

BEng (Hons) in Biomedical Engineering

Academic Counselling 2021-22

24 August 2021

(BME Website => Students => Undergraduate Students

=> Academic Counselling => August 2021)

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

BMEDEPT MeWe CUHK BME

CUHK Biomedical Engineering

CUHK Biomedical Engineering

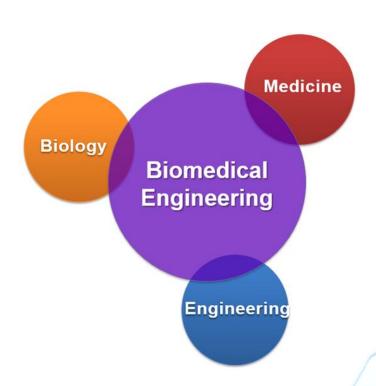
Professor Aaron Ho Professor Liting Duan

History of BME

- 2006
 - Launch of the Graduate Division
- 2007
 - Launch of the MSc Programme
- 2010
 - Launch of the BEng (Hons) Programme
- 2012
 - Launch of the MPhil/PhD Programme
- 2017
 - Establishment of the BME Department







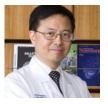
Biomedical Engineering (BME)

- An interdisciplinary division offered by the Faculty of Engineering in close collaboration with the Faculty of Medicine
- Both basic and applied research
- Wide access to courses offered by different divisions
- Tailor-made learning programmes
- Individualized PhD candidacy examination

BME Faculty Members



Prof.Thierry Blu Professor



Prof. Wai Sang POON **Emeritus Professor**



Prof. Arthur Mak Adjunct Professor



Prof. Max MENG Professor



Prof. Louis CHEUNG Associate Professor



Prof. DOU Qi **Associate Professor**



Prof. Megan HO Assistant Professor



Prof. Darwin LAU Assistant Professor



Prof. Gang LI Professor



Prof. Samuel Au Associate Professor



Prof. Aaron HO Professor



Prof. Vivas Chan Assistant Professor



Prof. Shih-Chi CHEN Associate Professor



Prof. CHEN Weitian **Assistant Professor**



Dr. Wutao LUO Lecturer



Prof. Philip CHIU Professor



Prof. Vincent CHEUNG Assistant Professor



Prof. Kevin YIP Associate Professor



Dr. Ho Owen KO **Assistant Professor**



Prof. Ann HENG Professor



Prof. Rocky TUAN President



Prof. Tan LEE Associate Professor



Prof. Kenneth LEE Professor



Prof. Liting Duan **Assistant Professor**



Prof. Sebastian BEYER Research Assistant Professor



Prof. Wei Hsin LIAO Professor



Prof. Li ZHANG **Associate Professor**



Prof. Jonathan CHOI **Assistant Professor**



Prof. Zheng LI Assistant Professor



Prof. Vincent MOK Professor



Prof. Raymond TONG **Professor & Chairman**



Prof. Ling QIN Professor



Prof. Renjie ZHOU **Assistant Professor**



Prof. Nelson TANG Professor



Prof. Chang Hing Chiu Charles Assistant Professor



Prof. Chao WAN Prof. Lin SHI Assistant Professor Associate Professor Associate Professor Associate Professor Associate Professor Professor





Prof. Yi Xiang WANG Prof. Xiaogang WANG Prof. Ni ZHAO





Prof. Wing Ho YUNG Prof. DINH Ngoc Duy



Prof. Scott YUAN Research Assistant Professor



Prof. Zhaoli GAO **Assistant Professor**

Academic Advisors in BME



Prof. Raymond TONG Professor & Chairman



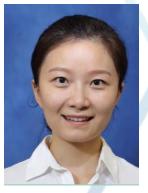
Prof. Sebastian BEYER Research Assistant Professor



Prof. Charles CHANG
Assistant Professor



Prof. Jonathan CHOI Associate Professor



Prof. Liting DUAN
Assistant Professor



Prof. DINH Ngoc Duy Research Assistant Professor



Prof. Zhaoli GAO Assistant Professor



Prof. Aaron HO Professor



Prof. Megan HO Assistant Professor



Prof. Scott YUAN Assistant Professor



Prof. Renjie ZHOU Assistant Professor



Dr. Wutao LOU Lecturer

BME Student Ambassadors 2021-22

Name	Admission Channel	Year of Study	Gender	Contact
CHAN Chi Chung Francis	JUPAS	Year 4	М	<u>1155126345@link.cuhk.edu.hk</u>
LEUNG Chi Kit Boris	Non-JUPAS Local	Year 4	М	<u>1155124628@link.cuhk.edu.hk</u>
LI Xuanxuan	Non-JUPAS International	Year 4	F	<u>1155123725@link.cuhk.edu.hk</u>
NG Wing Fai Sofie	Non-JUPAS Local	Year 4	F	<u>1155113921@link.cuhk.edu.hk</u>
Dayeon ROO	Non-JUPAS International	Year 4	F	1155122982@link.cuhk.edu.hk
Moldir SHYNGYS	Non-JUPAS International	Year 4	F	1155120928@link.cuhk.edu.hk
LI Szehon Anson	JUPAS	Year 3	M	1155141910@link.cuhk.edu.hk
SZE Hoi Kuen Patrick	JUPAS	Year 3	М	<u>1155142404@link.cuhk.edu.hk</u>
WONG Chee Ching CC	Non-JUPAS Local	Year 2	F	<u>1155155836@link.cuhk.edu.hk</u>



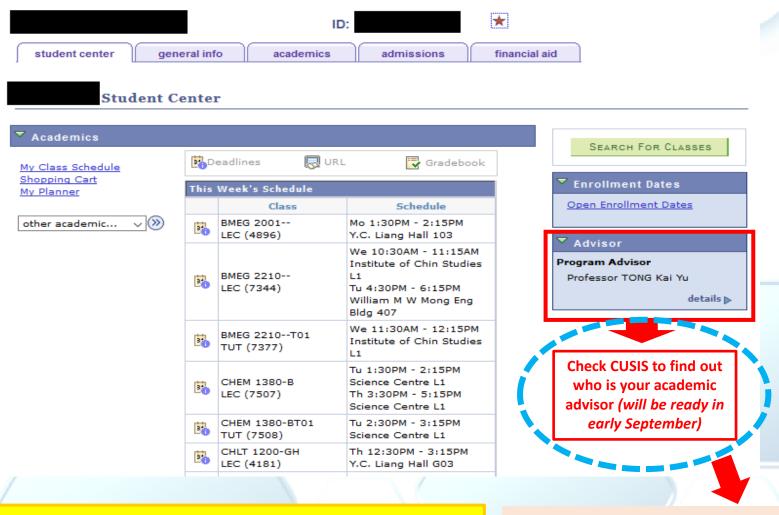
Francis Boris Xuanxuan Sofie Dayeon Moldir Anson Patrick 6 CC

How to get Study Pattern?

- Access BME website http://www.bme.cuhk.edu.hk
- Click "Students"
 - > "Undergraduate Students"
 - > Study Scheme
 - > Your Admission Year



Academic Advisor



You are advised to meet your Academic Advisor at least once per semester!

Should you have any doubts or need any academic guidance before the semester starts, please feel free to contact us at (+852) 3943 1935 or bmeinfo@cuhk.edu.hk

BME Curriculum Structure

University Core Requirements#		
	<u>Units</u>	
Chinese Language	6	
English Language	9	
University GE	9	
College GE	6	
Foundation Courses	6	
IT*	1(exempted)	
PE	2	
Total:	38	

	Major Programme Requirements		
			<u>Units</u>
	Faculty Package		9
	Foundation Courses		12
	Major Required Courses		33
l	Research Component Courses		6
	Major Elective Courses 🔥		15
		Total:	75

Core programme contents

Free Electives: 10

Minimum Units for Graduation: 123

Students are exempted from the course but not the unit

For details of University Core, please visit: http://www.res.cuhk.edu.hk Study scheme: http://rgsntl.rgs.cuhk.edu.hk/aqs prd applx

^{*}Students who have fulfilled the Major Programme Requirements of any engineering programmes (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be exempted from the 1 unit IT Foundation Course.

Recommended Study Pattern: Year 1

	Units	Pre-assigned
Year 1 – Term 1		
BMEG2001 Introduction to Biomedical Engineering	1	\checkmark
CHEM1280 Intro to Org Chm & Biomolecule/	0-3	
CHEM1380 Basic Chemistry for Engineers/		
LSCI1001 Basic Concepts in Biological Sciences/		
LSCI1003 Life Sciences for Engineers		
MATH1510 Calculus for Engineers	3	\checkmark
 PHYS1110 Engineering Physics: Mechanics and Thermodynamics 	3	\checkmark
SBMS1431 Human Anatomy and Physiology I	2	\checkmark
Year 1 – Term 2		
ENGG1120 Linear Algebra for Engineers	3	\checkmark
ENGG1130 Multivariable Calculus for Engineers	3	\checkmark
 CHEM1280 /CHEM1380 /LSCI1001 /LSCI1003 	0-3	
(if not taken in Term 1 and depends on the course offering term)	2	\checkmark
SBMS1432 Human Anatomy and Physiology II		
Year 1 – Summer (4 weeks)		
BMEG2602 Hospital Experience and Engineering Practicum (Summer Practical	1	✓
Training) (*please reserve your time & take it in year-1 summer!!!)		

For Year 1 students, all required courses will be pre-assigned to you except CHEM & LSCI courses (unless there is time clash due to re-take of foundation courses)

BME Summer Training - BMEG2602

Four-week professional and practical summer training on <u>CUHK main campus</u> and at <u>Prince of Wales Hospital</u> for Year 1 students:

In-house Training involves:

 Electronic Circuit Design, Simulation, Fabrication, Interfacing with Software, Data Acquisition, and Wireless Communication etc.

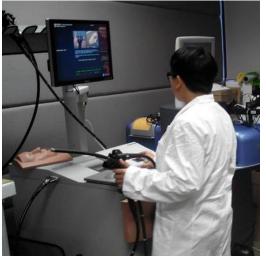
Hospital Training involves:

- Daily operation, information flow and logistics in the clinic
- Fundamentals and basic operation of medical instruments











Recommended Study Pattern: Year 2

	Units	Pre- assigned
 Year 2 – Term 1 ENGG1110 Problem Solving By Programming BMEG2210 Orthopaedic Biomechanics and Musculoskeletal Injury 	3	✓ ✓
BMEG2410 Complex Analysis and Differential Equations	3	✓
Year 2 – Term 2		
BMEG2012 Biomedical Engineering Laboratory	2	\checkmark
BMEG2300 Circuits and Signals for Biomedical Engineering	3	\checkmark
 ENGG1310 Engineering Physics: Electromagnetics, Optics and Modern Physics 	3	\checkmark
SBMS1440 Cell and Molecular Biology in Biomedical Engineering	2	\checkmark
STAT3210 Statistical Techniques in Life Sciences	3	\checkmark

For Year 2 students, all required courses will be pre-assigned to you (unless there is time clash due to re-take of foundation courses)

Recommended Study Pattern: Year 3-4

	Units	Pre-assigned
Year 3 – Term 1 Major required: (1) BMEG3430 Biomaterials and Tissue Engineering (2) BMEG3111 Medical Instrumentation and Design	8	
(3) BMEG3320 Biomedical Imaging Major Elective: 1 course	3	
<u>Year 3 – Term 2</u> Major required: BMEG4010 Global Medical Device Regulatory Affairs Major Elective: 2 courses	3 6	
Year 4: Work-Study if you want to Note: Students who have completed a structured training programme are qualify for consideration of ENGG1820 Engineering Internship (1 unit)		
Year 4 – Term 1 (or Year 5 for workstudy) Major required: BMEG4998 Final Year Project I Major Elective: 1 course	3	√
<u>Year 4 – Term 2</u> Major required: BMEG4999 Final Year Project II Major Elective: 1 course	3 3	✓

Please discuss with your Academic Advisor if necessary

Important Notes

Placement test for foundation courses – Local students & Non Local Students

(1) Mathematics placement test

- Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a <u>Mathematics Placement Test</u>.
- The placement test was conducted face-to-face on 17 August 2021.
- MATH1020 and MATH1510 will be pre-assigned to you.
- MATH1020 will be dropped before the add/drop period if you can pass the test.

(2) Physics placement test

- Students without HKDSE result shall sit for the <u>Physics placement test</u>.
- Students will be invited to attend the online test which shall be arranged by the Physics Department (details will be informed by Faculty Office)
- The placement test will be conducted online on 30 August 2021.

Important Notes

[a]	i)	Students who have attained Level 4 or above in HKDSE Mathematics (Compulsory Part) AND Level 4 or above in
		Physics <u>or</u> Level 5 or above in Combined Science with Physics Component shall take PHYS1110 .
	ii)	Students with HKDSE results but did not attain the academic levels as stated in (i) shall take PHYS1003 in advance. PHYS1003 would be counted as a <u>free elective</u> but could not be used to fulfill the Foundation Science course requirements.
	iii)	Students without HKDSE results shall sit for the <u>placement test</u> arranged by the Department of Physics. Students who <u>pass</u> the <u>placement test shall take PHYS1110</u> . Students who fail or are absent from the <u>placement test shall take PHYS1003</u> in advance. PHYS1003 would be counted as a <u>free elective</u> but could not be used to fulfill the Foundation Science course requirements.
[b]	1	nts are strongly advised to take any one course from CHEM1280 or 1380 if they have not attained Level 3 or in HKDSE Chemistry, or other equivalent qualifications.
[c]	Biolog	nts are strongly advised to take either LSCI1001 or 1003 if they have not attained Level 3 or above in HKDSE sy, or other equivalent qualifications. LSCI1001 is only for students who have not taken science courses with sy component in HKDSE.
[d]	i)	Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a <u>Mathematics Placement Test</u> . Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510.
	ii)	JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 concurrently with MATH1510.
	iii)	Students who fail MATH1510 in Term 1 will have to retake the course in Term 2. The pre-assigned course, ENGG1130, will also be dropped.
[e]	the mexemplin CU	nts admitted in 2017-18 and thereafter will be exempted from ENGG1000 when they have successfully fulfilled najor programme requirements of any engineering programme. Such students DO <u>NOT</u> need to apply for potion to the IT Foundation Course Office. The student will satisfy the requirement of ENGG1000 advisement rule SIS automatically whenever they have fulfilled all the major programme requirements of an engineering namme.

Stream Specialization

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 and 4999[e], prescribed by the stream

Medical Instrumentation & Biosensors (MIB)				
BMEG3420 Medical Robotics	BMEG3210 Biofluids	BMEG3330 Neuroengineering		
BMEG3130 TeleMedicine & Mobile Healthcare	BMEG4220 Body Sensor Networks	BMEG4410 BioMEMS		
BMEG4520 Cardiovascular Engineering	BMEG4450- Bionanotechnology	ELEG 3201 Microelectronic Devices and Circuits		
BMEG3440 Global Engineering BMEG4330 Advanced Imaging and Spectroscopy Techniques in Biomedicine				
Biomedical Imaging, Informatics & Mo	deling (MII)			
BMEG3102 Bioinformatics	BMEG 3103 Big Data in HealthCare	BMEG4103 Biomedical Modelling		
BMEG 3105 Data Analytics for Personalized Genomics and Precision Medicine	BMEG 3120 Database and Security for Biomedical Engineering	BMEG4320 AI & Imaging for Biomedical Engineering		
BMEG3440 Global Engineering BMEG4330 Advanced Imaging and Spectroscopy Techniques in Biomedicine				
Molecular, Cell & Tissue Engineering (BCTE)				
BIOL2120 Cell Biology	BMEG4410 BioMEMS	BMEG4450 Bionanotechnology		
BMEG3140 Molecular and Cellular Engineering Laboratory	BMEG3210 Biofluids	BMEG3440 Global Engineering Medical Innovation		
BMEG4510 Biomolecular Engineering	BMEG4520 Cardiovascular Engineering	BMEG4530 Musculoskeletal Tissue Engineering		
MBTE4320 Genetic Engineering				

Course Registration for 1st term courses - CUSIS

- Register your courses through CUSIS during your allotted timeslot on 31 August 2021 (*10:00am – 10:00pm)
- For details of University Core, please visit RES website:
 http://www.res.cuhk.edu.hk/en-gb/undergraduate-students/information-for-year-1-students/information-on-university-core-requirements-and-exemption/university-core-requirements-for-year-1-students

^{*} Login time is from 10:00 a.m. for new students admitted with Advanced Standing or admitted to senior-year places and those admitted to Medical Year 2 or above. Other students' login time is from 11:00 a.m.

Add/Drop Courses

Date / Time	Add/Drop
	CUSIS e-Add/Drop
19 September 2021 (8:30pm)	

- You are strongly advised to plan and select courses very carefully
- You should give priority to Pre-assigned courses
- Minimum no. of units in a term: 9
- Maximum no. of units in a term: 18
- Maximum no. of units in summer term: 6
- Maximum no. of units in an academic year: 39 (summer courses included)

Note:

First-year students (excluding senior year entrants) are allowed to take up to 19 units in each term (2021-22 T1 & T2). The maximum no. of units in an academic year will remain 39.

Double Degree Option

ERG-BBA

- 1st degree: Bachelor of Engineering (Biomedical Engineering)
- 2nd degree: Bachelor of Business Administration (Integrated BBA Programme)
- Collaborated with the Faculty of Business Administration
- Subject to the approval of the two Faculties/Programs concerned
- Must complete at least 30 units of Integrated BBA Programme courses within the normative / minimum study period of 1st degree
- For further information, please refer to the Faculty website at http://www.erg.cuhk.edu.hk/erg/ergbba

Minor Programmes

- Students can take up to two minors programmes
- 18-30 units for each minor programme

For details, please refer to the section "Requirements of Major Programmes and Minor Programmes" under the 4-year normative curriculum of the Undergraduate Student Handbook.

BME Internships Opportunities

Overseas Summer Research Internship (past opportunities)

Hosting Institution		
Columbia University, US	Imperial College, UK	
Michigan State University, US	University of Toronto, Canada	
Northwestern University, US	University of Sydney, Australia	
University of Pennsylvania, US	Korea Institute of Science & Technology, South Korea	
University of Pittsburgh, US	National University of Singapore, Singapore	
University of California, US	Nanyang Technological University, Singapore	
University of California at San Diego, US	Technika University of Gdańsk, Poland	
University of California at Irvine, US	Chang Gung University, Taiwan	
University of Illinois at Urbana-Champaign, US		

Other past summer BME internship opportunities include:

- Public sector: HKPC, EMSD
- Medical sector: PWH, HA, local private hospitals (e.g. Hong Kong Adventist Hospital-Tsuen Wan, Gleneagles Hospital etc.), Johnson & Johnson Medical Devices, Stryker, Celki Medical etc.
- Academic sector: CAS SIAT, HKSTP, and many other overseas universities





Overseas Exchange







Stony Brook University

















Student Advising on Overseas Exchange: Prof. Megan Ho





BME Outstanding Achievement Scholarship

Number of Award

EIGHT awards of \$10,000 each

Eligibility and Award Criteria

- Year 1 to Year 4 or above BME undergraduate students
- Year GPA of 3.0 or above in the previous year of study
- Participated in co-curricular and/or extra-curricular activities:
 - ✓ Awards, especially those related to BME discipline
 - ✓ Community Service, e.g. contributions to BME Department and/or Profession
 - ✓ Other achievement, e.g. sports, competitions, voluntary work
- Financial needs

Awardees in 2020-21 (TEN awards):

Name	Year of Study in 2020-21
WONG Chee Ching	Year 1
LEE Wing Yin	Year 2
LIN Yi Ting	Year 2
MAK Kin Shing Wickey	Year 2
TRAN Thi Trang	Year 2
SZE Hoi Kuen	Year 2
WANG Han-Yi	Year 2
BAEKOVA Aiana	Year 3
SHYNGYS Moldir	Year 3
CHENG Chat Kit	Year 4

Where do our BME graduates go?

- Manufacturing Industries
- Clinical Engineers in Hospitals
- Entrepreneurs in Biotech
 Companies
- Regulatory Affairs
- Distribution & Sale
- Testing Laboratories
- Research Scientists & Engineers
- Further Studies (MSc, PhD, MD, MBA, PCLL)









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Study Period

Normative study period: 4 years

Maximum study period: 6 years

(including any periods of leave of absence and suspension of studies, but excluding any periods of compulsory military service)

Change of Study Period

Participating in approved exchange programs and internship schemes will be allowed

UG Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Leave of Absence Exceeding 1 Week

- Medical reasons: written application, supported by a certificate signed by the Director of University Health Service/ Medical certificate, endorsed by Major Programme
- Non-medical reasons: <u>prior permission</u> from the Registrar through written application, endorsed by Major Programme

Extension of assignment submission due date

 Medical reasons: Submit the written application, supported by a Medical certificate on or before the assignment submission due date to the course instructor for approval

Rules to be Observed by Candidates at Examinations Centre

UG Student Handbook:

Regulations and Rules => Rules to be Observed by Candidates at Examination Centre http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

 Guidelines for Precautionary Measures for Face-to-Face Examinations

http://www.res.cuhk.edu.hk/en-gb/undergraduate-students/guidelines-for-precautionary-measures-for-face-to-face-examinations

 General Arrangements for Classes and Examinations on Approach of Typhoons and Rainstorms

UG Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Other Useful Information => General Arrangements for Classes and Examinations on Approach of Typhoons and Rainstorms

Contact Information BME General Office

Location

• Room 1120, 11/F, William M.W. Mong Engineering Building (ERB)

Opening Hours

Monday to Thursday: 8:45am - 5:30pm

Friday: 8:45am – 5:45pm

Saturday, Sunday and Public Holiday: Closed

Contact

Tel: +852 3943 1935

Email: bmeinfo@cuhk.edu.hk

Facebook: https://www.facebook.com/CuhkBiomedicalEngineering/

Instagram: https://www.instagram.com/bmedept/

Youtube: https://www.youtube.com/channel/UCtAjVSWR9GSjbFVownyuN4Q

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All important messages will be sent to your CUHK email account. Please check your CUHK email account regularly!

When emailing your academic advisor, course instructors or major programme administration, be professional, courteous and clear. Your email should include the following details:

- A subject line to state the purpose of your email
- Your full name
- Student ID
- Course code and name
- Other main information as appropriate

Useful Websites

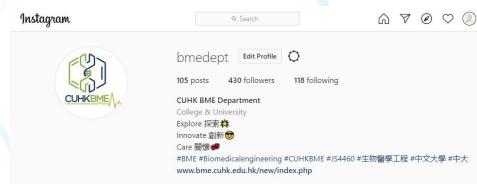
- Undergraduate Student Handbook http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx
- Chinese University Student Information System (CUSIS) https://portal.cuhk.edu.hk
- Registration and Examinations Section (RES) http://www.res.cuhk.edu.hk
- Teaching Timetable
 http://www.res.cuhk.edu.hk/en-gb/teaching-timetable-classroom-booking/teaching-timetable
- Almanac http://www.res.cuhk.edu.hk/en-gb/general-information/university-almanac

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CUHK Biomedical Engineering







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CUHK BME Cabinet: Medanoia 生醫流轉



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追蹤

15 貼文 362 位追蹤者 172 追蹤中

香港中文大學學生會 生物醫學工程學系系會 第十一屆候選內閣 生醫流轉 Medanoia Zoom link ♥♥

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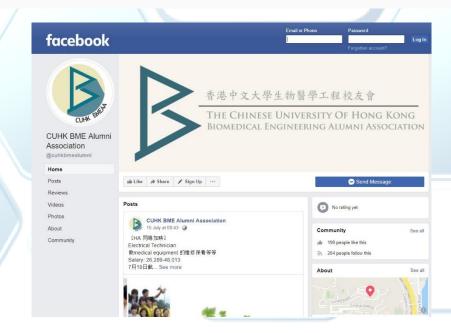
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<u>cuhkbmealumni</u>



cuhkbmealumni@gmail.com



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