Admission Number | 3 | 8 | 0 | 2 | D | G | 0 | 0 |

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. Submit a certificate of English proficiency with minimum admission score:

   - IELTS - at least 3 or
   - TOEFL INTERNET BASED - at least 32   or
   - TOEFL ITP (test arranged by Faculty of Graduate Study, Mahidol University) - at least 400

   Important Notes:
   - English proficiency score must be taken within 2 years up to the admission date.
   - Application without submitting a valid English certificate will NOT be considered.
   - MU English Competence Standards: www.grad.mahidol.ac.th
   - MU English proficiency tests, please contact the Language Center, Faculty of Graduate Studies. Tel. 0-2441-4125 ext. 221-222

5. Exceptions from the above requirements may be made by the Program Committee and the Dean of Faculty of Graduate Studies

Written Examination (Applicants must attend the examination date accurately to your admission round)

Subjects for examination	Time (Morning session)
1. Basic Knowledge to Biomedical Engineering	9.00 - 12.00 a.m.
Examination Place Mahidol University , Salaya , Nakhonpathom more details : www.grad.mahidol.ac.th .	

Curriculum Structure

Plan 2   **Credit**

For Bachelor or Master Degree
Fundamental Courses	9
Required Courses	11
Elective Courses	15
Thesis	48

For Master Program in Biomedical Engineering
Fundamental Courses	9
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)
* EGBE 601 Medical Signal Processing and Instrumentation	3(3-0)
* EGBE 607 Material and Mechanics in Medicine	3(3-0)

* Choose to study between EGBE 601 and EGBE 607 base on thesis research interested

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 Processing	3(3-0)
EGBE 522 Advanced Biomedical Image Processing	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 Identification	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 Bio image 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 Nano biotechnology	3(3-0)
EGBE 680-689 Special Topics in Biomedical Engineering	3(3-0)

Thesis

EGBE 699/799 Dissertation	36/48(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
Applicants must upload all documents via online admission system. All documents must be in PDF format (maximum size 2 MB). Photograph must be in JPEG format

- 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)

- A letter certifying that an applicant is currently in the final year prior to graduation
  (for an applicant seeking for a degree)

- A detailed transcript of a degree (for an applicant with a degree completion)

- A grade report with course names and grades received from the first to the current
  semester prior to graduation

- A copy of identification card

- A copy of house registration certification

- A copy of Certificate of English proficiency : IELTS / TOEFL INTERNET BASED / TOEFL ITP

- A copy of proof of payment.

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. Lect.Dr. Sanitta Thongpang   (E-mail : sanitta.tho@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 Rattanalam   (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

    <u>Note</u>   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