BIOMEDICAL ENGINEERING

FACULTY OF ENGINEERING KMITL

KING MONGKUT'S INSTITUTE OF TECHNOLOGY LADKRABANG

BANGKOK, THAILAND

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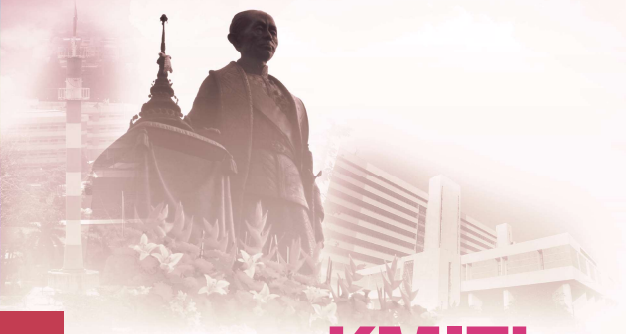

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About KMITL

King Mongkut's Institute of Technology Ladkrabang (KMITL) has been established since 1960 and is considered one of pioneer science and technology institutions in Thailand. The name of the institute was derived from the name of King Rama IV. The royal grand crown seal has been graciously used as the emblem of the institute. As moved to a new era with 50 years' experience, KMITL has not only been very successful as an institute specializing in the field of science and technology in Thailand, but also produced a great exceptional number of professional "Practical Engineers" in diversified engineering territories. KMITL is moving forward with the new era with the philosophy "Education and Research in Science and Technology are the Foundation of the Development of the Nation" and KMITL is also ready to glow globally as internationalized activities and supports.

About Biomedical Engineering

The program is classified into 3 main tracks , Biomedical Instrumentation, Healthcare Information Technology and Medical science track.

Biomedical Instrumentation track, BME-BMI, emphasizes on maintenance and calibration of medical devices, medical device administration and medical device design and development. Students interested in this track can pursue their careers as hospital biomedical engineer, as service engineer, product specialists and sale representatives in medical device private company and as R&D medical device engineer.

Healthcare information technology ,BME-HIT, emphasizes on hospital information technology, networking in hospital, picture archive communication system (PACS), biomedical signal and image processing and physiological modeling. This tracks suits for students who prefer BME-related software rather to hardware and want to pursue career in IT engineering in healthcare industry and/or to pursue their study in graduate studies.

In Medical Science tracks, BME-MS, selected top-class students are qualified to pursue their studies in KMITL medical program. This track will generate the new generation medical doctor who can conduct research in BME engineering. Student can acquire two degrees (BME degree and MD degree) in 8-9 years.

Although students are clearly classified into 3 tracks, they still can take their interesting course across their tracks. This is for those who want to be a versatile biomedical engineer.

Degree and Curriculum

B.Eng. (Biomedical Engineering), a fourth-year international program, is suitable for students who are seeking to develop their technical knowledge and the aspects of Biomedical engineering and form a suitable basis for a career focused on engineering solutions to a medical science issues.

What you will study ?

Year 1- semester 1 (All Tracks)

- Introduction to Engineering Programming
- Introduction to Calculus
- Physics I
- Chemistry
- Engineering Materials
- Academic Listening and Speaking (Audit)

Year 1- semester 2 (All Tracks)

- Advanced Calculus
- Physics II
- Engineering Drawing
- Engineering Mechanics
- Principle of Biomedical Engineering
- Academic Reading and Writing (Audit)

Year 2- semester 1 (All Tracks)

- Differential Equations and Linear Algebra
- Biology
- Biomedical Engineering Lab I
- Physiology
- Measurement and Instrumentation for Biomedical Engineers

Year 2- semester 2 (All Tracks)

- Computer-Aided Designs in Biomedical Applications
- Biomedical Signal and System
- Electrical Circuit Analysis for Biomedical Engineer
- Biomedical Engineering Lab II
- Digital Electronics and Microcontroller
- Biochemistry

Year 3- semester 1 (BMI & HIT)

- Biomedical Instrumentation
- Biostatistics
- Control System for Biomedical Engineers
- Biomedical Electronics
- Advanced Electric Circuit Analysis of Biomedical Engineers
- BME Problem based Training Lab I
- Biomedical Engineering Application

Year 3- semester 1 (MS)

- Biomedical Instrumentation
- Body Movement and Control-Locomotor System
- Body Fluid Homeostasis I – Blood and Circulation
- Body Health and Healthy Living
- BME Problem based Training Lab I
- Biomedical Engineering Application

Year 3- semester 2 (BMI)

- BME Problem based Training Lab II
- Advanced Biomedical Instrumentation
- Electronics Engineering
- Principle of Communication
- Electromagnetics

Year 3- semester 2 (HIT)

- BME Problem based Training Lab II
- Principle of Healthcare Information Technology
- Fundamental of Biomedical Imaging
- Finite Element Analysis and Application in Biomedical Engineering
- Thermodynamics

Year 3- semester 2 (MS)

- BME Problem based Training Lab II
- Brain and Mind
- Body Defense System
- Sex, Gender and Reproduction
- Human Genetics and Epidermiology
- Woman and Child Health

Year 3- semester 3

- Industrial Internship

Year 4- semester 1 (BMI & HIT)

- BME Elective
- GenEd Elective
- Free Elective
- BME Capstone Design

Year 4- semester 1 (MS)

- Body Homeostasis II – Pulmonary and Renal Systems
- Body Energy System- GI, Liver, Nutrition and Metabolism
- Body Regulatory System- Autonomic Nervous & Endocrine Systems
- BME Capstone Design

Year 4- semester 2 (BMI, HIT and MS)

- GenEd Elective
- BME Elective
- BME Senior Project

Scholarships and Financial Aid

- Full & half Scholarships
- Student Loan

Requirements for Admission

- Transcript / GPA
- ACT / SAT
- English Proficiency Test (TOEFL/IELTS)
- Letter of Recommendation
- Statement of Purpose