Doctor of Philosophy Programme in Biomedical Engineering (International Programme)

หลักสูตร   ปรัชญาดุษฎีบัณฑิต   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 Degree (for Bachelor's degree holder category) in Engineering, Sciences, Medicine, Dentistry, Pharmacy or Medical Related Disciplines with a GPA no less than 3.50. Or,
2. hold a Master Degree (for master degree holder category) in Engineering, Sciences, Dentistry, Pharmacy or Medical Related Disciplines with a GPA no less than 3.50., Or,
3. be registering as a Master Degree student in Biomedical Engineering program at the Mahidol University, and wish to transfer to Ph.D. program. The candidate in this category must hold a GPA no less than 3.25 for his/her current study, and must be registering for more than 1 year. Nonetheless, the transferring must be approved by Master Degree administration board, Ph.D. administration board and the Dean of Graduate Studies.
4. have a TOEFL score of at least 500, TOEFL computer-based score of 173, TOEFL Internet-based score of 61, or IELTS score of 5 or pass the English Proficiency Examination arranged by the Faculty of Graduate Studies.
   Those who do not have any of the test scores specified above will have to take the English Proficiency Examination of the Faculty of Graduate Studies on the specified examination day.

Curriculum Structure

Plan 2	Credit
For Bachelor or Master Degree	
Fundamental Courses	6
Required Courses	11
Elective Courses	15
Thesis	48
For Master Program in Biomedical Engineering	
Fundamental Courses	6
Required Courses	11
Elective Courses	15
Thesis	36

	Credit
Fundamental Courses	
EGBE 524 Research Methodology	3(3-0)
EGBE 525 English for Research	3(3-0)
Required Courses	
EGBE 515 Advanced Physiology	3(3-0)
EGBE 516 Advanced Engineering Mathematics	3(3-0)
EGBE 606 Biomedical Engineering	3(3-0)
EGBE 690 Biomedical Engineering Seminar I	1(1-3)
EGBE 691 Solid and Fluid Mechanics	1(1-3)
Elective Courses	
EGBE 522 Biomedical Signal Precessing	3(3-0)
EGBE 522 Advanced Biomedical Image Precessing	3(3-0)
EGBE 551 Computational Methods for Biomedical Engineering	3(3-0)
EGBE 560 Medical Robotics	3(3-0)
EGBE 604 Biosensors	3(3-0)
EGBE 605 Medical Imaging	3(3-0)
EGBE 610 Neural Networks	3(3-0)
EGBE 611 Advanced Medical Imaging	3(3-0)
EGBE 615 Physiological System Modeling and Identifacation	3(3-0)
EGBE 616 Optimization Methods	3(3-0)
EGBE 620 Wavelets and Time-Frequency Analysis	3(3-0)
EGBE 621 Higher-Order Spectral Analysis	3(3-0)
EGBE 622 Computer Graphics in Medicine	3(3-0)
EGBE 624 Brain-computer Interface	3(3-0)
EGBE 630 Cell and Tissue Engineering	3(3-0)
EGBE 631 Advanced Drug Delivery	3(3-0)
EGBE 632 Physiological Transport Phenomena	3(3-0)
EGBE 633 Biomedical Polymer	3(3-0)
EGBE 634 Biomaterials and Biocompatibility	3(3-0)

EGBE 635 Biotechnology for Biomedical Engineering	3(3-0)
EGBE 636 Organic Chemistry for Biomedical Engineering	3(3-0)
EGBE 637 Analytical Chemistry for Biomedical Engineering	3(3-0)
EGBE 641 Physiological Fluid Mechanics	3(3-0)
EGBE 642 Advanced Biomechanics	3(3-0)
EGBE 643 Cardiovascular Systems	3(3-0)
EGBE 644 Neural Interfacing	3(3-0)
EGBE 645 Biomedical Prosthetics	3(3-0)
EGBE 646 Design and Manufacture of Biomedical Devices	3(3-0)
EGBE 651 Bioinformatics	3(3-0)
EGBE 652 Bioimage Informatics	3(3-0)
EGBE 653 Intelligent Systems	3(3-0)
EGBE 654 Nonlinear Dynamics in Physiology	3(3-0)
EGBE 660 Advanced Computer-Integrated Surgery	3(3-0)
EGBE 661 Robot-Assisted Surgery	3(3-0)
EGBE 662 Design and Control of Haptic Interfaces	3(3-0)
EGBE 663 Biochemistry for Biomedical Engineering	3(3-0)
EGBE 664 Nanobiotechnology	3(3-0)
EGBE 680-689 Special Topics in Biomedical Engineering	3(3-0)

Thesis
EGBE 698 Dissertation	48/36(0-144/108-0)

* These may change in cases where there are suggestions for the improvement of the curriculum

Application Process

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

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

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   2 copies
  (for an applicant with a degree completion)
- A letter certifying that an applicant is currently in the last semester prior to graduation   2 copies
  (for an applicant seeking for a degree)
- 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   2 copies
  semester prior to graduation
- A copy of identification card   2 copies
- A copy of house registration certification   2 copies
- 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)
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   Tel. 0 2889 2138 Ext. 6367   Fax. 0 2889 2138 Ext. 6366

Program Coordinator

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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