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

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 :   20   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 2.50
3. The ability to use English speck, write, read
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 or
    - MU GRAD TEST (Computer Based) -at least 36

    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

	Credit
Required Courses	20
Elective Courses	6
Thesis	12

Required Courses

	Credit
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

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 / MU GRAD TEST(Computer Based)

- A copy of proof of payment.

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

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Program Coordinator

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<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