

# TOWN HALL MEETING Make BME Great Together

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

Prof. Aaron Ho
15 March 2024 (Fri)
3:00 pm - 4:00 pm







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

## **AGENDA**

- Programme Outcome & HKIE Required Outcomes
- Lab Safety Guideline
- Summer Internship
- Local Internship
- Stream Preference and Declaration
- Elective Course Offering in 2024–25 (Tentative)
- Policy of Course Cancellation Due to Low Enrollment Rate
- Change of Curriculum
- 14th Cabinet of Biomedical Engineering Society
- BME Graduates Survey 2023
- Q & A / Suggestions / Student Feedback & AOB

# **Programme Outcome & HKIE Required Outcomes**

#### **Programme Outcome**

	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

# **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	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	E	K	L	G	D	F, H	I,J
	REQUIRED COURSES										
	BMEG2001 Intro to BME	✓	✓	✓	✓	✓					
	BMEG2011 BME Lab & Hospital Experience	<b>√</b>	✓	<b>√</b>	<b>√</b>	✓	✓	✓	<b>√</b>		

#### 1. General safety

- 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.
- 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.
- d) 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.
- Please use your CU Link Card to access the computer lab (use main door ONLY)
- 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: <a href="mailto:ptso@cuhk.edu.hk">ptso@cuhk.edu.hk</a>; 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 & Local Internship**

- 1. BME Overseas Research Internship
- 2. Local Internship
  - Placement & Internship/ Work Study Programme
  - Faculty Undergraduate Summer Research Internship (during summer)
  - BME Undergraduate Research Internship (year-long)
  - Government, Hospitals & Companies

# 1. 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: <a href="http://www.bme.cuhk.edu.hk/new/overseas\_internship.php">http://www.bme.cuhk.edu.hk/new/overseas\_internship.php</a>

(Main => Students => Research Internship Programme => Overseas Summer Research Internship Programme)

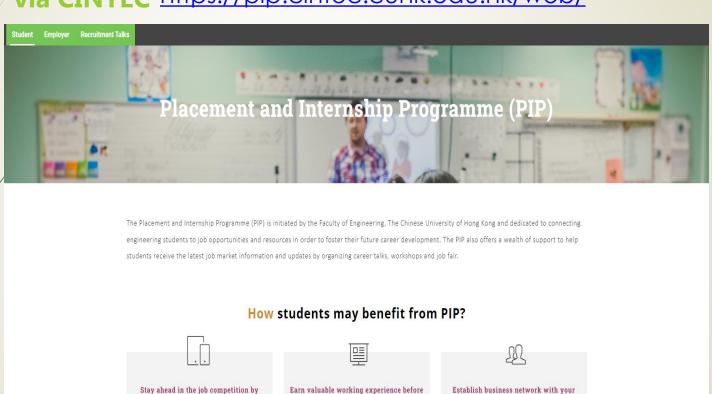
# 1. BME Overseas Summer Research Internship (Summer 2024, 8-10 weeks)



catching up our job advertisement,

seminars etc.

Placement & Internship/ Workstudy Programme via CINTEC <a href="https://pip.cintec.cuhk.edu.hk/web/">https://pip.cintec.cuhk.edu.hk/web/</a>



**graduation**Students may join the work study programme or engage in

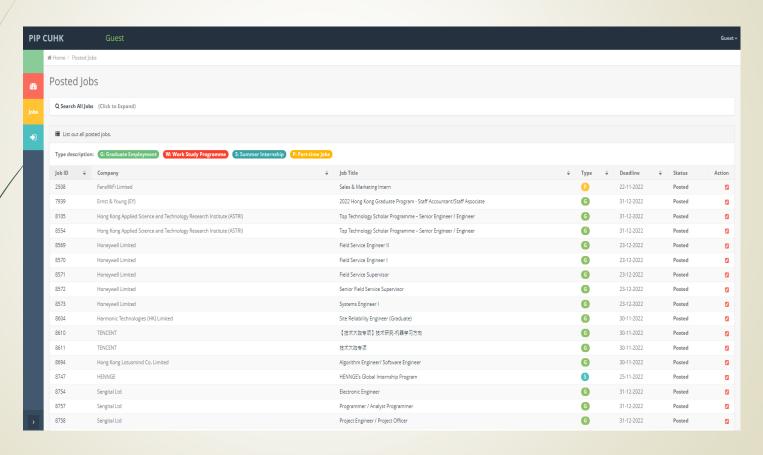
internship to learn more about the working environment in

fellow colleagues

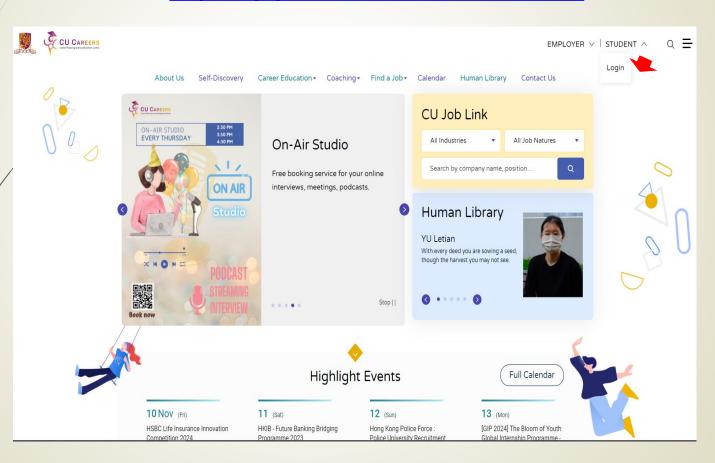
Through engagement in the work study programme or

internship lined up by the PIP, students would be able to meet

Placement & Internship/ Works Study Programme via CINTEC <a href="https://pip.cintec.cuhk.edu.hk/web">https://pip.cintec.cuhk.edu.hk/web</a>

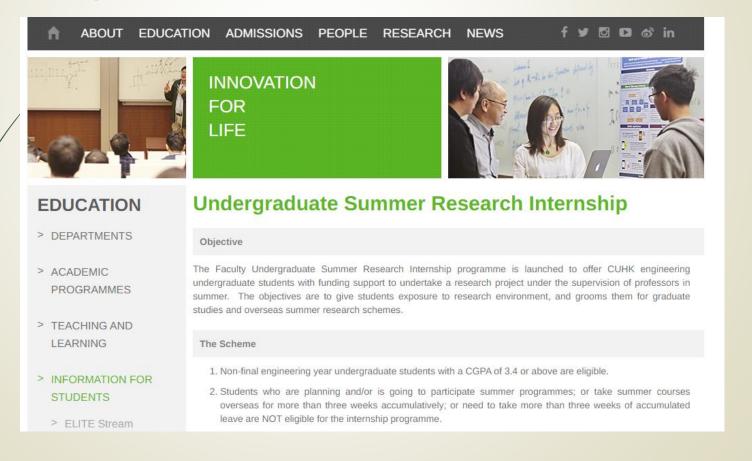


Placement & Internship/ Works Study Programme via CINTEC <a href="https://pip.cintec.cuhk.edu.hk/web">https://pip.cintec.cuhk.edu.hk/web</a>



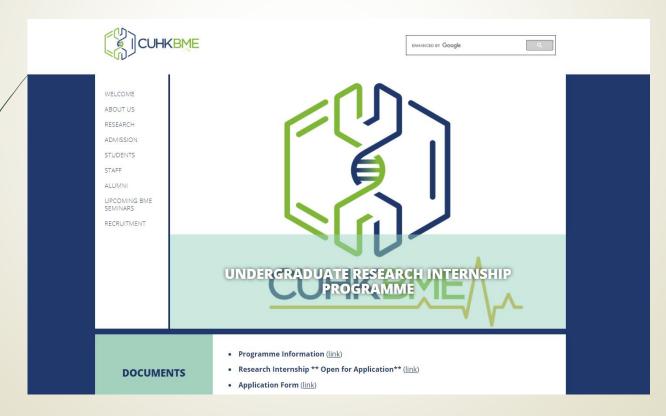
Faculty Undergraduate Summer Research Internship <a href="https://www.erg.cuhk.edu.hk/erg/SummerResearchInternship">https://www.erg.cuhk.edu.hk/erg/SummerResearchInternship</a>

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



BME Undergraduate Research Internship (year-long) <a href="http://www.bme.cuhk.edu.hk/new/ug\_internship.php">http://www.bme.cuhk.edu.hk/new/ug\_internship.php</a>

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



#### **Government, Hospitals & Companies**

- 1) CUHK Medical Centre
- 2) St Paul's Hospital
- 3) Gleneagles Hospital
- 4) Hong Kong Adventist Hospital (Tsuen Wan)
- 5) Hong Kong Adventist Hospital (Stubbs Road)
- 6) Hospital Authority
- 7) Johnson and Johnson
- 8) Electrical and Mechanical Service Department
- 9) Others







Adventist 港 Health 安 Hong Kong Adventist Hospital・Tsuen Wan 香港港安醫院・荃灣



Adventist 港 Health 安 Hong Kong Adventist Hospital・Stubbs Road 香港港安馨院・司徒拔道





### **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.

- 1. Medical Instrumentation and Biosensors
- 2. Biomedical Imaging, Informatics and Modeling
- 3. Molecular, Cell and Tissue Engineering

### **Stream Preference and Declaration**

### January 2024

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

### **April 2024**

Online Stream Declaration Form
(at least 12 units from the elective courses listed in the study scheme)

For the Final Year Graduating Students
Students who are expected to be graduated in **Term 2, 2023-24**.

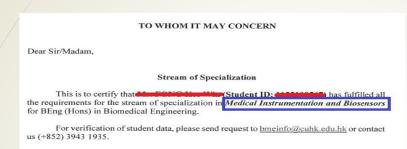
https://cloud.itsc.cuhk.edu.hk/webform/view.php?id=13684251 (Deadline: 31 May 2024)

\*\* 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 2024**.

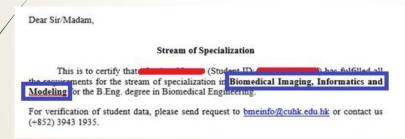


## **Stream Preference and Declaration**

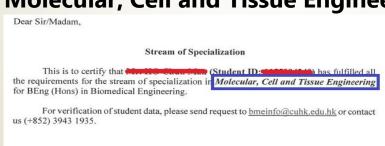
#### 1. Medical Instrumentation and Biosensors



#### 2. Biomedical Imaging, Informatics and Modeling



#### 3. Molecular, Cell and Tissue Engineering

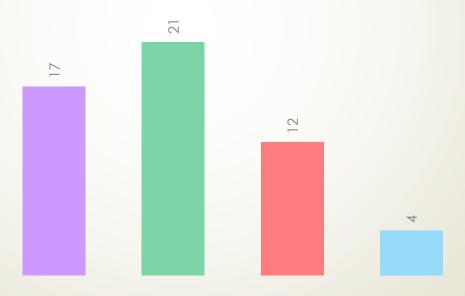




## **Elective Course Offering in 2024-25**

#### **Stream Preference (Total Responses: 54)**

- Medical Instrumentation and Biosensors
- Molecular, Cell and Tissue Engineering
- Biomedical Imaging, Informatics and Modeling
- I do not have any stream preference and do not want to declare any stream.



# **Elective Course Offering in 2024-25**

#### **Elective Courses Offering in 2024-25 (Tentative Plan)**

Course Code	Course Title	Unit(s)	Proposed to offer in 2024-25
BMEG3102	Bioinformatics	3	Term 2
BMEG3103	Big Data in HealthCare	3	Term 1
BMEG3105/ESTR3605	Data Analytics for Personalized Genomics and Precision Medicine	3	Term 1
BMEG3140/ESTR3604	Molecular and Cellular Engineering Laboratory	3	Term 1
BMEG3330/ESTR3602	Neuroengineering	3	Term 1 / 2
BMEG3420/ESTR4200	Medical Robotics	3	Term 2
BMEG3440	Global Engineering Medical Innovation	3	Term 2
BMEG3910	Undergraduate Research in Biomedical Engineering	3	Term 1/2
BMEG4220	Wearable Biomedical Devices and Personalized Healthcare	3	Term 1 / 2
BMEG4450/ESTR4202	Bionanotechnology	3	Term 2
BMEG4510/ESTR4204	Biomolecular Engineering	3	Term 2
BMEG4530/ESTR4214	Musculoskeletal Tissue Engineering	3	Term 1 / 2

## **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 <a href="BELOW 12">BELOW 12</a> 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.

Updated Arrangement (Subjected to endorsement by School of Life Science and Faculty of Engineering):

LSCI1002 Introduction to Biological Sciences will be included in the study scheme under the section of foundation courses effective from 2024-25 (retroactively applicable to students admitted in 2021-22 and thereafter)

BME will announce the further arrangement after the above proposed arrangement is endorsed by both School of Life Science and Faculty of Engineering.

#### **BIOL2120 Cell Biology (Major elective Course)**

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

# \*CMBI4101 Cancer Cell Biology, CMBI4102 Stem Cell Biology, and CMBI4103 Neuronal Cell Biology (Major elective Course)

- Newly ADDED in BME curriculum for students (retroactively applicable to students admitted in 2021-22 and thereafter)
- Three courses will be included in the calculation of Major GPA for honours classification.

# \*BMEG4220 Wearable Biomedical Devices and Personalized Healthcare

Course renamed from "Wearable Biomedical Devices and IoT in Healthcare"

<sup>\*</sup>Subjected to endorsement by Faculty of Engineering)

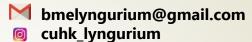
#### **REMINDER!!**

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	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:
	time in 2021-22 Term 1	BMEG3111 Medical Instrumentation and Design (2-units)  AND  BMEG3440 Clobal Engineering Medical Inspection
/		BMEG3440 Global Engineering Medical Innovation (3-units)
		<ul> <li>Remarks:</li> <li>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.</li> </ul>
		<ul> <li>For BME major students who have to take BMEG3111 AND BMEG3440 for course substitution of BMEG3101 will have to take 13 units of the</li> </ul>
		major elective courses, total major programme requirements will remain unchanged (i.e. 75 units)

## 14th Cabinet of Biomedical Engineering Society

## **LYNGURIUM**



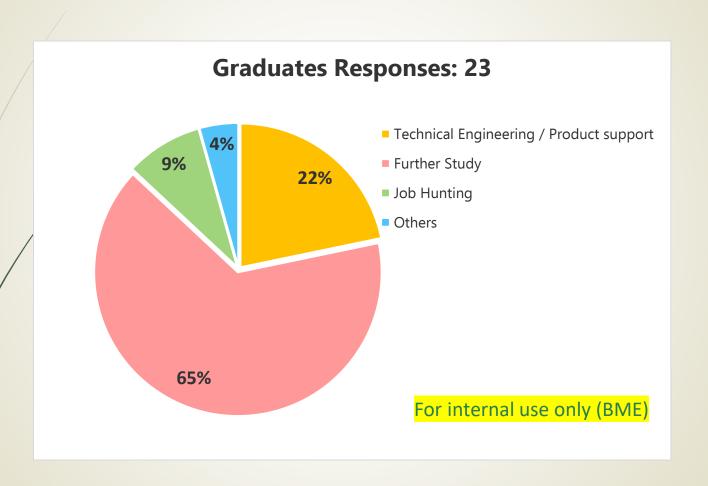






Position	Student Name
President	Ng Sui Ip
會長	吳瑞燁
Internal Vice President	Wong Tsun Ting
內務副會長	王浚庭
External Vice President & Shaw College Representative	Ng Pak Yin
外務副會長、逸夫書院代表	吳柏賢
Secretary	Cheung Lok Chi
文書	張樂之
Financial Secretary & New Colleges Representative	Yip Wai Ting
財政、新書院代表	葉韋霆
Chung Chi College Representative & Promotion and Publication	Lai Sik Fung
Officer	黎錫鋒
崇基學院代表、出版及設計	2代 亚刀 亚丰
United College Representative & Recreation and Sports Officer	Luo Jinan
聯合書院代表、康樂及體育	羅堇安
New Asia College Representative & General Affairs Officer	Fung Cho Ching
新亞書院代表、總務	馮楚晴

## **BME Graduates Survey 2023**





# Thank you!

## Follow us for BME updated news!







