



College of Biomedical Engineering, Rangsit University
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INTERNATIONAL PROGRAM - BACHELOR OF ENGINEERING (BIOMEDICAL ENGINEERING)

Undergraduate Admissions 2023 is now open and oversea students are welcome to apply.

1. OVERVIEW

Biomedical Engineering is a multi-disciplinary program integrating engineering activities with a basic medical knowledge of human physiology and an understanding of how it functions to assist healthcare providers in supplying better care and treatment to patients through the use of technology. During the 21st century, various advances in the field of medicine have been made, such as diagnostics devices, therapeutic devices, medical robotic, medical imaging, rehabilitation engineering, life support systems, biomaterials and tissue engineering. Advances in technology for the need to find cures, promote well-being and build healthy communities make Biomedical Engineers one of the most in-demand positions for the healthcare industries, which is one of the world's largest industrial sectors with a turnover approaching more than 20 billion USD per annum and an expanding rate of 9% per annum. College of Biomedical Engineering, Rangsit University has been running bachelor degree in Biomedical Engineering program since 2002. Presently, the college has 25 faculty members, approximately 400 undergraduates, 20 graduate students and 4 doctoral degree candidates. Looking forward to the forefront medical technology of ASEAN, our priorities are bringing our interdisciplinary research and academic activities together from engineers, scientists and medical professionals to influence the next generation of biomedical discovery.

2. PROGRAM OFFERED

The four-year academic program has been designed to furnish students with advanced knowledge in research and development in Biomedical Engineering. Upon completion, graduates will be able to invent a new biomedical instrument, select a new technology which necessary and suitable and carry out servicing, maintenance and application in their career. To qualify for graduation in B.Eng. (Biomedical Engineering), students must earn at least 137 credits with overall GPA ≥ 2.00 and professional GPA ≥ 2.00 under the following curriculum.

GE Courses	Professional Courses	Free Elective Courses	Total
30 Credits	101 Credits	6 Credits	137 Credits

To stay ahead of the curve in demand for healthcare services and solutions, advanced techniques like AI, machine learning and Big Data are integrated at our college. During undergraduate program, students are strongly encouraged to join oversea exchange programs, cooperative educations and 4+1 track for master degree. **The tuition fee throughout the program is 562,300 THB ($\approx 16,000$ USD).** Applying for our program, the online application is available at <http://www.rsuip.org/application-form>

3. ADMISSION REQUIREMENTS

The requirements for accepting a student into College of Biomedical Engineering are listed as follows:

1. Applicants must have completed high school, grade 12, vocational or equivalent certificates (GCE A Level, NCEA, GED, IBDP, etc.) with English translation before the program starts.
2. As the courses are fully instructed in English, non-native English speaking applicants must submit the English language proficiency with 2-year validity. The following minimum scores or equivalent English tests are required.

IELTS	TOEFL (iBT)	CEFR	RSU2-Test
5.5	50	B2	60

If the English language proficiency does not meet the requirement, they have to take preparatory English courses at Rangsit University International College before entering the college.

4. RESEARCH AND INNOVATION

- Biomedical Instrumentation
- Medical Signal and Image Processing
- AI and Medical Robot
- Clinical Engineering
- Biophysics and Medical Optics
- Medical Material and Tissue Engineering
- Smart Innovation and Rehabilitation for Elderly
- Information System for Medical Management

5. AWARDS AND NATIONAL RECOGNITION

- 1 Gold and 1 Silver Medals in Healthcare and Medication, Thailand New Gen Inventors Award 2023, National Research Council of Thailand
- 2 Gold and 2 Bronze Medals for Undergraduate Innovation, Thailand Research Expo 2022, Bangkok
- Bronze Medal in Design Category, Global Student Innovation Challenge 2022, Hong Kong
- 2 Outstanding Innovation Awards, National Research Award 2022, National Research Council of Thailand
- Assessment Center of Professional Standards and Qualifications in Biomedical Engineering, Thailand Professional Qualification Institute (TPQI)
- Technology Transformation Center and Biomedical Engineering Innovation and Service Center

6. MOU AND ALLIANCES

National Organizations

- KMITL, KMITNB, KMUTT, Srinakarinwirot University
- Ramathibodi Hospital, Rajavithi Hospital, Siriraj Hospital, Vajira Hospital, Queen Sirikit National Institute of Child Health
- Department of Medical Service and Department of Health Service Support, Ministry of Public Health of Thailand

International Organizations

- Ministry of Health, Lao PDR (Under the Grand- Duchy of Luxembourg Grants)
- Tokai University, Osaka University, Kyushu University, Chiba University, Kumamoto University (Japan), Republic Polytechnic (Singapore)
- Hong Kong Polytechnic University and Shenzhen University (China)
- School of Mechanical & Aerospace Engineering Nanyang Technological University (Singapore)
- Southern Denmark University (Denmark), Glasgow Caledonian University (Scotland)
- Hanoi University of Science and Technology (Vietnam)

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国际项目 - 工程学士 (生物医学工程)

2023 年本科招生现已开放，欢迎海外学生来申请。

(一) 概述

生物医学工程是一门涵盖多学科的课程，结合了工程技术与人体生理学的基本知识，致力于帮助医生通过使用先进技术，为患者提供更好的医疗服务。21 世纪以来，医学领域取得了巨大进展，如诊断设备、治疗设备、医疗机器人、医学成像、康复工程、生命支持系统等，生物医学工程师也因此成为医疗保健领域最受欢迎的职业之一。该行业每年的营业额高达 20 亿美元，并以每年 9% 的速度不断增长。兰实大学生物医学工程学院开办至今已有 21 年，拥有 25 名教师、400 名本科生、20 名研究生和 4 名博士生。我们致力于将工程师、科学家和医学专家的跨学科研究和学术活动结合起来，影响下一代生物医学的发展。

(二) 提供的课程

四年的学术课程将为学生提供关于生物医学工程的最新知识。通过该课程，学生将学到如何研发、设计和使用生物医学工程技术。毕业生将具备创造性地解决医疗问题的能力，并在他们的职业生涯中成为生物医学工程领域的专家。获得学士学位需要在以下课程中获得至少 137 学分，并且保持全部课程的平均分数 (GPA) 和专业课程的平均分数 (专业 GPA) 均不低于 2.00 的成绩。

公共课	专业课	选修课	总学分
30 学分	101 学分	6 学分	137 学分

为了保证我们学院在医疗保健服务和解决方案的需求方面处于领先地位，我们紧密结合了先进的技术，如人工智能、机器学习和大数据等。我们鼓励学生在本科期间参加海外交流项目、合作办学和 4+1 硕士项目。整个课程的学费为 562,300 泰铢 (≈16,000 美元)。申请生物医学工程学士学位，在线申请可在 <http://www.rsuip.org/application-form>

(三) 入学要求

生物医学工程学院招生条件如下。

1. 申请者必须在已经完成高中、12 年级、职业教育或同等学历 (如 GCE A Level, NCEA, GED, IBDP, etc.)，并提供英文翻译件。
2. 由于课程全部以英文授课，非英语母语的申请者必须提交有效期为 2 年的英语语言能力证明。以下是各英文考试所需的最低分数。

IELTS	TOEFL (iBT)	CEFR	RSU2-Test	高考英语
5.0	50	B2	60	100

如果申请者没有英语语言能力证明，则需要在入读主修课程前在兰实大学国际学院学习英语课程。

(四) 研究与创新

兰实大学生物医学工程专业的研究方向如下：

- 生物医学仪器

- 医学信号和图像处理
- 人工智能和医疗机器人
- 临床工程
- 生物物理学和医学光学
- 医用材料与组织工程
- 智慧创新与老人康复
- 医疗管理信息系统

(五) 奖项和国家认可

- 1 Gold and 1 Silver Medals in Healthcare and Medication, Thailand New Gen Inventors Award 2023, National Research Council of Thailand
- 2 Gold and 2 Bronze Medals for Undergraduate Innovation, Thailand Research Expo 2022, Bangkok
- Bronze Medal in Design Category, Global Student Innovation Challenge 2022, Hong Kong
- 2 Outstanding Innovation Awards, National Research Award 2022, National Research Council of Thailand
- Assessment Center of Professional Standards and Qualifications in Biomedical Engineering, Thailand Professional Qualification Institute (TPQI)
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(六) 大学联盟

国家机构

- KMITL, KMITNB, KMUTT, Srinakarinwirot University
- Ramathibodi Hospital, Rajavithi Hospital, Siriraj Hospital, Vajira Hospital, Queen Sirikit National Institute of Child Health
- Department of Medical Service and Department of Health Service Support, Ministry of Public Health of Thailand

国际机构

- Ministry of Health, Lao PDR (Under the Grand- Duchy of Luxembourg Grants)
- Tokai University, Osaka University, Kyushu University, Chiba University, Kumamoto University (Japan), Republic Polytechnic (Singapore)
- Hong Kong Polytechnic University and Shenzhen University (China)
- School of Mechanical & Aerospace Engineering Nanyang Technological University (Singapore)
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