

TOWN HALL MEETING Make BME Great Together

(BME Website => Students => Undergraduate Students => Town Hall Meeting)

Prof. Aaron Ho

27 November 2023

11:30am - 12:45pm



(##) http://www.bme.cuhk.edu.hk



CUHK Biomedical Engineering



BMEDEPT



CUHK Biomedical Engineering



Regular Town Hall Meeting

Town Hall meeting will be held every semester to ensure a good communication channel with all students in BME

UG Student Representatives in 2023-24:

Year	Name	Sex	Email
Year 1	LAU Trelan	М	1155214344@link.cuhk.edu.hk
Year 1	HAN Ming Yu	М	1155213539@link.cuhk.edu.hk
Year 2	LAM Weng Kei	F	1155182089@link.cuhk.edu.hk
Year 2	ZHAI Xueer Michelle	F	1155174880@link.cuhk.edu.hk
Year 3	CHAN Ching Yeung	М	1155176779@link.cuhk.edu.hk
Year 3	LEUNG Chung Ki Ricky	М	1155175455@link.cuhk.edu.hk
Year 4	MAN Cho Hin Enoch	М	1155147926@link.cuhk.edu.hk
Year 4	SO Chin Ting	М	1155156676@link.cuhk.edu.hk

Key Chain for our BME students

Please approach your class representatives if you have not collected it!



Credits to our BME UG Year 5 Student, CHAN Yat Hei Thomas

Agenda

- Programme Outcome & HKIE Required Outcomes
- 2. Lab Safety Guideline
- 3. Summer internship and work-study
- 4. Stream Preference and Declaration
- 5/. Open Forum Feedback from students

Programme Outcome & HKIE Required Outcomes

Prog	ramm	e Out	come

11091	
PO 1	an ability to master the required knowledge of mathematics, science, and engineering and apply them appropriately to the BME discipline in general and/or to a specialized BME area
PO 2	an ability to design and conduct experiments, collect data on humans and other biological specimens, and to analyze and interpret data to address health-related issues
PO 3	an ability to design a system, component or process to meet desired needs within realistic constraints, and to develop innovative technologies to serve the healthcare needs of society
PO 4	an ability to identify, formulate and solve engineering problems critically
PO 5	an ability to use the techniques, skills, and modern engineering tools necessary for BME practice
PO 6	an ability to use the computer/IT tools relevant to the BME discipline along with an understanding of their processes and limitations
PO 7	an ability to communicate effectively
PO 8	an ability to demonstrate leadership, to manage projects, and to function on multi-disciplinary teams
PO 9	an ability to understand professional and ethical responsibility, and the impact of engineering solutions in a global and social context, especially the importance of health, safety and environmental considerations to both workers and the general public
PO 10	a readiness to engage in lifelong learning to stay abreast of contemporary issues, and a capacity to acquire new knowledge and skills across disciplinary boundaries
W \	

Programme Outcome & HKIE Required Outcomes

Matching between the Programme Outcomes and the HKIE Required Outcomes

HKIE's Graduate Attributes	BME Programme Outcomes
a) an ability to apply knowledge of mathematics, science, and engineering appropriate to the degree discipline	PO1
b) an ability to design and conduct experiments as well as to analyze and interpret data	PO2
c) an ability to design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health & safety, manufacturability & sustainability	PO3
d) an ability to function on multi-disciplinary teams	PO8
e) an ability to identify, formulate and solve engineering problems	PO4
f) an ability to understand professional and ethical responsibility	PO9
g) an ability to communicate effectively	PO7
h) an ability to understand the impact of engineering solutions in a global and social context, especially the	
importance of health, safety and environmental considerations to both workers and the general public	PO9
i) an ability to stay abreast of contemporary issues	PO10
j) an ability to recognize the need for, and to engage in lifelong learning	PO10
k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to the degree discipline	PO5
l) an ability to use the computer/IT tools relevant to the discipline along with an understanding of their processes and limitations	PO6

Programme Outcome & HKIE Required Outcomes

Matching between the Programme Outcomes and the HKIE Required Outcomes Example:

Programme Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Apply knowledge of math, science & engineering to BME	Experiment on humans & biological specimens, analyze & interpret data	Innovate a system, part or process to meet desired needs within constraints	Identify, formulate, & solve engineering problems critically	Use techniques, skills, & modern engineering tools for BME practice	Use IT tools relevant to BME with an understanding of their limitation	Communicate effectively	Lead, manage projects, & function on multidisciplinary teams	Understand ethics, global, societal & professional responsibilities	Learn new knowledge & skills across disciplines & continuously
HKIE Graduate Attributes	Α	В	С	Е	K	L	G	D	F, H	l,J
REQUIRED COURSES										
BMEG2001 Intro to BME	✓	✓	✓	✓	✓					
BMEG2011 BME Lab & Hospital Experience	✓	✓	√	✓	✓	✓	✓	✓		

1. General safety

- a) Users shall read and follow the general safety guidance issued by the University Safety Office, and must be trained properly by the respective home department before they are granted access right to the lab.
- b) Experimental processes must be granted with safety approvals by the University Safety Office. Processes without safety approval clearance are banned in the lab.
- c) Upon entering the laboratory, place coats, books, and other paraphernalia in specified locations never on bench tops.
- d) Wear appropriate clothing while working in laboratory:
 - Goggle (if needed)
 - A full length, fastened lab coat (replace with a new one when in bad condition)
 - Gloves
 - Full length slacks, trousers or jeans. No shorts
 - Shoes with closed toes and heels to protect your feet
 - Tie hair back when too long

Remove protective clothing before leaving for non-laboratory areas, e.g. desk area, washroom, cafeteria, etc.

- e) Never apply cosmetics or handle contact lenses in laboratory.
- f) Do not smoke, eat or drink in the laboratory. These activities are absolutely prohibited. No food is stored in laboratory.
- g) In an emergency, the technician and the fire warden have TOTAL authority to evacuate the laboratory. Evacuation orders MUST be followed. If the fire alarm is on, unless it is on testing mode, all personnel in the laboratory must evacuate immediately.
- h) Be sensible and be alert at all times. The life you save may be yours.

2. Work environment

- a) Keep laboratory door closed to prevent contamination from air currents.
- b) If the equipment is equipped with logbook or booking sheet, fill in before you use the equipment.
- c) Do not use any unfamiliar equipment without the approval of technician.
- d) If you have to leave your experiment unattended, stick a label with name and expected end time to alert others.
- e) Transportation of materials between laboratories should not be done across the desk area. No glove hands on all door handles or switches.
- f) Reagents should be clearly labeled with (i) Name of chemical / reagent, (ii) Concentration, (iii) Name of user, (iv) Date.
- g) At the end of each session:
 - (i) / Clean your working area (bench, balance, etc.)
 - (ii) Dispose all trashes to the correct trash bin
 - (iii) Store all personal glassware in your cabinet / designated tray
 - (iv) Return communal materials (equipment, chemical reagents, etc.) to their original position (should be returned clean)
- (h) Wash your hands with liquid detergent and dry them with paper towels upon entering and prior to leaving the laboratory.
- i) Report to technician immediately for: (i) spills, (ii) accidental cuts or burns, or (iii) sparks, fire or explosion.



3. General chemical safety

- a) Before conducting any experiment with potential hazard, permission should be sought from his / her supervisor. They should double check before ordering any dangerous / toxic chemicals or bio-chemical materials, and ensure that sufficient hazard preventive measures are in place to deal with any emergence. Processes that may lead to safety hazards can only be conducted during the official opening hours.
- b) Processes that may lead to safety hazards can only be conducted during the official opening hours. Processes that will not lead to safety hazards may be conducted outside the official opening hours. However, permission shall be granted by the corresponding supervisor. No work alone is allowed outside the official opening hours. Users with permission shall have an experimental buddy throughout the whole process.
- c) / Users must read the MSDS of all chemicals, solvents, and gases carefully before use.
- Chemicals must be stored and used as suggested by the MSDS. Users must be trained on how to handle chemical exposure and inhalation.
- e) Any work involving combustibles, volatile organic compounds, toxic gases, airborne particulates and unpleasant odours must be conducted in ventilating hoods.
- f) Chemical and solvent waste must be collected by using the waste bottles provided, and must not go down the drain. Gloves and tissues contaminated with chemicals and solvents shall be disposed into chemical bins with covers. Keep a record to technician if you add in chemical waste to the following container:
 - (i) Sulphuric acid / Hydrogen Peroxide waste,
 - (ii) Nitric Acid/Nitrate waste,
 - (iii) Alkaline waste, or
 - (iv) Organic waste. Disposal of these wastes to drain is strictly prohibited.



4. General biological safety

- a) Always use the appropriate pipetting devices.
- b) Bench and Biosafety Cabinet should be tidied and cleaned before and after use.
- c) Materials handling cell culture (e.g. pipette tips, culture plates) should be disposed to the biological waste bin for further treatment. Liquid cultures should be disinfected by 1% sodium hypochlorite for at least 30 minutes before disposing to the sewer.

5. General laser safety

For Classes 1, 1M, 2, 2M, 3R, 3B & 4 laser products

- a) Never view directly into a laser beam.
- b) / Never aim a laser beam at a person's eyes.

Additional precautions for Classes 3R, 3B & 4 laser products

- a) Follow the guidelines listed in the operation manuals of laser products.
- b) Wear suitable protective goggles and clothing when operating or servicing medium or high power laser products.
- c) Switch on laser warning signages
- d) Seal laser curtain along the optical table



BME Department's Computer Lab ERB1122



- For BME students ONLY
- Opening Hours 8:45am 5:30pm from Monday to Friday. The opening hours may be adjusted due to the change of COVID-19 situation.
- Please use your CU Link Card to access the computer lab (use main door ONLY)
- o Please use O365 account to login the computer
- Please DO NOT attempt to repair any computer or change the settings. Report all problems related to the system/software/computer to our technician Nelson (email: ptso@cuhk.edu.hk; tel: 3943 8291)
- Please follow all the "Rules and Regulation" posted on the whiteboard of the computer lab

BME Department's Computer Lab ERB1122

Please set printer driver, check balance of printing service

http://www.bme.cuhk.edu.hk/computerlabnotice.pdf

Check availability of computer lab

http://www.bme.cuhk.edu.hk/computerlab

(*If time sessions are booked, you are not allowed to stay at the lab)

Printing service is provided for BME students:

- 1. HK\$0.2 per sheet with white/black printing (A4)
- 2. HK\$2/per sheet with colour printing (A4)
- 3. \$40/free quota per year per student, maximum accumulate to \$80 for each student. For year 1 (new) student, \$40 printing quota will be automatically allocated in your account. For other students, they need to take HKD40 coupon at ERB1102A from 1st semester starting to end of Sept every year.





Summer Internship

- 1. BME Overseas Research Internship
- 2. Local Internship
 - Government, Hospitals, Companies
 - Faculty Undergraduate Summer Research Internship (during summer)
 - BME Undergraduate Research Internship (year-long)

BME Overseas Summer Research Internship (Summer 2024, 8-10 weeks)

Oversea Institutions:

- New Jersey Institute of Technology, USA
- Technika University of Gdansk, Poland
- Stanford University, USA
- National Taiwan University, Taiwan
- National Tsing Hua University, Taiwan
- French National Centre for Scientific Research (CNRS), Troyes, France
- /Tsinghua University, Beijing, China
 - All information have been uploaded to our Department's website:
 http://www.bme.cuhk.edu.hk/new/overseas_internship.php
 (Main => Students => Research Internship Programme =>
 Overseas Summer Research Internship Programme)

1. BME Overseas Summer Research Internship (Summer 2024, 8-10 weeks)

 Interested students please complete and submit application to <u>bmeinfo@cuhk.edu.hk</u> on or before 8 December 2023 (next Friday)

Application Deadline	: 8 December 2023
Interview by the BME Panel	: 14-15 December 2023
Matching and Nomination to the Hosts	: 16 December 2023 – 16 January 2024
Interview and Decision by the Hosts	: 17-31 January 2024
Official Notification of Acceptance	: Early/Mid-February 2024





BME Overseas Summer Research Internship (Summer 2024, 8-10 weeks)

 We are going to organize an Information Q&A Session which will be scheduled on 4 December 2023 (next Monday). Details are as below:

Information Q&A Session

Date : 4 December 2023 (next Monday)

Time : 6:00 - 7:00pm (Hong Kong Time)

: **ERB Room 1122** (Computer Lab) or Join on ZOOM if you are not able to join in person

https://cuhk.zoom.us/j/97150304883





2. Local Internship – Government, Hospitals, Companies

Placement & Internship/Workstudy Programme via CINTEC

https://pip.cintec.cuhk.edu.hk/web/



The Placement and Internship Programme (PIP) is initiated by the Faculty of Engineering, The Chinese University of Hong Kong and dedicated to connecting engineering students to job opportunities and resources in order to foster their future career development. The PIP also offers a wealth of support to help students receive the latest job market information and updates by organizing career talks, workshops and job fair.

How students may benefit from PIP?



Stay ahead in the job competition by catching up our job advertisement, seminars etc.



Earn valuable working experience before graduation

Students may join the work study programme or engage in internship to learn more about the working environment in



Establish business network with your

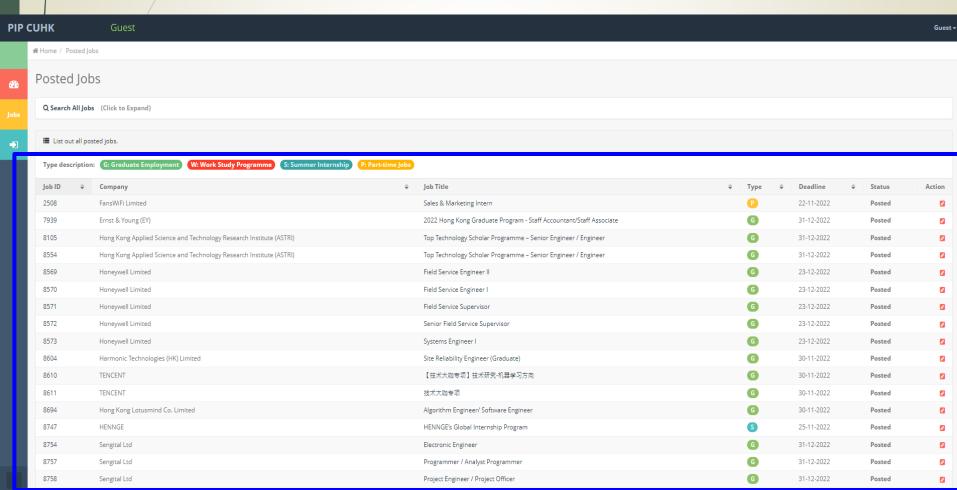
fellow colleagues

Through engagement in the work study programme or internship lined up by the PIP, students would be able to meet

2. Local Internship – Government, Hospitals, Companies

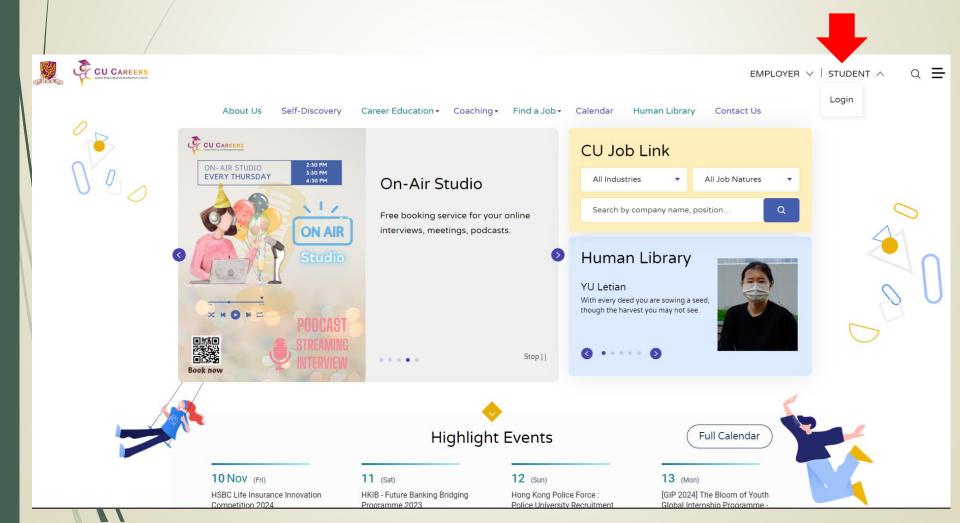
Placement & Internship/Workstudy Programme via CINTEC

https://pip.cintec.cuhk.edu.hk/web/



2. Local Internship – Government, Hospitals, Companies

Placement & Internship Programme via Career Planning and Development Centre (CPDC) https://cpdc.osa.cuhk.edu.hk/



2. Local Internship

Faculty Undergraduate Summer Research Internship

https://www.erg.cuhk.edu.hk/erg/SummerResearchInternship

RESEARCH

NEWS

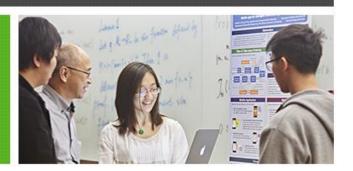
Non-final year undergraduate students with a **cumulative GPA of 3.4 or above** are eligible to apply.

PEOPLE



INNOVATION FOR LIFE

ADMISSIONS



EDUCATION

- > DEPARTMENTS
- > ACADEMIC PROGRAMMES
- > TEACHING AND LEARNING
- > INFORMATION FOR STUDENTS
 - > ELITE Stream

Undergraduate Summer Research Internship

Objective

The Faculty Undergraduate Summer Research Internship programme is launched to offer CUHK engineering undergraduate students with funding support to undertake a research project under the supervision of professors in summer. The objectives are to give students exposure to research environment, and grooms them for graduate studies and overseas summer research schemes.

The Scheme

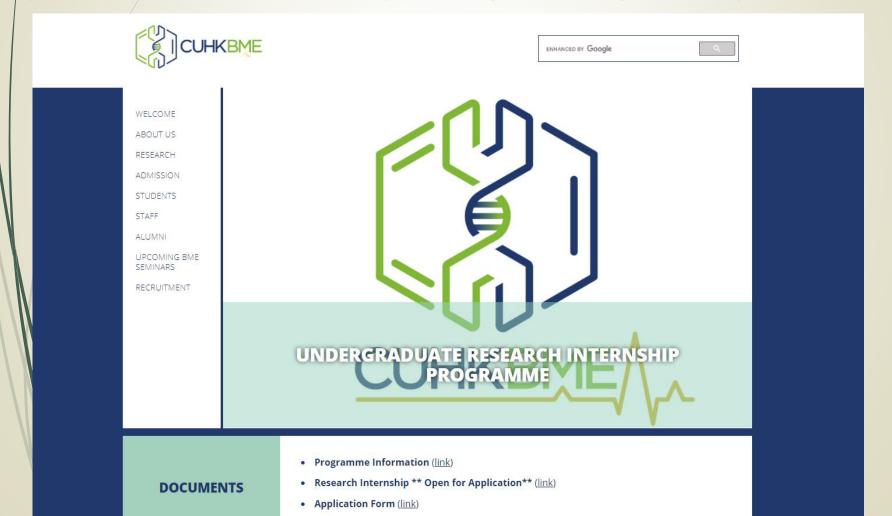
- 1. Non-final engineering year undergraduate students with a CGPA of 3.4 or above are eligible.
- Students who are planning and/or is going to participate summer programmes; or take summer courses overseas for more than three weeks accumulatively; or need to take more than three weeks of accumulated leave are NOT eligible for the internship programme.

2. Local Internship

BME Undergraduate Research Internship (year-long)

http://www.bme.cuhk.edu.hk/new/ug_internship.php

BME Undergraduate students with a <u>cumulative GPA of 2.8 or above</u> are eligible to apply (Final Year students are NOT allowed to join the programme during the summer)



Stream
Preference
and
Declaration

Students may choose not to specialize in any stream or to specialize in one of the three streams and complete a minimum of 12 units of courses, at most one elective at 2000 or below level, plus BMEG4998/ESTR4998 and BMEG4999/ESTR4999, prescribed by the stream.

January 2024:

Survey on Stream Preference & BMEG Elective Course Offering in next academic year 2024-25

(for Year 2 or above, Year 1 Senior-year entry students)

April 2024:

Online Stream Declaration Form will be sent to the Final Year Graduating Students, i.e. Students who are expected to be graduated in 2023-24 Term 2.

**/Certifying letter for BME stream will be issued to students who have fulfilled the course requirement of stream of their admission year by early August.

For students who are expected to be graduated in 2023-24 Term 1 and would like to declare stream, please send an email request to bmeinfo@cuhk.edu.hk and provide us with the below information by 31 December 2023:

- Full Name
- · SID
- Admission Year
- Declaration of Stream
- List out the elective courses that you have been completed or going to be completed before 2023-24 Term 1

** at least 12 units from the elective courses listed in the study scheme.

** Certifying letter for BME stream will be issued to this batch of graduating students by January 2024.

Medical Instrumentation and Biosensors

- At least 12 units chosen from the following courses
- BMEG4998 and 4999 in an approved topic relevant to the Stream
- Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level

Offering in Term 2, 2023-24

- BMEG3103 Big Data in HealthCare
- BM EG3330 Neuroengineering

Offering/in Term 2, 2023-24

- BMEG3210/ESTR3212 Biofluids
- BMEG3440 Global Engineering Medical Innovation
- BMEG4220 Wearable Biomedical Devices and IoT in HealthCare
- BMEG4410/ESTR4203 BioMEMS
- ★ BM EG4450/ESTR4202 Bionanotechnology
- BMEG4520 Cardiovascular Engineering
- ELEG3201/ESTR3200 Microelectronic Devices and Circuits
- CSCI courses

Biomedical Imaging, Informatics and Modeling

- At least 12 units chosen from the following courses
- BMEG4998 and 4999 in an approved topic relevant to the Stream
- Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level

Offering in Term 1, 2023-24

- BMEG3103 Big Data in HealthCare
- BMEG3105/ESTR3605 Data Analytics for Personalized Genomics and Precision Medicine
- BMEG4320/ESTR4200 Biomedical Imaging Applications

Offering/in Term 2, 2023-24

- BMEG3440 Global Engineering Medical Innovation
- BMEG4220 Wearable Biomedical Devices and IoT in HealthCare
- BM EG4520 Cardiovascular Engineering
- CSCI courses

Molecular, Cell and Tissue Engineering

- At least 12 units chosen from the following courses
- BMEG4998 and 4999 in an approved topic relevant to the Stream
- Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level

Offering in Term 1, 2023-24

- BMEG3105/ESTR3605 Data Analytics for Personalized Genomics and Precision Medicine
- BMEG3140 Molecular and Cellular Engineering Laboratory
- MBTE4320 Genetic Engineering

Offering in Term 2, 2023-24

- BM EG3210/ESTR3212 Biofluids
- BMEG3440 Global Engineering Medical Innovation
- BMEG4450/ESTR4202 Bionanotechnology
- BM EG4520 Cardiovascular Engineering



香港中文大學生物醫學工程學系

Department of Biomedical Engineering The Chinese University of Hong Kong





香港中文大學生物醫學工程學系

Department of Biomedical Engineering The Chinese University of Hong Kong



9 July 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

Stream of Specialization

This is to certify that the stream of specialization in Medical Instrumentation and Biosensors for BEng (Hons) in Biomedical Engineering.

For verification of student data, please send request to $\underline{bmeinfo@cuhk.edu.hk}$ or contact us (+852) 3943 1935.



香港中文大學生物醫學工程學系

Department of Biomedical Engineering The Chinese University of Hong Kong



7 July 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

Stream of Specialization

This is to certify that the stream of specialization in Molecular, Cell and Tissue Engineering for BEng (Hons) in Biomedical Engineering.

For verification of student data, please send request to bmeinfo@cuhk.edu.hk or contact us (+852) 3943 1935.

Yours faithfully,

* 生物醫學工程學系 中國PARTINENT OF BOMEDOU, PROPRESENT OF WOR

Professor Raymond K.Y. Tong Chairman Department of Biomedical Engineering The Chinese University of Hong Kong

1 August 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

Stream of Specialization

This is to certify that (Student ID) has fulfilled attached requirements for the stream of specialization in Biomedical Imaging, Informatics and Modeling or the B.Eng. degree in Biomedical Engineering.

For verification of student data, please send request to bmeinfo@cuhk.edu.hk or contact us (+852) 3943 1935.

Policy of Course Cancellation Due to Low Enrollment Rate

- Minimum enrollment no. for elective courses: 12
- Elective courses may be cancelled if the enrollment no. is BELOW 12 after the course registration period of the semester
- General Office will inform students who registered the course will be cancelled and provide assistance to students for course registration

LSCI 1003 - Life Sciences for Engineers (Reviewing by LSCI to continue offering in 2024-25)

Major required course - any one from the following courses:

- CHEM1280 Intro to Organic Chemistry & Biomolecules
- CHEM1380 Basic Chemistry for Engineers
- LSCI 1001 Basic Concepts in Biological Sciences
- LSCI 1003 Life Sciences for Engineers

BME Department conducted a survey to collect students' preference on taking foundation science course (for those who have not yet completed any one of foundation science courses), less than 5 students indicated their preference on LSCI1003. The information will be passed to LSCI for consideration.

BME will announce the further arrangement after receiving updates from LSCI.

BIOL2120 Cell Biology (Major elective Course)

- To be removed from BME curriculum for students admitted in 2024-25 and thereafter
- NO quota will be reserved for our BME students from 2023-24

REMINDER!!

Phased out Course	Course Substitution			
BMEG2011 Biomedical Engineering Laboratory and Hospital Experience has been offered for LAST time in 2021-22 Term 2	BME major students who cannot complete BMEG2011 by the academic year of 2021-22, they will need to take the following two courses for course substitution of BMEG2011:			
	BMEG2012 Biomedical Engineering Laboratory (2 units) AND BMEG2602 Hospital Experience and Engineering Practicum (1 unit)			

Phased out Course	Course Substitution
BMEG3101 Medical Instrumentation and Design (3 units) has been offered for LAST time in 2021-22 Term 1	For those who cannot complete BMEG3101 by the academic year of 2021-22, they will need to take the following two courses for course substitution of BMEG3101: BMEG3111 Medical Instrumentation and Design (2-units) AND BMEG3440 Global Engineering Medical Innovation (3-units) Remarks: Unless any special circumtances, BME major students shall take BMEG3111 AND BMEG3440 for course substitution of BMEG3101. Taking other course(s) to substitute BMEG3101 would not be accepted. For BME major students who have to take BMEG3111 AND BMEG3440 for course substitution of BMEG3101 will have to take 13 units of the major elective courses, total major programme requirements will remain unchanged (i.e. 75 units)







Thank you!

Follow us for BME updated news!

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