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Master of Engineering Programme in Biomedical Engineering (International Programme)

หลักสูตร วิศวกรรมศาสตรมหาบัณฑิต

สาขาวิชา วิศวกรรมชีวการแพทย์ (หลักสูตรนานาชาติ) (ภาคปกติ)

Faculty of Engineering

คณะวิศวกรรมศาสตร์

Expected number of students to be accepted all year round : 5 Students

Admission Requirements

A candidate must:

1. hold a Bachelor's degree in Engineering, Science, Medicine or an equivalent degree from either Thai or oversea universities recognized by Mahidol University;
2. have a minimum grade point average of 3.00;
3. The ability to use English speak, write, read;
4. have a TOEFL score of at least 480, TOEFL computer-based score of 157, TOEFL Internet-based score of 54, or IELTS score of 4.5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies. For those who already hold a valid English score, please submit its certificate along with all application documents.

Curriculum Structure

	Credit
Required Courses	20
Elective Courses	6
Thesis	12

	Credit
Required Courses	
EGBE 517 Physiology for Biomedical Engineering	3(3-0-6)
EGBE 518 Engineering Mathematics for Research	3(3-0-6)
EGBE 524 Research Methodology	3(3-0-6)
EGBE 601 Medical Signal Processing and Instrumentation	3(3-0-6)
EGBE 607 Materials and Mechanics in Medicine	3(3-0-6)
EGBE 609 Fundamental of Biomedical Engineering	3(3-0-6)
EGBE 692 Research Seminar for Biomedical Engineers I	1(1-0-2)
EGBE 693 Research Seminar for Biomedical Engineers II	1(1-0-2)

Elective Courses

EGBE 522 Biomedical Signal Processing	3(3-0-6)
EGBE 523 Advanced Biomedical Image Processing	3(3-0-6)
EGBE 525 English for Research	3(3-0-6)
EGBE 551 Computational Methods for Biomedical Engineering	3(3-0-6)
EGBE 560 Medical Robotics	3(3-0-6)
EGBE 604 Biosensors	3(3-0-6)
EGBE 605 Medical Imaging	3(3-0-6)
EGBE 610 Neural Networks	3(3-0-6)
EGBE 611 Advanced Medical Imaging	3(3-0-6)
EGBE 615 Physiological System Modeling & Identification	3(3-0-6)
EGBE 616 Optimization Methods	3(3-0-6)
EGBE 620 Wavelets and Time-Frequency Analysis	3(3-0-6)
EGBE 621 Higher-Order Spectral Analysis	3(3-0-6)
EGBE 622 Computer Graphics in Medicine	3(3-0-6)
EGBE 623 Pattern Recognition	3(3-0-6)
EGBE 624 Brain-computer Interface	3(3-0-6)
EGBE 630 Cell and Tissue Engineering	3(3-0-6)
EGBE 631 Advanced Drug Delivery	3(3-0-6)
EGBE 632 Physiological Transport Phenomena	3(3-0-6)
EGBE 633 Biomedical Polymer	3(3-0-6)
EGBE 634 Biomaterials and biocompatibility	3(3-0-6)
EGBE 635 Biotechnology for Biomedical Engineering	3(3-0-6)
EGBE 636 Organic Chemistry for Biomedical Engineering	3(3-0-6)
EGBE 637 Analytical Chemistry for Biomedical Engineering	3(3-0-6)
EGBE 638 Advanced Molecular Bioelectronics	3(3-0-6)
EGBE 641 Physiological Fluid Mechanics	3(3-0-6)
EGBE 642 Advanced Biomechanics	3(3-0-6)
EGBE 643 Cardiovascular Systems	3(3-0-6)
EGBE 644 Neural Interfacing	3(3-0-6)
EGBE 645 Biomedical Prosthetics	3(3-0-6)
EGBE 646 Design and Manufacture of Biomedical Devices	3(3-0-6)

EGBE 651 Bioinformatics	3(3-0-6)
EGBE 652 Bioimage Informatics	3(3-0-6)
EGBE 653 Intelligent Systems	3(3-0-6)
EGBE 654 Nonlinear Dynamics in Physiology	3(3-0-6)
EGBE 660 Advanced Computer-Integrated Surgery	3(3-0-6)
EGBE 661 Robot-Assisted Surgery	3(3-0-6)
EGBE 662 Design and Control of haptic Interfaces	3(3-0-6)
EGBE 663 Biochemistry for Biomedical Engineering	3(3-0-6)
EGBE 664 Nanobiotechnology	3(3-0-6)
EGBE 680 Advanced Medical Robotics	3(3-0-6)
EGBE 681-685 Special Topics in Biomedical Engineering	3(3-0-6)
Thesis	
EGBE 698 Thesis	12(0-36-0)
* These may change in cases where there are suggestions for the improvised of the curriculum	

Additional advantages of the programme

Answering the challenges of today and establishing the future of health care of tomorrow.

Details of Scholarships

1. Biomedical Engineering Scholarship (BMES)

Additional information for applicants

“Statement of Purpose” is required during the interviewing process.

Job option of graduation

1. Researcher
2. Lecturer
3. Biomedical Business Owner
4. Employees of the medical device or drug
5. Biomedical engineers

Application Process

Application is only available via online application at www.grad.mahidol.ac.th

Required Documents

Prepare the following required documents to submit via online admission system or post :

- Two (2) recent photographs (1x1 inch in size)
- A copy of an applicant's degree certificate or a letter of graduation certification (for an applicant with a degree completion) 2 copies
- A letter certifying that an applicant is currently in the final year prior to graduation (for an applicant seeking for a degree) 2 copies
- A detailed transcript of a degree (for an applicant with a degree completion) 2 copies
- A grade report with course names and grades received from the first to the current semester prior to graduation 2 copies
- A copy of identification card 2 copies
- A copy of house registration certification 2 copies
- A copy of Certificate of English score: TOEFL/IELTS/MU-Test (if any). See detail here: 2 copies
http://www.grad.mahidol.ac.th/grad/academicinfo/engstandard2553_th.php
- A copy of proof of payment.

Submitting documents via online admission system.

- All documents must be in pdf format (maximum size 2 MB)
- Recent photograph must be in jpeg format only (maximum size 2 MB)

Further information may be obtained from the Director of Graduate Studies, Biomedical Engineering :

1. Asst. Prof. Jackrit Suthakorn (E-mail : jackrit.sut@mahidol.ac.th)

Department Office, Engineering Building 3, Floor 3,
Department of Biomedical Engineering, Faculty of Engineering.
Tel. 0 2889 2138 Ext. 6367 Fax. 0 2441 4254

2. Asst. Prof. Norased Nasongkla (E-mail : norased.nas@mahidol.ac.th)

Department Office, Engineering Building 3, Floor 3,
Department of Biomedical Engineering, Faculty of Engineering.
Tel. 0 2889 2138 Ext. 6367 Fax. 0 2441 4254

Program Coordinator

Miss. Matchima Rattanam (E-mail : matchima.rat@mahidol.ac.th)

Department Office, Engineering Building 3, Floor 3,
Department of Biomedical Engineering, Faculty of Engineering.
Tel. 0 2889 2138 Ext. 6367 Fax. 0 2441 4254

Note 1. For more education information : www.grad.mahidol.ac.th

**For more information please contact The Student Admission Section.
Tel . 0 2441 4125 ext. 208-210, 0 2441 9129, E-mail : gradthai@mahidol.ac.th**