

# BIOMEDICAL ENGINEERING

BSc (HONS) IN BIOMEDICAL ENGINEERING

生物醫學工程(榮譽)理學士學位



## INTRODUCTION

Biomedical Engineering (BME) is an interdisciplinary field that integrates engineering and life sciences to enable engineering innovations for biomedical applications. BME applies engineering principles and techniques in understanding life phenomena and in solving technical problems in the biomedical context. BME covers different areas, including Medical Imaging and Biosensing; Molecular and Cellular Engineering; Neuromusculoskeletal Science and Engineering; and Prosthetics, Orthotics, and Rehabilitation, for the purposes of health promotion & protection, health assessment & medical diagnosis, acute medical & surgical interventions, and rehabilitation. This evolving field requires professionals who understand the health issues and offer the engineering solutions. Our programme, BSc (Hons) in Biomedical Engineering, equips students with a solid foundation in both engineering technology and health sciences. Graduates can work in medical device industry and public/private healthcare sector as well as academic and research institutions.

## CURRICULUM OVERVIEW



### Foundation Studies

- Chemistry
- Computer Programming
- Human Biology
- Mathematics
- Physics



### Integrated BME Studies

- Applied Electrophysiology
- Biomechanics
- Biomedical Engineering in Society
- Biomedical Engineering Research & Design Studies
- Biomedical Instrumentation & Sensors
- Biosignal Processing
- Medical Technology Management & Regulation
- Rehabilitation Engineering & Assistive Technology



### Stream Selection

- Biomedical Engineering Stream
- Biomedical Engineering with Prosthetics and Orthotics Stream

## Contact Information

Department of Biomedical Engineering  
The Hong Kong Polytechnic University

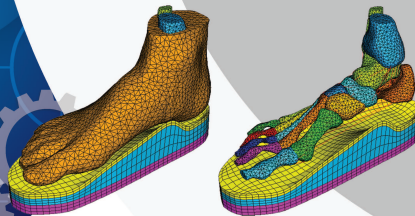
W: <http://www.polyu.edu.hk/bme/> | E: [bme.info@polyu.edu.hk](mailto:bme.info@polyu.edu.hk) | T: 3400 8577 | F: 2334 2429



Prosthetics & Orthotics



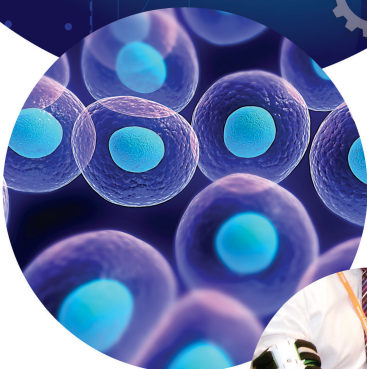
Orthosis design



Foot & footwear modelling

## PROFESSIONAL RECOGNITION

The programme has been granted provisional accreditation from the Hong Kong Institution of Engineers (HKIE). Students who complete the prosthetics or orthotics subjects offered in the programme are eligible to sit for the certification examination of the Hong Kong Society of Certified Prosthetist- Orthotists (HKSCPO). This programme has been accredited by the International Society for Prosthetics and Orthotics (ISPO) as a Category I professional programme.



Rehabilitation sleeve: Robot & functional electrical stimulation (FES) hybrid system



Radiation-free assessment of scoliosis using 3D ultrasound imaging

## CAREER PROSPECTS

### Professional Engineering Practice

Working in medical device industrial settings, hospitals, the government, medical device regulatory firms, or other biomedical institutions, graduates will apply their knowledge in biomedical engineering pursuing industrial jobs. This includes engineering research and development, engineering design and product development, regulatory and business aspects of engineering, such as sales, marketing, and technical management.

### Professional Clinical Practice

Working in hospitals and healthcare sectors, including prosthetists and orthotists, clinical and rehabilitation engineers, hospital scientific officers, and healthcare product customer services.

### Basic and Applied Research in Engineering, Biology, or Medicine

Graduates can conduct basic and applied research at university, hospital, and industry in the area of biomedical engineering.

## ENTRANCE REQUIREMENTS

Satisfy the University's general entrance requirements of 4 core and 2 elective subjects with:

- Level 3 in English Language, Chinese Language, and 2 elective subjects [note: Extended module of Mathematics (M1/M2) is treated as a single subject]; and
- Level 2 in Mathematics and Liberal Studies

There is no compulsory elective subject requirement. Preferred elective subjects for the programme include:

- M1/M2
- All single and combined science subjects

We give the highest weighting in the calculation of admission scores to the following subjects:

- Mathematics
- M1/M2
- All single and combined science subjects

The "best" 5 HKDSE subjects [after subject weightings have been applied] will be taken into account.

