KASETSART UNIVERSITY

Bangkhen Campus, Bangkok Thailand

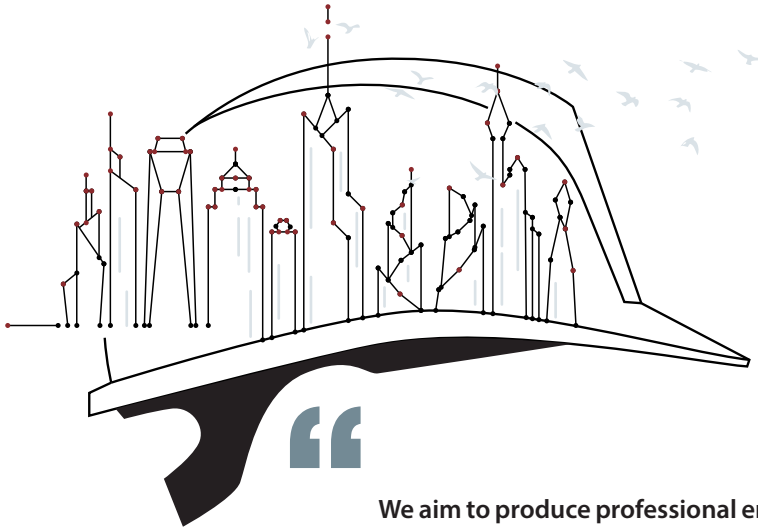
The Faculty of Engineering

Kasetsart University

A Leader of **e-Faculty** and **e-Learning**

The Faculty of Engineering

Kasetsart University



We aim to produce professional engineers, who are recognized for their competence and technical knowledge as well as their ethical, moral and social responsibilities; and to provide extensive and socially recognized academic and research services, which contribute towards the self-sustainable development of the country.

Ethics
Displaying ethics and a moral code of conduct in their profession.

Electronics (IT)
Specialized in computers and information technology.

English
Good knowledge of English in order to communicate effectively and succeed in their profession.

"3 E's & 3 I's"

Characteristics of our graduates

Innovation
Be creative and develop new inventions and innovations (Innovative Technologies).

Integration
Able to integrate knowledge from different disciplines.

Improvement
Develop themselves and strive continuously to enhance their professional skills.

VISION:

Consistent leadership in the creation and provision of knowledge that responds to the dynamic and ever-evolving needs of the global community.

MISSION:

- Produce engineers who possess high moral and ethical standards and who are responsive to the needs of society.
- Create advanced research, innovation and academic services.
- Manage and deploy the faculty's resources effectively.
- Apply engineering knowledge to nurture and sustain arts and culture.

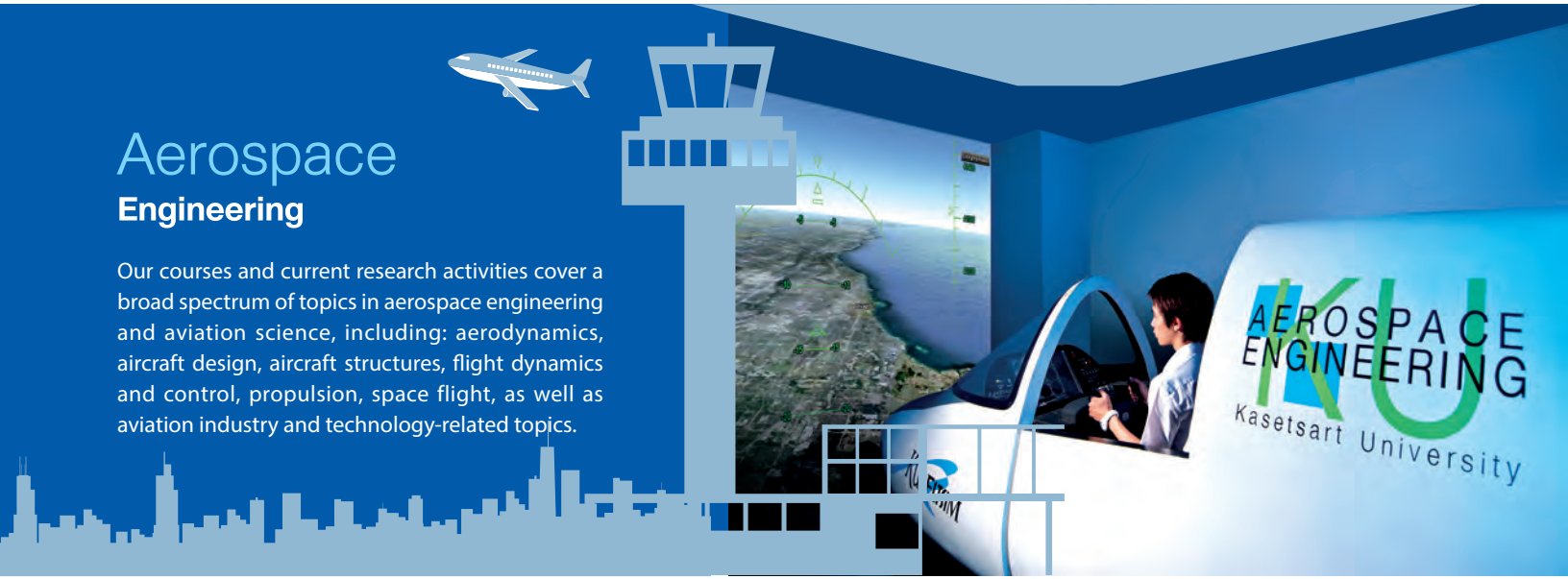
STRATEGY: **DESIRe**

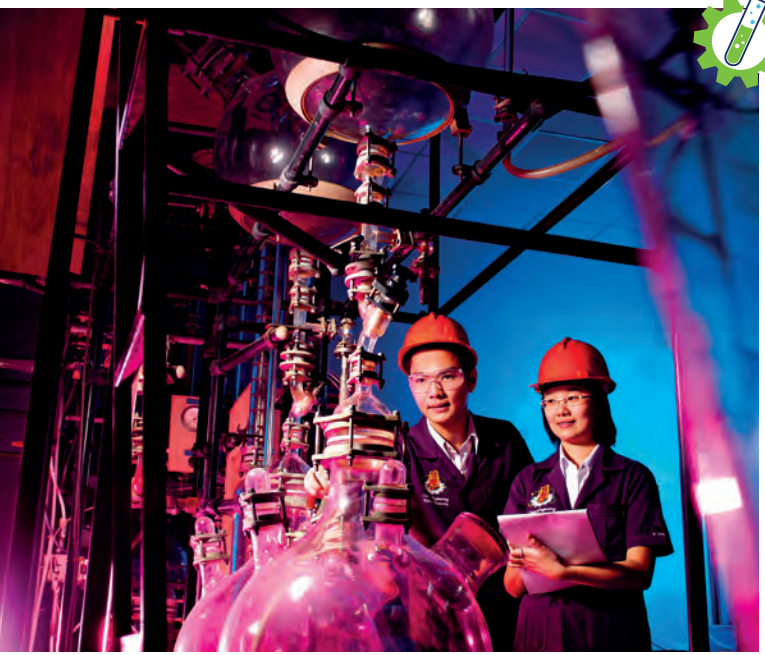
- **D**igital faculty
- **E**conomically sustainable faculty
- **S**ocially responsible faculty
- **I**nnovative **Re**search faculty

Our **Departments**

Aerospace
Engineering

Our courses and current research activities cover a broad spectrum of topics in aerospace engineering and aviation science, including: aerodynamics, aircraft design, aircraft structures, flight dynamics and control, propulsion, space flight, as well as aviation industry and technology-related topics.



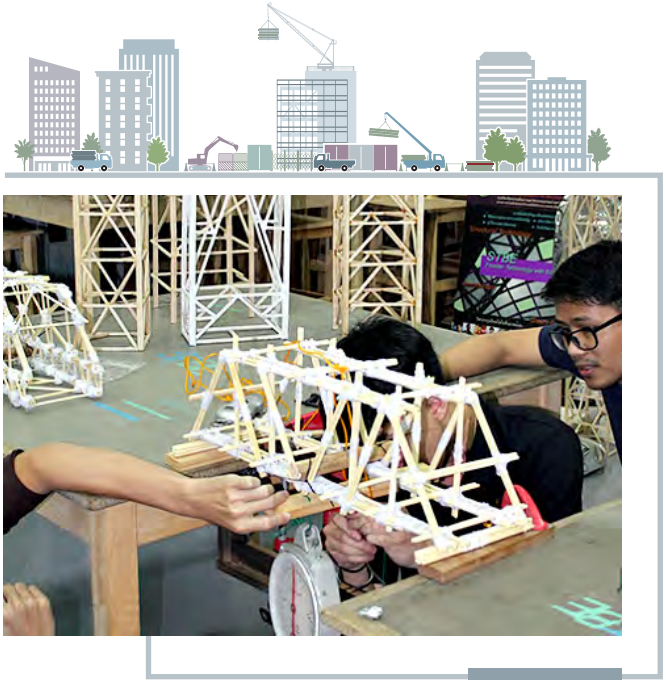


Chemical
Engineering

The program is focused on the design, operation and improvement of chemical and petrochemical processes where raw materials are safely and economically converted into useful products in an environmentally benign manner. Courses are offered in mass and energy balances, cleaner technologies, thermodynamics, unit operations, chemical kinetics and reactor design, plant and equipment design, process control, engineering economics and cost estimation, pollution prevention and control, and safety engineering in process industries. Students are also trained in computer software applications, English fluency and presentation skills in order to work successfully in process industries such as petroleum refining, petrochemicals, rubber, pulp and paper, ceramics, glass, textiles, paints, pharmaceuticals, microelectronics, biotechnology, food processing and various consumer products. The department offers accredited Bachelor, Master, and Doctoral degree programs and has a reputation for excellence in both teaching and research.

Civil Engineering

We are dedicated to providing fundamental and advanced education in the design and construction of developmental infrastructure. This covers a wide range of disciplines, namely: Surveying Engineering-the mapping of data from field surveying, aerial photographs and remote sensing devices; Structural Engineering - the mechanics of structural elements and strength of materials, the analysis and design of timber, steel, reinforced and pre-stressed concrete structures; Geotechnical Engineering - the behavior of soils and rocks for above and underground structures such as buildings, roads, tunnels, and dams; Transportation Engineering - the systems of land, sea and air transport, highway design, traffic flow and mass transit systems; and Construction Management - the management of construction materials, machinery, manpower and capital in the construction industry.



Computer Engineering

The Department of Computer Engineering offers accredited Bachelor, Master and Doctoral degree programs in Computer Engineering, as well as a Master of Science degree program in Information Technology. Currently, the Department has 30 full-time professors as well as several adjunct professors, two special research units (in High–Performance Computing and Natural Language Processing) and 6 research laboratories (in Networking, Web Retrieval and Data Mining, Software Engineering, Multimedia, VLSI, and Robotics.) The computing facilities of the department include several work-stations, PCs, and a 72-node Pirun cluster.

Electrical
Engineering

The Department of Electrical Engineering offers undergraduate and graduate programs. Our programs provide coursework and research in the area of communication systems, control and instrumentation systems, electronics, and power systems. The four–year undergraduate program is designed to inculcate students with a broad background in all aspects of electrical engineering and also allows students to choose elective courses to match their individual areas of interest. The graduate programs are geared for students to be actively involved in cutting-edge research in emerging technologies and applications research. Some of the ongoing research is conducted into communication networks, sensors, wireless networks, telecommunication applications, embedded systems, robotics, biomedical electronics, photovoltaic systems, control systems, power systems, and research energy renewable energy.

Environmental
Engineering

The Environmental Engineering Program supports educational and research activities centered on the development and application of engineering principles to minimize the adverse effects of overused natural resources and pollution created by various human activities. Major topics being studied in this program include: the design of conventional and advanced water and wastewater treatment facilities/devices and sewage system; solid and hazardous waste management; development and evaluation of techniques to remediate contaminated sites and subsurface, and environmental management tools for organizations, such as environmental impact assessment, environmental risk assessment, and environmental management system.

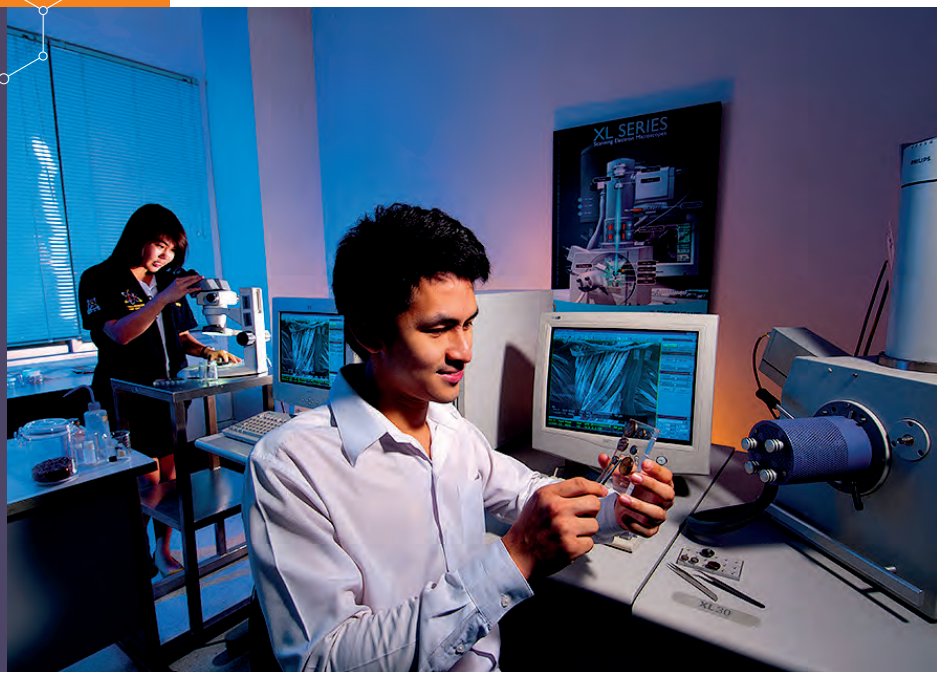
Industrial Engineering

Students are instructed in manufacturing processes, quality control, engineering economics, work studies, operations research, plant layout, production planning and control, safety engineering, tool design, project feasibility studies, industrial and commercial law, and applications of modern technologies such as computers and industrial robots.

Industrial Engineering covers not only technical but also human aspects. Our curriculum is designed to provide students with insights related to the manufacturing industry. In addition, students will learn about tools that help improve productivity, such as work studies, quality control and operations research. Besides manufacturing and mathematical knowledge, industrial engineers are also instructed in economics and industrial and commercial law.

Materials
Engineering

The program is geared towards providing the knowledge and practical experience essential for understanding the science and technology of materials development and usage. The fundamentals of materials are taught via department core courses that focus on structure, properties, processing, and performance of materials. Examples of core courses offered are thermodynamics and kinetics, transport phenomena, microstructure characterization, mechanical and physical properties, and phase equilibria. Students subsequently tailor their selection of technical elective courses that provide further understanding of selected materials such as metals, polymers, ceramics, composite materials and electronic devices.



Mechanical

Engineering

Mechanical Engineering is an interdisciplinary field, which brings fundamental measures to many applied engineering and innovative technologies. The department offers five major areas of specialization for the undergraduate program, namely: automotive engineering, air-conditioning engineering, energy engineering, fire protection engineering, and design and manufacturing engineering and electrical mechanical manufacturing engineering. In addition, the department also offers a graduate program leading towards a Master and/or Doctor of Engineering.

Water Resources

Engineering

The curriculum focuses on fluid mechanics, hydraulics, surface and subsurface hydrology, river engineering, water resources engineering, water quality control, coastal engineering and urban flood protection and drainage, in addition to applications for the development and management of different scale projects.

Master's & Doctoral

Programs

The Faculty of Engineering offers Master's and Doctoral programs in several disciplines, both regular and special programs, as follows:

Master's Program

Total **21** Programs

Doctoral Program

Total **10** Programs

- Aerospace Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Engineering Management
- Engineering Management (International Program)
- Environmental Engineering
- Fire Protection Engineering
- Industrial Engineering
- Industrial Engineering (International Program)
- Industrial Production Technology
- Information and Communication Technology for Embedded Systems (International Program)
- Information Technology
- Infrastructure Engineering and Management
- Materials Engineering
- Mechanical Engineering
- Safety Engineering
- Structural Technology for the Built Environment
- Sustainable Energy and Resources Engineering (International Program)
- Water Resources Engineering

International students can enroll in a non-international master and doctoral program. All courses at graduate level are taught in English.

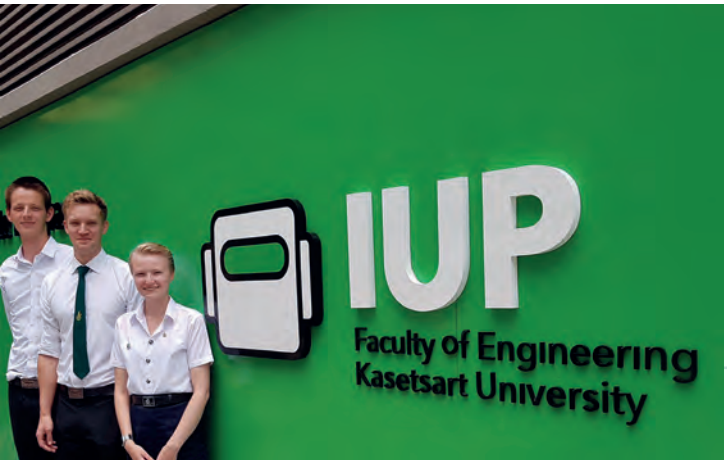
Cooperative

Education (Co-Op) Programs

The Faculty of Engineering realizes the importance not only of academic studies and scientific inquiry, but also of practical training in industry so that students can gain knowledge in the classroom and, at the same time, develop their own ideas, theories and concepts systematically from real-life situations. It will enable our students to combine theory with practice, so that they can proceed along their career paths more clearly and decisively.

The Faculty of Engineering provides an alternative for students to participate in a Cooperative Education Program. Eligible candidates are Bachelor's Degree students who have taken courses for at least 4 regular semesters or no less than 70 credit hours and have passed all courses with a GPA of at least 2.00. Qualified students are allowed to work full-time as an assistant engineer or assistant researcher for at least 16 weeks, with definite roles and responsibilities by the organizations

Furthermore, it is an opportunity for students to be employed as permanent staff in the organization upon their graduation. Each of them may be considered for the Student of the Year Award issued jointly the participating universities and the Office of the Higher Education Commission.



International Programs

International Degree Programs

The Faculty of Engineering offers International Degree Programs that emphasize creative thinking as well as research and analysis in engineering disciplines, leading to an advanced research capability and highly qualified and innovative engineering minds to serve our rapidly changing world. All courses are taught in English.

International Bachelor's Degree Programs

The International Undergraduate Program (IUP)
offers a 4-year engineering program in 6 majors:

- **Electrical Engineering**
  - Communication Engineering
  - Energy Innovation and Intelligent Robotics Engineering
- **Electrical-Mechanical Manufacturing Engineering**
- **Environmental Engineering**
- **Industrial Engineering**
- **Mechanical Engineering**
- **Software and Knowledge Engineering**

International Double Degree Program (IDDP)

Bachelor of Engineering (Aerospace Engineering) and Bachelor of Business Management Degree Programs

IDDP, established in 1999, is jointly offered by the Department of Aerospace Engineering at Kasetsart University (KU) in Bangkok, Thailand, and the School of Aerospace, Mechanical and Manufacturing Engineering at the Royal Melbourne Institute of Technology (RMIT) in Melbourne, Australia. This program is intended to specifically meet the current and future demands of the aerospace industry, delivering highly talented graduates with professional qualifications and skills in Aerospace Engineering and Business Management. B.Eng. Degrees in Aerospace Engineering are conferred by Kasetsart University and RMIT University, as well as a B.Bus. in management from RMIT University. The total duration of the program is five-and-a-half years, with the first 3 years of academic enrollment at Kasetsart University.

International Master's Degree Programs

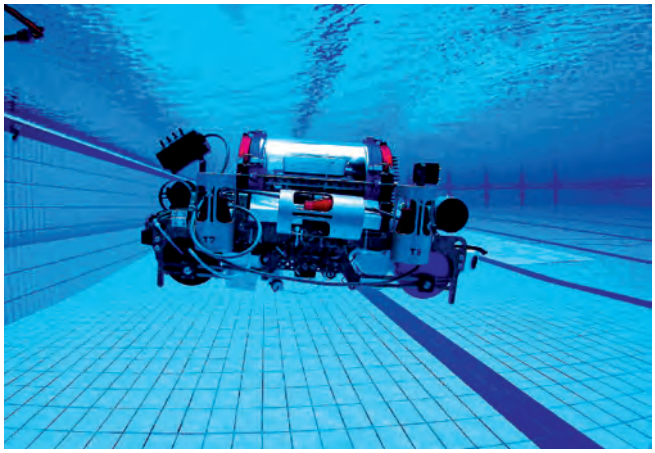
- Engineering Management
- Industrial Engineering
- Information and Communication Technology for Embedded Systems
- Sustainable Energy and Resources Engineering

International Doctoral Degree Programs

- Industrial Engineering

Research & Innovation

A crucial aspect of our students' education is applying what they have learned during their courses to the field of research. By conducting both fundamental and applied research, students can deepen and expand their knowledge. In addition, society benefits from the practical applications of their research. Our students conduct their research at a wide range of companies and institutes, both in Thailand and overseas, as well as at several research institutes belonging to our Faculty of Engineering.



In addition to research units within the departments, the Faculty of Engineering, Kasetsart University, has established several institutes and centers in order to create specific capabilities and resources for academic excellence, increase the efficiency of our research and educational management, provide academic services to the public, and coordinate between each institute/center and the private sector. These are our institutes and centers:

1. Chulabhorn Satellite Receiving Station
2. Institute for Innovative Information Technology (I3T)
3. Fire Protection Engineering Institute
4. Energy Engineering Institute
5. Center of Logistics Management Engineering Technology
6. Engineering Computer Center (ECC)
7. Center for Safety Technology in Buildings and Industrial Works (CST)
8. Legal Informatics Center
9. Industrial Automation Training Center (IATC)
10. Center for Excellence Research in Disaster Management
11. Research and Training Center on Resource Management and Geoinformatic System
12. The Energy and Environmental Engineering Center Bangkhen
13. Maintenance Management Education Center (MMEC)
14. Air Transport Research and Consulting Center
15. Research and Development Center of Industrial Production Technology(RDiPT)
16. Center of Excellence in Rubber Mold
17. Center for Alternative Energy Vehicles
18. Remote Sensing Research Centre for Water Resources Management
19. Geotechnical Engineering Research and Development Center (GERD)
20. Materials Innovation Center
21. Environmental Engineering Modeling Consulting Center
22. Management of Engineering and Technology Center

International Collaboration

The Faculty of Engineering engages in partnerships with leading universities and academic institutes in countries such as Japan, Taiwan, Germany, Finland and France. The purpose of our international collaboration is to provide our students and faculty staff with the opportunity to study or conduct research at a university or institute abroad, for a period of a few months up to a year. Simultaneously, students as well as faculty staff from our partner universities overseas arrive at our faculty each semester to enroll in our courses, work in our research laboratories, and learn about inter-cultural communication and the tangible aspects of a globalizing world.

International Exposure

The Faculty of Engineering actively encourages and assists students who would like to gain the valuable experience of studying at one of our partner universities overseas. Personal development is also a very important aspect of studying abroad. We help students with selecting and registering at an appropriate university. During each summer semester, several students undergo training at our partner universities in Japan, Taiwan, Germany, Finland and France, among other countries.

In addition, we attract both full-time and exchange students from all corners of the world who seek to deepen their knowledge of engineering in an international environment at a world-class university in a thriving and vibrant metropolis. Foreign exchange students lean Thai and interact with local students and other exchange students. Interesting and challenging courses, together with various extra-curricular activities, will benefit students' personal and academic growth. Thus, Kasetsart University offers you ample opportunities to enrich yourself academically as well as culturally in a global environment.

Extracurricular Activities

The Faculty of Engineering provides extracurricular activities in order to boost the knowledge and understanding of our students. These extracurricular activities help the students to learn how to work with others and apply their knowledge after their graduation for the benefit of society. The Faculty of Engineering encourages students to actively participate in various academic exhibitions. The students are also encouraged to exhibit their projects in contests, in order to enhance their experience. Finally, our students can turn their time at Kasetsart University into a much more enjoyable and enriching experience by joining a wide variety of students' clubs that engage in practical engineering pursuits, sports activities, cultural expression, social responsibility, and environmental awareness.

Internships

Internships offer our students an invaluable opportunity to apply what they have learned to a real-world setting. They can gain first-hand knowledge of the inner workings of an organization and learn what it takes to be a professional engineer at a leading company. Our faculty has well-established partnerships with a variety of multinational corporations that offer our students the opportunity to enrich their lives with practical training both in Thailand and abroad.

Students' Achievements

The students of the Faculty of Engineering bring honor to the university continuously and are the proudest achievement of our Faculty. The academic capabilities and collaboration of students in creating research work and innovation has led to several rewards in contests, such as the gold medal of the Academic Olympic Computer Competition, Design Work by CAD/CAM Contests, Programming Contests, the Robot Design Championship of Thailand, Energy-Saving Automobile contests, and the World RoboCup Competitions.

Community Engagement

From our position as a leading faculty in innovative engineering education, we emphasize community engagement as one of our signature programs. Our students and faculty are encouraged to initiate and participate in a wide range of volunteer activities and charitable work. The aim is to build ongoing, permanent relationships for the benefit of a community. To this end, our students participate in dozens of volunteer activities, such as aiding flood victims, constructing an orphanage, and teaching disadvantaged children, as well as protecting the environment by planting trees and protecting endangered habitats. As part of the Engineering Service project, our student volunteers regularly offer several science-related courses to high-school students in order to prepare them for their entrance examination.

Scholarships

In addition to high-quality education management, the Faculty of Engineering supports our students to obtain equal-educational opportunities for the full-time program. The Faculty of Engineering grants 420 scholarships allocated from both the Faculty's Scholarship Division and income, with a total amount of more than 1 million baht a year. The scholarships are classified as work scholarships, good study performance scholarships, the highest score of the entrance exam scholarships, and academic honor scholarships.

In combination with the support of annual scholarship funds offered by private companies and state enterprises, the Faculty of Engineering grants a total of 540 continuous and annual scholarships in each academic year.

Overseas Training Scholarships

In addition to arranging practical training in industry for our students, the Faculty of Engineering allocates a portion of its budget each year for students to participate in overseas training programs in all fields, in order to enhance their knowledge and gain experience abroad.

Study Plan for Undergraduates

Graduates are required to complete 141-150 credit hours, specified in the curriculum of each major in the Bachelor's Degree program, and pass a 240-hour practical training program. Each course is accredited by the Council of Engineers. Furthermore, cooperative education programs are offered to interested students.

Academic Calendar

Thai Program /IDDP	IUP PROGRAM
JUNE – OCTOBER	AUGUST – DECEMBER
First semester	
NOVEMBER – MARCH	JANUARY – MAY
Second semester	
APRIL – MAY	JUNE – JULY
Summer semester	

Each regular semester consists of 15 weeks. A 6-week summer study period is offered by the Faculty in order to provide the opportunity for students to take additional courses. The study period in the summer is equivalent to the regular semester.

Tuition*

The tuition fee for Bachelor's Degree students in each program is as follows:

1 Regular (Thai) Program:

17,300 Baht per semester

2 Special (Thai) Program:

36,700 Baht per semester

3 IUP Program:

60,700 Baht per semester

4 IDDP Program:

89,100 Baht program fee/semester (at KU) and

39,072 AUD/year (at RMIT in Australia)

Note: All undergraduate programs are a 4-year duration course (8 semesters). For the graduate programs, students interested in further information about tuition and other expenses should contact the relevant department.

(*) As of 2020 academic year

สื่อสิ่งพิมพ์ KU ร่วมอนุรักษ์สิ่งแวดล้อม

ด้วยการใช้กระดาษที่ใช้พลังงานน้ำในการผลิต เป็นมิตรกับสิ่งแวดล้อม
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