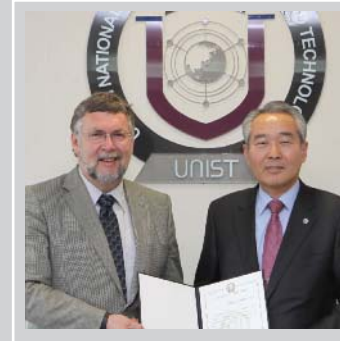
- Students are required to complete two major tracks of study as well as an undergraduate thesis whereby they merge their two majors within a single research topic
- Mandatory split appointment of professors within two or more schools
- Introduction of a General Studies Division for the further development of student capability

Strengthening AHS & entrepreneurship education

- Offering of an innovative curriculum that encourages students to think creatively
- Education of Arts, Humanities, and Social Sciences (AHS) through various required courses, including Art & Creativity, Literature & Creativity, Global Economics, What is 'I'? and Effective Communication
- Entrepreneurship courses required include Leadership and Teamwork, Innovation and Entrepreneurship and Introduction to IT

Honor Code System for the enhancement of voluntary study ethics

- Inspiration of pride & dignity, and a conscience as a member of UNIST
- Constitution of honest and a sound university atmosphere through the practice of the Honor Code



Heroes Who Will Lead the World in Science Are Professionals Faithful to the Basics

The brand of UNIST, the world's foremost university, is being made up by talented individuals with brave, inquisitive spirits and outstanding potential.

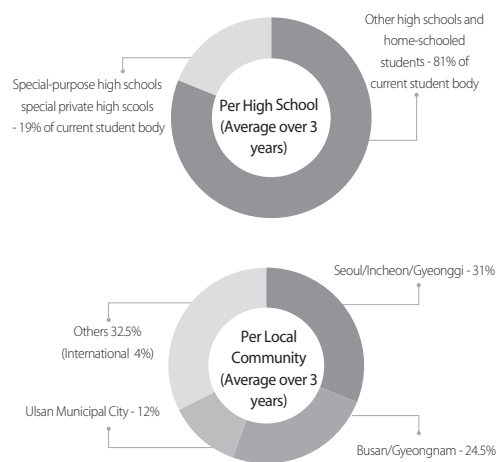
Student Body Facts

- 3,000 undergraduate students, 2,000 graduate students (~ 2012)
- International student body representing up to 20% of UNIST students (~ 2012)
- Admission given to students ranked in the top 3% nationally

Selection of UNIST Students

Students are selected based upon several criteria

UNIST seeks the all-around best students. Therefore, we consider several different factors when evaluating a potential student, including the applicant's personality, creativity, leadership skills and experience, talents and individual potential. Consequently, applicants are required to participate in both individual oral and discussion-based group interviews to evaluate their scholastic and creative capabilities.



Admission to the Top 3% of Students

Since its opening, only excellent students have been admitted to UNIST, with our current student body representing the top 3% of high school graduates nationally. Furthermore, students from specialized high schools, such as science and foreign language high schools, constitute 19% of all students admitted to date.

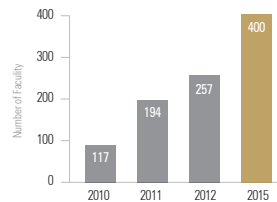
Becoming the Standard of Admissions

The selection system used by UNIST has been recognized for its capability to recognize superior applicants both nationally and internationally. Consequently, through an expansion of the currently successful admissions officer system, UNIST is selecting only the best students for admission based upon their personality, creativity, and growth potential.



Outstanding Faculty : Leading UNIST and Students Forward

Most of the professors at UNIST have had international experience, such as conducting their graduate studies or post-doctoral fellowships within laboratories overseas. Furthermore, each professor belongs to at least two different schools at UNIST, encouraging them and their students to conduct their education and research across typical scientific boundaries.



Faculty status

- 257 outstanding professors (~ 2012)
- 7 international scholars as adjunct professors
- More than 2/3 of UNIST's professors hold doctorates from prominent international universities, including MIT, Stanford, Columbia, etc.



One of top 25 paper contributors in the world
Prof. Su-Moon Park

Selected as a scientist close to achieving the Nobel Prize (Oct, 2008, The Dong-A Ilbo)
Selected as the author of the most frequently cited paper by ISI (2008)
Life member of the Korean Academy of Science and Technology
Khwarizmi International Award (2008)
Complementary Medal of Korean Government, Doyakjang (2008)



A discoverer of graphene
Prof. Konstantin Novoselov

Chair-professor and honorary president of UNIST's Graphene Research Center, Professor at the University of Manchester in the UK
2010 Nobel Prize Winner in Physics, 2008 Europhysics Prize Winner
Expert in mesoscopic physics and superconductivity and the subatomic movements of magnetic domain walls
More than 60 papers about graphene research and other topics



Pioneer scientist in the field of cellular signaling processes
Prof. Pann Ghill Suh

Research into metabolic diseases, cellular mechanisms leading to cancer and the signal transfer and processing mechanisms during stem cell differentiation
Development of disease diagnostics and medications based on convergent technologies
More than 230 papers within SCI-listed international journals, including Cell, Nature, and Science, and the application/registration cited 9000 times
Life member of the Korean Academy of Science and Technology
Selected as a National Scholar (2007)



'Expanding the limit of data storage technologies'
Prof. Soo Jin Park Interdisciplinary School of Green Energy
Paper published in 'Science' Feb 20, 2009
*Macroscopic 10-Terabit-per-Square-Inch Arrays from Block Copolymers with Lateral Order



'Contributing to the rapid development of biosciences'
Prof. Chan Young Park School of Nano-Bioscience and Chemical Engineering
Paper published in 'Science' Oct 1, 2010
Paper published in 'Cell' 2009



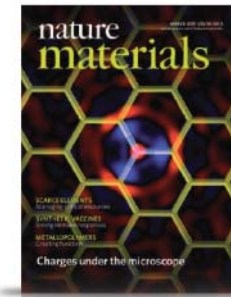
'Researching the core technologies of semiconductors and displays'
Prof. Jaeup Kim School of Mechanical and Advanced Materials Engineering
Paper published in 'Nano-Letters' Sep 8, 2010
*One-Dimensional Metal Nanowire Assembly via Block Copolymer Soft Graphoepitaxy



Development of ultra-high speed electronics for the improvement of life
Prof. Hyunhyub Ko School of Nano-Bioscience and Chemical Engineering
Paper published in 'Nature' Nov 11, 2010
*High performance nano-transistor in the structure of ultra-thin compound semiconductor/insulator
Development of artificial skin that can transfer the tactile sense of holding an egg



'Commercialization of graphene, the "dream material"'
Prof. Zong Hoon Lee School of Mechanical and Advanced Materials Engineering
Paper published in 'ACS Nano' Mar 22, 2011
*Examination of the grain boundary of polycrystal graphene



'Commercialization of a hydrogen fuel cell comes true'
Prof. Hoi Ri Moon Interdisciplinary School of Green Energy
Paper published in 'Nature Materials' Mar 13, 2011
*Development of magnesium-polymer nano-complex for the hydrogen storage of high efficiency and safety



Innovative scientist in the area of nano-biosciences
Prof. Yoon Kyoung Cho

Expert in the nano-biosensor and lab-on-a-chip fields
Development of micro-scale blood analysis tool using lab-on-a-chip technologies
Senior researcher from Samsung Advanced Institute of Technology (SAIT) (Jun 1996 ~ Jul 2008)
Domestic registration of 33 patents and 29 patents registered overseas



Original developer of the 'Lab-on-a-CD' system
Prof. Marc J. Madou

Author of 'Fundamentals of Micro-fabrication'
Expert in the micro-chemical sensor and Bio-MEMS fields
UC-Irvine Chancellor and Adjunct Professor of Mechanical Aeronautical Engineering, Biomedical Engineering, Chemical Engineering, Materials Science and Nano-Fab Center
Vice-President of Advanced Technology at Nanogen



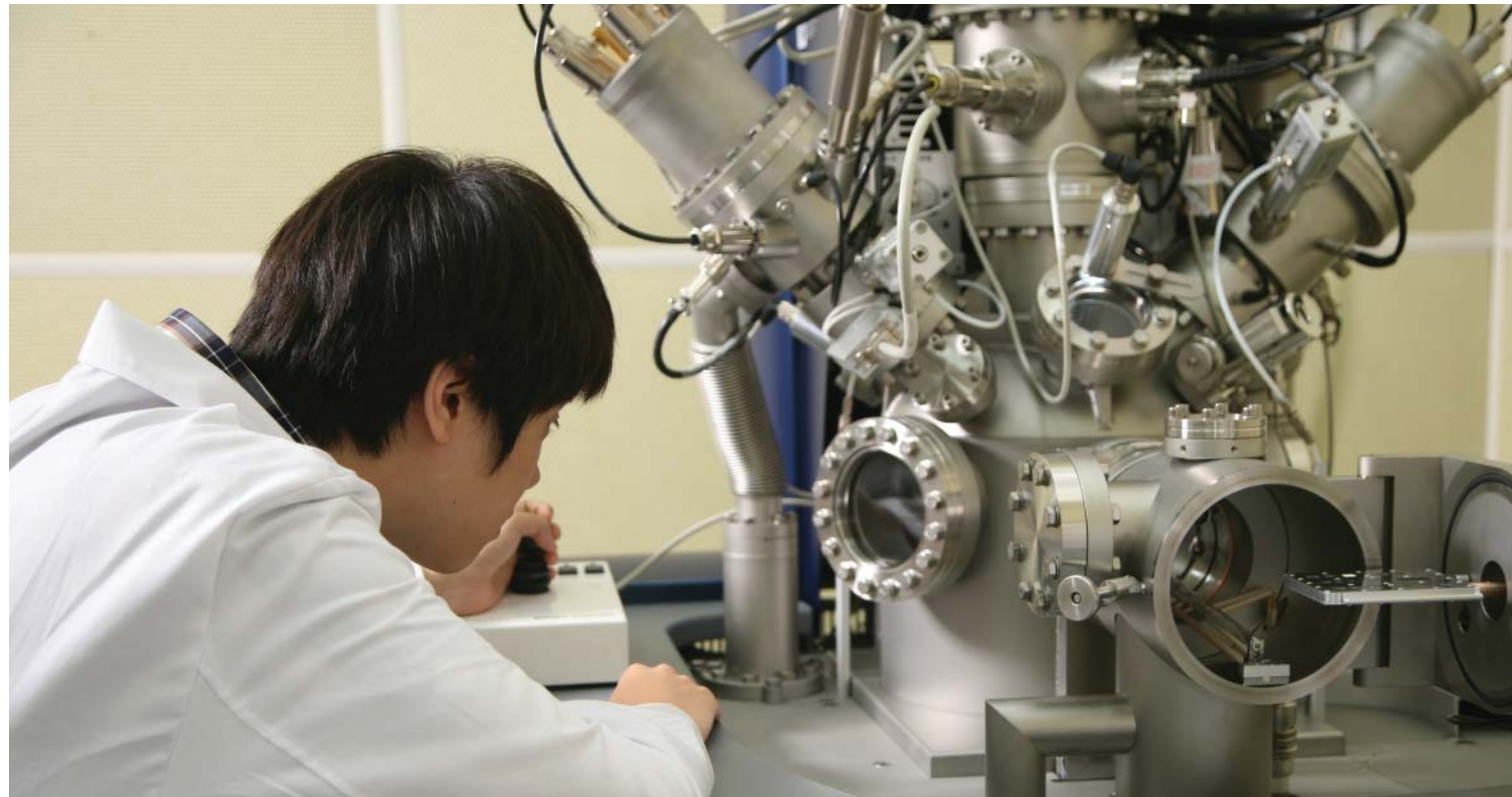
Holding up the flag of revolt against the stereotype of change
Prof. Jaepil Cho

Head of New Combined Technology Business Institute, Head of ITRC
Developed wet & dry coating theory for the lithium secondary cell
Development of the hydrosphere nano particle coating technology
Development of technologies for the synthesis of nano-wires and mesopores
Research outcome: 150 published papers, including papers contributed to SCI
20 International Patent Registrations / 15 patent applications
Selected as a VIP author by Angewandte Chemie in 2011

Advanced Research Facilities

UCRF (UNIST CENTRAL RESEARCH FACILITIES)

UNIST houses state-of-the-art research support facilities comprised of advanced equipment and experts to aid in data acquisition and analysis.



Analysis Lab

Research support and analysis service conforming to the objectives of the university, laboratory, and industry utilizing more than 30 kinds of ultra-modern analysis equipment such as atomic resolution aberration-corrected transmission electron microscopy 600MHz Nuclear Magnetic Resonance Spectrometer (NMR) and the High Resolution Transmission Electron Microscopy (HR-TEM).

Nano-element Processing Lab

This lab offers process development and research support for various scientific fields, such as research into semiconductors, MEMS and solar cells. The equipment available includes a clean room, an E-beam Lithographer and a Deep Silicon Etcher.

Machine Shop

Supports the manufacturing of various experimental devices with machining equipment, such as a CNC lathe and the 5-axis and 3-axis machining centers.

Environmental Analysis Center

Provision of measuring/analysis service of the infinitesimal hazardous contaminants (Dioxine, PCBs, Heavy metals, etc.) in the internal/external environment furnished with the ultra-modern environmental analyzers such as Gas Chromatography combined with High Resolution Mass Spectrometry (GC/HRMS) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) with various preliminary treatment equipment (21 categories).

Biomed Imaging Center

This lab offers many tools for the analysis and visualization of biological materials. It includes tools such as laser scanning confocal microscopes, a total internal reflection fluorescence microscope, a virtual microscope, a live cell imaging system, an in vivo radiograph system, a fluorescent microscope and an imaging analysis system.



FACILITIES & RESEARCH

Realizing the convergence of science & technology

UNIST Multidisciplinary Institute (UMI)

This institute plays a pivotal role at UNIST by housing five of the research thrust laboratories and the research being conducted within very different scientific fields.

UMI	Multidisciplinary Research Center	Program	Research Group
Institute of Green Energy	Battery Science & Technology	Battery Science and Technology	Battery Science and Technology
	Energy Conversion and Storage	Energy Conversion and Storage	Research for Next Generation Solar Cells SM Park Institute of Electrochemistry
	Nuclear Science and Engineering	Nuclear Science and Engineering	Research for Nuclear Safety
	Environmental Science and Engineering	Environmental Science and Engineering	Advanced Environmental Materials and Process Research
Institute of Mechanical & Advanced Materials	Urban Infrastructural Systems and Engineering	Urban Infrastructural Systems and Engineering	National Disaster Prevention Research
	Applied Mathematics	Applied Mathematics	Nonlinear Complex Systems Research Stochastic Modeling and Computation Research
	Materials Science and Engineering	Materials Science and Engineering	Emerging Functional Materials Research Opto-Electronics Convergence Technology Design-Building-Characterization for Low-Dimensional Materials
	Mechanical Engineering	Mechanical Engineering	Smart Nano/Bio Mechanical System Research Multiscale System and Materials Research Multiscale & Multiphysics Simulation Research
Institute of Technology Management & Design	Design Engineering	Design Engineering	Product Design Engineering UX & Strategic Design
	Technology Management	Management of Technology	International Development Research Digital Business Strategy Behavioral Decision Making Energy Commodity & Financial Engineering
			Bio Sensing & Imaging Bio Systems & Metabolic Engineering
Institute of Biological & Chemical Sciences		Bioengineering	Chronic Disease Research Stem Cell and Development
	Bioengineering		Organic/Inorganic Hybrid Materials Research Green Chemistry Research
	Life Science		Functional Polymers/Bio-inspired Nanostructure Nano-Convergence Devices Graphene Research
Institute of Info & Communication Tech. for Human Convenience		Program of Nano-Convergence Chemistry and Materials	Nano Materials and Device Physics THz Sensing and Device Research
	Physics	Physics	Human Factors & Affective Engineering Systems Design Engineering
	Human & System Engineering	Human & System Engineering	Multimedia Signal Processing Research Advanced Communications and Smart Control Research
	Electrical Engineering	Electrical Engineering	Semiconductor Device and Circuit Design Research EM & Wireless Power Transfer Research
	Computer Science and Engineering	Computer Science and Engineering	Cloud and High-Performance Computing Research Smart Information Device Research

Leading Educational Reforms with an Eco-Friendly and Smart Campus

UNIST's campus is a leading mobile campus, where all of the students, faculty and staff are provided with iPhones. Furthermore, through the implementation of the Blackboard Learning Management System (LMS) within all of the courses and the development of a UNIST portal app, based on fixed mobile convergence (FMC, FMS: Fixed mobile substitution) professors and students can both readily manage their courses and academic issues anywhere on campus.



SMART CAMPUS



Administration

- Groupware system to print all sorts of certificates, such as Student Certificate, Record Statement, etc.
- Reserving library seating for efficient time management
- Meeting the needs of professors and staff in a prompt manner

Education

- Lecture contents can be reviewed in advance through Blackboard, a learning management system (LMS)
- Real-time registration and grading of classroom tasks, including surveys and quizzes
- Convenient way to process tasks, have discussions with fellow team members and plan common activities
- Real-time update of lecture videos

Portal App

- Real-time chatting, file transfer and electronic badges
- Online collaborative bulletin boards
- Scheduler / meeting planner
- Automatic book searches, book reviews and a book purchasing application
- Immediate feedback after posting a report

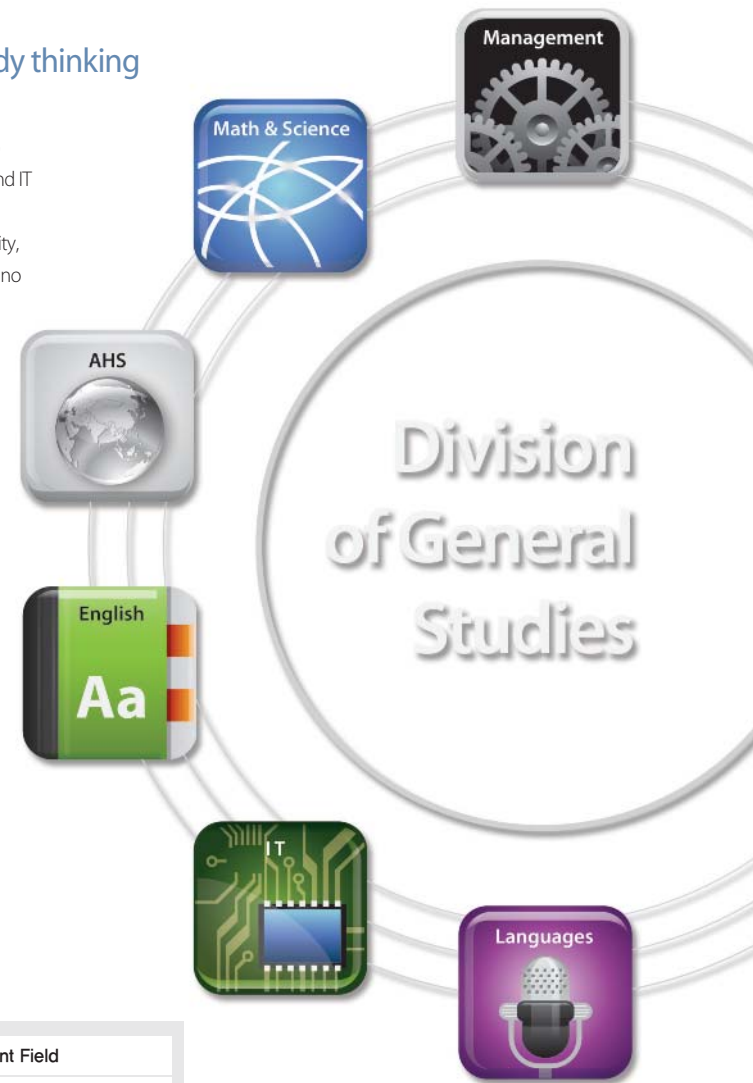


DIVISION OF GENERAL STUDIES

Freedom of conception is growing up on the basis of sturdy thinking

The Division of General Studies provides the educational foundation for every student studying at UNIST during their 1st year. The classes are designed to provide our students with a basic yet deep understanding of mathematics, physics, chemistry, and biology as well as general management and IT concepts.

Students can choose the school according to the major series selected when entering the university, after completion of the 1st year curriculum, and are able to study the fields they choose as there is no limitation of the number of students in each school. According to UNIST's policy stressing an interdisciplinary and autonomous education, students must complete two or more tracks, one completing one track in the school they belong to and the second within any school, including the same one.



Category	Engineering Field	Management Field
Fundamental	Math & Science	Differential Equation / Applied Linear Algebra / Statistics (option 2 / General Physics I, II / General Chemistry I, II / General Chemistry Experiment / General Biology
	IT	Dynamics of IT / Engineering Programming / Engineering Programming Lab
	MGT	Leadership and Teamwork / Entrepreneurship and Innovation
Liberal Arts	English Language	English Foundation / English Forward / Building Writing / Building Speaking & Grammar / Chinese Foundation / Chinese Forward (select 1)
	AHS	Art and Creativity / Literature and Creativity / Globalization and Economy / Society and Culture / Development of Civilization / Effective Communication
Free Elective	ENG	Introduction to English Styles / English Language & Culture / English for Business

* Free Elective: Non-mandatory courses offered for students to fulfill their course requirements.

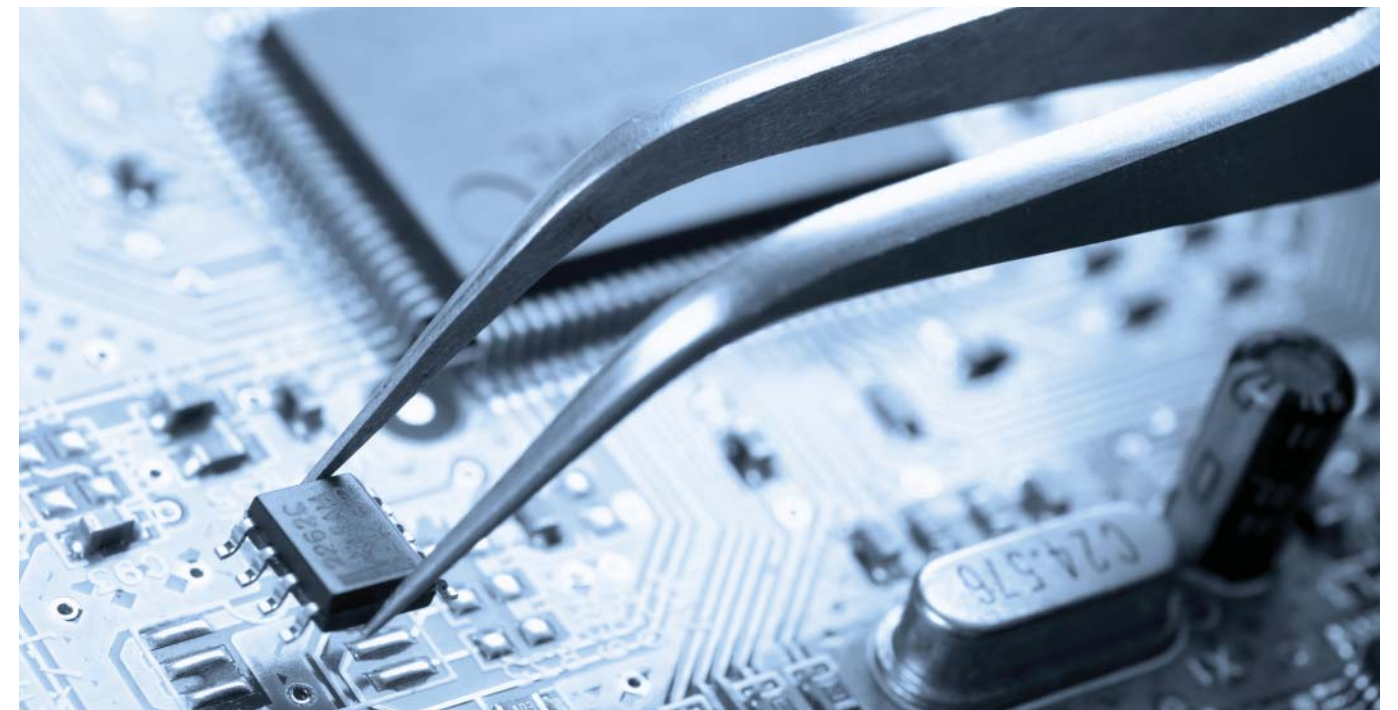
SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING

Expanding the Value of the Digital World

The School of Electrical and Computer Engineering is pursuing to improve the automation of various industries, including intelligent automotives, shipbuilding, digital communications and energy plants. The school is achieving this through the convergence of theoretical and application-based studies within the fields of electrical/electronic engineering and computer engineering with advanced IT product/information services, such as digital TVs, smart phones and sensor networks. The three tracks provided in this school are the backbone of the current information era and provide our students with the ability to maneuver through this rapidly changing field.

TRACKS

- Computer Science and Engineering
- Electrical Engineering
- Device Physics



SCHOOL OF MECHANICAL AND ADVANCED MATERIALS ENGINEERING

Change our Life by Developing High-tech Machines and Revolutionary New Materials

The School of Mechanical and Advanced Materials Engineering is a convergent field of study focusing on new materials development and mechanical engineering. As such, this field is influencing many different industries, including automotive, shipbuilding, aerospace and robotics. The new materials engineering groups research core materials used in semiconductors, LEDs, displays, solar cells and secondary cells. These are very important fields that comprise the fundamental industries of Korea, the importance of which are expected to continue to grow in the future. This school provides a systematic and thorough education for the students learning the basic principles of these fields and allows them to experience practical applications during their studies.



TRACKS

- Mechanical System Design & Manufacturing
- Thermo-Fluid & Power Engineering
- Advanced Materials Engineering



SCHOOL OF NANO-BIOSCIENCE AND CHEMICAL ENGINEERING

Bringing the Unseen into View

The School of Nano-Bioscience and Chemical Engineering combines bioscience, nanoscience, basic chemistry and engineering, with the ultimate goal of empowering our students with a fundamental knowledge and understanding of biological processes, chemistry and engineering. Research areas include stem cells and regenerative medicine, cancer and metabolic diseases, biosensors, catalysis, biofuels, biomaterials, molecular diagnostics and medicine, chemical engineering and optical materials and systems. The school of Nano-Bioscience and Chemical Engineering provides a new paradigm to tackle urgent issues such as human health, energy, and environment.

TRACKS

- Bioengineering
- Biomedical Science
- Advanced Chemical Engineering
- Nano-Chemical Science



SCHOOL OF DESIGN AND HUMAN ENGINEERING

Creating and Designing the World for Human Beings

The School of Design and Human Engineering educates our students on the theory and practice of creating new designs to fulfill the physical, mental and emotional desires of humankind. Through the various courses offered, such as industrial design, human engineering, human sensibility ergonomics, engineering design, system design and color engineering, our students will learn the thought processes and methods they need to be creative and successful in the design field.



TRACKS

- Integrated Industrial Design
- Affective & Human Factors Engineering
- Engineering & Systems Design



SCHOOL OF URBAN AND ENVIRONMENTAL ENGINEERING

Dreaming of an Advanced City Balancing Human Life with Nature

Environmental pollution and climate change caused by industrialization are directly related to the survival of human beings. Therefore, studies on these issues are gaining in importance. Urban and environmental engineering is an interdisciplinary research field focusing on environmental protection, sustainable development and improvement of human welfare.

In this division, students will gain basic knowledge related to urban and environmental issues and study more advanced courses represented by four tracks. Environmental analysis and pollution control engineering (environmental analysis, water and air treatment, soil remediation). Earth science and engineering (climate change, global environment, environmental modelling). Urban development engineering (urban planning, structural mechanics and design, health monitoring, construction materials). Disaster and Risk Management Engineering.

The School of Urban and Environmental Engineering is committed to developing innovative technologies in the fields of urban and environmental engineering and educating leaders who will have a large impact on our profession and society.

TRACKS

- Environmental Analysis & Pollution Control Engineering
- Earth Science & Engineering
- Urban Development Engineering
- Disaster and Risk Management Engineering



INTERDISCIPLINARY SCHOOL OF GREEN ENERGY

Ensuring That Tomorrow Will Be Bright

The Interdisciplinary School of Green Energy educates about energy conversion and storage, and the use of nuclear energy to help resolve the problems associated with the global energy crisis and climatic change. In the energy conversion and storage (ECS) field, students will learn the principles behind and applications of fuel cells, lithium secondary cell and next generation solar cells. They will also learn about current developments in hydrogen production/storage methods and graphene research. The nuclear energy (NUE) field will provide the students with knowledge about safety and operation of a nuclear plant, development of next generation small/medium type nuclear reactors, hydrogen production using atomic energy and current research into the development of a nuclear fusion reactor.



TRACKS

- Energy Conversion & Storage
- Nuclear Energy



SCHOOL OF TECHNOLOGY MANAGEMENT

Empowering Tomorrow's Science and Technology Management Force Today

The School of Technology Management is aiming to cultivate students who have the key talents needed for management positions and who will be able to lead the global economy era by combining science and technology principles with management skills. As such, our students will cultivate the basic knowledge needed to be outstanding managers in a variety of positions through the undergraduate curriculum, which includes the following majors: technology management, management information systems, financing, accounting, marketing and international management. Furthermore, the entrepreneurship course offered presents students with the knowledge and ability to convert advanced technologies based upon research into businesses, which will be important for students who major in both technology management and an engineering field.



TRACKS

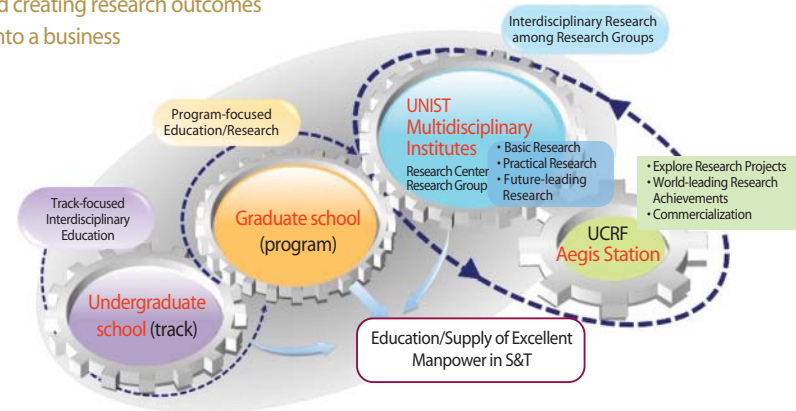
- General Management
- Technology Management/Information Systems/Entrepreneurship
- Finance/Accounting
- Marketing/International Business



GRADUATE SCHOOLS

- Master's Degree Program
- Doctoral Degree Program
- Master's Doctorate Integrated Program

* Convert global brand creating research outcomes / accomplishments into a business



NOBEL R&D FELLOWSHIP

- Joint guidance and degree conferment programs with 10 Nobel Laureates
- A total of 20 graduate school students (doctorate course, 2 students per unit) will be selected and awarded financial support (30 million Won annually for 3 years)
- Students will also be provided the chance to participate in the lab of a Nobel Laureate
- Overseas study for 6 months or more per year
- Participation throughout their doctoral studies during the 3 years of support
- Three MOUs were signed up to 3 units in 2011; extended by up to 10 units by 2020

STAR R&D FELLOWSHIP

- Joint guidance and degree conferment programs between UNIST professors and international scholars and Nobel nominees
- Joint guidance and degree conferment programs with 10 international scholars (10 units) - Operation of joint guidance/joint degree
- A total of 20 graduate school students (doctorate course, 2 students per unit) will be selected and awarded financial support (30 million Won annually for 3 years)
- Students will also be provided the chance to participate in the lab of an international scholar
- Overseas study for 6 months or more per year
- Participation throughout their doctoral studies during the 3 years of support
- Three MOUs were signed in 2011; extended by up to 10 units by 2020

Strengthen the linkage of the elite fellowship program and the global Ph.D scholarship of the government

- Basic policy of the elite fellowship : Provided with the financial support of 30 million won annually (for 3 years) for excellent students (Master's/Doctor's courses)
- Provide addition support of GPS+ α to the GPS beneficiaries
- When the GPS support is terminated in 2 years, the additional 1 year is supported with the elite fellowship program (Guarantee of support for a total of 3 years)
- Support the GPS beneficiaries with the participation in a foreign Lab or foreign conference : Within the limit of 10 million Won annually



Ask a future UNISTAR

True or False

01 Is this university only for scientists?

False. At UNIST, you can major in business and management fields as well as in science & engineering fields, like biology, electronics, computers, new materials, energy engineering and design engineering. Above all, UNIST is proud of its curriculum including both management and science fields.

02 Are students provided with scholarships?

True. Actually, various scholarships exist. For instance, UNIST provides all freshmen with scholarships. This is done so that all incoming students can focus on their education, regardless of their economic situation. As long as the student maintains a certain grade point average (GPA), their scholarship will continue until they graduate, allowing students with the passion to succeed to do so with little or no concern about expenses. UNIST also has other subsidies available depending on the needs of the student. For instance, a living subsidy is available for students from disadvantaged households to help with everyday living costs. In addition, scholarships are available for UNIST students to participate in various programs, such as support for purchasing textbooks and overseas study expenses.

03 Mandatory double majors and 100% English lectures? This has to be difficult.

True. Selecting 2 tracks for your major and studying them in English are difficult for plenty of undergraduate students. However, the curriculum is UNIST's pride, and was developed to prepare our students to be their most competitive world-wide after graduation. Students who are to be admitted can prepare for and reduce the burden of listening to English lectures by participating in the Pre-UNISTAR program.

04 Being a research oriented university, the campus atmosphere is quite different from other universities, right?

False. The fact is that our best students are often the ones most involved in campus activities. Although UNIST is a university specializing in science and engineering, our school offers musical and art performances every month as well as leadership program lectures from renowned and respected leaders, such as company CEOs, every week. In addition, UNIST hosts several arts and sports events every year, such as festivals, athletic contests, friendly rivalry games with other schools, etc. The campus also boasts an artificial grass stadium, an indoor gymnasium and an ultra-modern sports center, which includes an indoor pool and squash courts, but also provides the students with club rooms for each UNISTAR to enjoy their various hobbies and activities, from robots to tennis to poetry.

05 Is studying at UNIST a locational disadvantage for later job opportunities?

False. This really depends on your involvement during your undergraduate studies. As UNISTARs can take part in various national strategic research projects, both directly and indirectly, during their undergraduate coursework, they improve both their understanding of the theory behind the process as well as their ability and practical experience. Therefore, famous laboratories and enterprises both in Korea and abroad have already shown interest in UNIST graduates. Furthermore, collaborations and MOUs have been established with numerous companies and universities, providing UNISTARs with various opportunities to find employment after graduation. Finally, students showing a solid grasp of research concepts and procedures may apply for their graduate studies with professors here at UNIST.



ALL ABOUT UNIST

More than Just Students

As UNISTARs, we know life is not only about studies, although they are important! In addition to studying and attending, UNISTARs participate in many different life enriching activities both on and off campus.



UNIST Clubs

The UNIST clubs are organized voluntarily by students and span various areas of interest. Below are the names given by the students for the groups and their focus areas.

- | | |
|--------------------------------|------------------------------|
| ASTRAL (astronomy) | ULECA (chemistry) |
| Elite of Elites (mathematics) | UNIST Motors (cars) |
| UPC (computer programming) | UNIST Base Camp |
| Poem reciting | (discussion/special lecture) |
| (current affairs discussion) | Emsemble (music) |
| Pinocchio (robot construction) | Uni-screen (film production) |
| CZARDAS (violin) | Unplugged (guitar) |
| EPIDEMIC (performance & music) | PEAK (guitar) |
| Melting Point (band) | BeaUNivel (travel) |
| NEST (play) | RCY (blood donation) |
| UNISTATION (broadcast) | Sweet rain (service) |
| U-turn (dance) | Value Explorer (finance) |
| Memory DP&E (photo) | Mach badminton club |
| UNIST SIFE (business) | (badminton) |
| U-pressian (newspaper) | RoCKETS (baseball) |
| Unicolor (advertisement) | Dige (soccer) |
| VENSA (venture opening) | Biyeon (taekwondo) |
| Ahtti (service) | Sexy tennis club (tennis) |
| ACE (tennis) | |
| EA United (soccer) | |
| UNIS (basketball) | |
| UNICH (cheering squad) | |
| Endorphin (leisure sports) | |
| SHAMU (swimming) | |
| UniTT (table tennis) | |
| Earth Cops (soccer) | |
| IVF (christianity) | |
| CCC (mission work) | |
| JUNTo (biology) | |
| HeXA (security IT) | |

Uni-Star Spring Festival

The spring festival is an event for students to relax and to express their youth, passion and aspirations while escaping from the typical daily life of being a student. All of the various events are organized by UNIST's students and is open to the public, with the local community coming and participating. Come join us next spring and enjoy!

Unistadium-United Sports Championship

As at any other university, UNIST has a sports rivalry with other schools! As the representative undergraduate science and engineering universities in Korea, UNIST, KAIST, and POSTECH participate in regularly scheduled soccer and basketball competitions between our schools. Come join us next time for an enthusiastic and friendly game here at UNIST!

UNIST Leadership Program

The leadership program at UNIST was developed to help our students learn the qualities they will need to be capable leaders, including mutual respect for others as well as developing their sense of honesty, faith, cooperation and servitude.

Group activities

- Sports activities
- Participation in the student festival
- Novel discussion group

Cultural programs

- Special lectures given by invited CEOs from various companies
- Attending a cultural performance
- Visit to cultural and historical sites
- Participation in a cultural event within the local community

Membership Training (MT)

- Camp
- Team organization
- Community life
- Debate

Student Government

- Lectures given by advising professors
- Election of the student government
- Meeting for the establishment of team activity plan

Student Visits to Their High School Alma Meters and the Mentoring Program

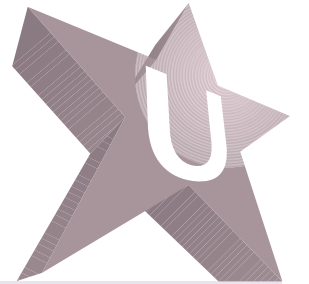
- Students visit their Alma Meters
- Counsel high school juniors on their future plans and university entrance procedures

Volunteer Activities

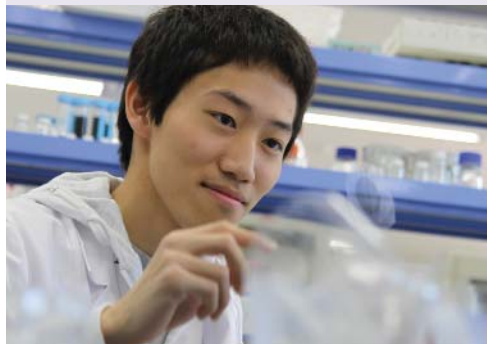
- Voluntary work for elderly, impoverished, or handicapped people
- Voluntary work at a local/farm village

Student Dreams Come True at UNIST!

If you are a student who has a clear dream, who will not cease in your constant effort and passion to achieve this dream, who will not give up on achieving this dream, even with many obstacles working against you, then you are qualified to be a UNISTAR.



Undergraduate student, published a peer-reviewed article in an SCI-listed journal



Kiyeong Jo, 3rd year student, School of Electrical and Computer Engineering

"I am very glad to have such a good research results during my undergraduate school courses. I will continue to pursue this research deeper during my Masters/Doctorate studies and as I am able to grasp the fundamentals more firmly."

An undergraduate student was listed in a Science Citation Index (SCI)-listed journal as the main author. The paper is entitled "Technology manufacturing the transparent electrode using deoxidized graphene solution utilizing the conductive polymer" and was published in the Jan 12th, 2011, issue of Langmuir. Langmuir is a famous journal in the areas of surface, interface and materials chemistry. This paper discusses the method of raising the conductivity of graphene oxide, which was produced through a chemical oxidation process. With the addition of a conductive polymer, the authors were able to show significantly higher electrical conductivities as compared to graphene deoxidized by conventional methods, providing a tool for producing flexible transparent electrodes by a very simple and inexpensive process.

The triple-crown winner in the National Social Venture Contest

Project team 'Sullivan's Voice'

"I will proceed with its commercialization with an even stronger sense of responsibility. I believe that the way to repay the interest and support that many people sent, is the propagation of the public values that care about the socially weak"

"Sullivan's voice", the student project team of UNIST has won The Ministry of Employment and Labor Award the grand prize in the general idea category of the 2011 National Social Venture Contest. This contest, held for the third consecutive year, has been organized by the Ministry of Employment and Labor and the Korean Social Business Agency, and has been sponsored by the Ministry of Science and Technology, the Small and Medium Business Administration, SK, and Deloitte. The 66 teams that qualified through the regional preliminaries, contended for victory with their own unique Social Venture ideas. "Sullivan's voice" of UNIST won the grand prize for its idea of developing applications for visually impaired people. UNIST's "Sullivan's Voice" team, composed of 8 people in total (Team leader: sophomore Lee Ki-Hyuk, team members: juniors Kim Woo-Joong, and Kim Yun-Kyung, sophomore Lee Jung-Min, and freshmen Kim Hyun-Woo, Lim Dong-Hyun, Jung Sul-Ki, and Baik Ji-Youn), has attracted great attention for winning 3 major prizes of the contest, the Ministry of Employment and Labor Award (30 million won prize), the SK Innovation Award (5 million won prize), and the Deloitte Sponsorship Award (5 million won prize).



2nd ranking in the PLSI & KSCA 2010 parallel computing experience contest



1st & 2nd year student team, School of Electrical and Computer Engineering

"We were able to get plenty of help as we have the super-computing center. It is very meaningful as we were competing with graduate school students. We will try consistently to stand out in the international contest such as the World Super-Computing Competition."

UNIST won 2nd place in the PLSI & KSCA 2010 parallel computing experience contest. This experience contest was held with 12 teams among the total 13 partner institutes (excluding KAIST), and consisted of three students per team. Two teams from UNIST participated in solving a scientific calculation problem by parallel computing. While the other partner teams consisted of graduate school (Masters, and Doctoral) students, the UNIST team consisted of 1st & 2nd year students (Wondeuk Yun, Yeongmun Eom, Seontae Kim). Even though it was difficult to solve the problem, the UNIST team received the valuation of having presented a creative problem solving method from the examiners. While the super-computing center of UNIST is supporting the competition consistently, it plans to carry out the education and support for the UNIST students awarded in the contest persistently, so as to get a good record in the World Super-computing Contest as well.

Received the 2010 Korean Talent Award

Chanwul Kim, 3rd year student, Interdisciplinary School of Green Energy

"I wish to be a scientist with an interest in social reality, and to help people with my knowledge and research ability, rather than a scientist who is kept in the laboratory. In other words, I hope to contribute to human life."

Chanwul Kim was a recipient of the '2010 Korean Talent Award' organized by the Ministry of Education, Science and Technology, and the Korea Foundation for the Advancement of Science & Creativity. The 'Korea Talent Award' selects a total of 100 students, 60 from high school and 40 from universities, who integrate an all-round appraisal of knowledge, virtue and physical strength. From Ulsan, a total of 6 high school and 3 university students were recommended in September as candidates from the communities through a local examination. Chanwul Kim earned a high valuation with superior and creative research activity in science, an excellent school record as the top of the entire university, and outstanding personality and leadership through various public social service activities. He also attracted the attention of the judges by his various cultural activities, such as playing the violin in the Youth Symphony Orchestra, in addition to his achievements in his studies. The recipient receives the Presidential commendation, a medal, a scholarship and the qualification to participate in the incorporated training program for the persistent support and management for the recipient.





1 #102 Natural Science Bldg. 2 #104 1st Engineering Bldg. 3 #106 2nd Engineering Bldg.

These buildings house the main research facilities at UNIST as well as the classrooms for the science and engineering students. Each floor includes undergraduate class laboratories, graduate research labs and seminar rooms. On the 1st and 2nd floors, lecture halls are available where various lecture formats can be used.

4 #114 Technology Management Bldg.

Lecture halls and language labs are located in this building. The multimedia lecture rooms, which can accommodate classes from 60 to 220 students, provide ultra-modern educational tools, such as internal servers and ultra-high speed internet networks.

5 #201 Main Administration Bldg.

This building houses most of the administrative departments at UNIST, including academic affairs. The auditorium found on the 2nd floor is commonly used for international conferences while a multi-purpose hall for diverse events is located on the 4th floor.

6 #202 Academic Information Bldg.

This is UNIST's library plus much more. It is equipped with various multimedia materials, a computing lecture room, plenty of books, a reading room, and a study room to provide the students with the best atmosphere available to study. As well, UNIST's International Center can be found on the 1st floor and offers students the opportunity to develop the cultural knowledge.

7 #203 Students' Union Bldg.

The Student Union houses many of the student clubs as well as various facilities, such as restaurants, cafeteria, coffee shop, bookstore, stationary store and convenience store.

8 #205 Gymnasium

The indoor gymnasium includes a fitness center, indoor swimming pool, squash courts, an indoor golf center, etc. and facilities for all sorts of indoor sports.

9 #301, 302, 303, 304, 305, 306, and 307 Student Dormitories

The student dormitories consist of rooms for 1 or 2 students. Each of the buildings provide convenient support facilities and security.

10 Advanced Biomaterials Research Center

Specialized facilities to create high value-added research, such as new medicine, bio-material and medical engineering.

11 in vivo Research Center

Research facilities for specialized animal testing to ensure competitive research in the field of bio technology and medical engineering.

12 Machine Process Building

Wastewater storage facilities and others such as a general workshop, CNC workshop, shaping process EDM laboratory, and the 3-D measuring laboratory.

