



Department of
Biomedical Engineering

The Chinese University of Hong Kong

BEng (Hons) in Biomedical Engineering

Academic Counselling 2020-21

25 August 2020

**Professor Aaron Ho
Professor Liting Duan**

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

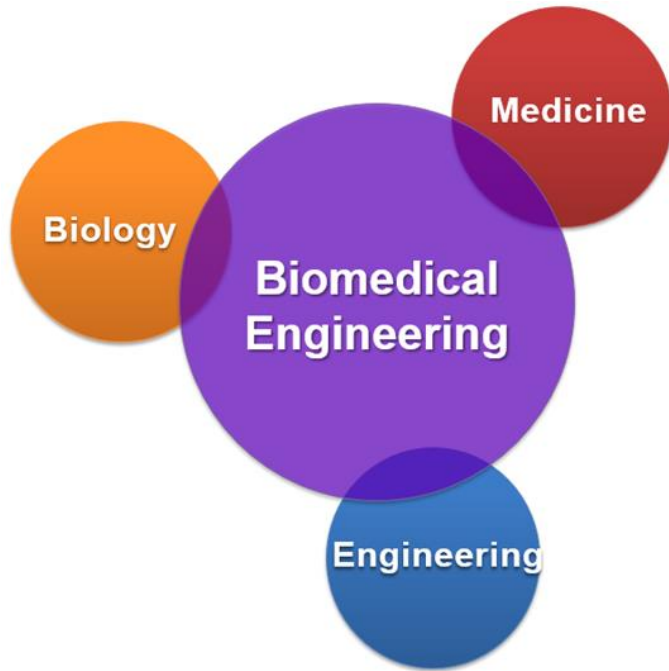
 CUHK Biomedical Engineering

 BMEDEPT

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)

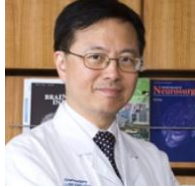
- An interdisciplinary division offered by the **Faculty of Engineering** in close collaboration with the **Faculty of Medicine**
- Both basic and applied research
- Wide access to courses offered by different divisions
- Tailor-made learning programmes
- Individualized PhD candidacy examination

BME Faculty Members

✦ Core Faculty Member



Prof. Thierry BLU
Professor



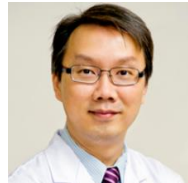
Prof. Wai Sang POON
Emeritus Professor



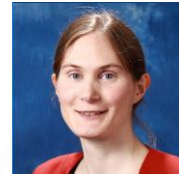
Prof. Arthur MAK
Adjunct Professor



Prof. Max MENG
Professor



Prof. Louis CHEUNG
Associate Professor



Prof. Emma MacPHERSON
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



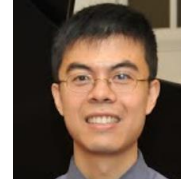
Prof. CHEN Weitian
Assistant Professor



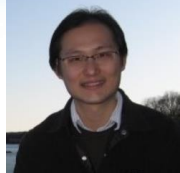
Dr. Wutao LUO
Lecturer



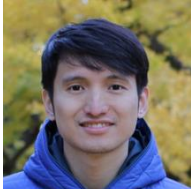
Prof. Philip CHIU
Professor



Prof. Vincent CHEUNG
Assistant Professor



Prof. Kevin YIP
Associate Professor



Dr. Ho Owen KO
Assistant Professor



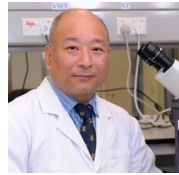
Prof. Ann HENG
Professor



Prof. Rocky TUAN
President



Prof. Tan LEE
Associate Professor



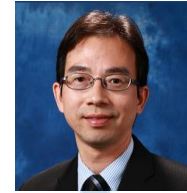
Prof. Kenneth LEE
Professor



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



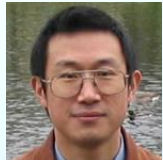
Prof. Hans GREGERSEN
Professor



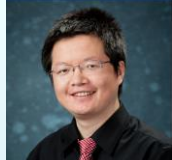
Prof. Lin SHI
Assistant Professor



Prof. Chao WAN
Associate Professor



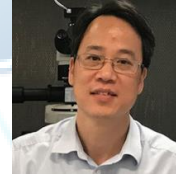
Prof. Yi Xiang WANG
Associate Professor



Prof. Xiaogang WANG
Associate Professor



Prof. Ni ZHAO
Associate Professor



Prof. Wing Ho YUNG
Professor



Prof. Liming BIAN
Associate Professor

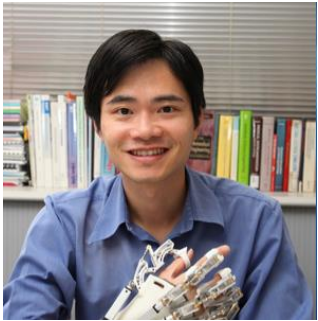


Prof. Scott YUAN
Assistant Professor



Prof. Zhaoli GAO
Assistant Professor

Academic Advisors in BME



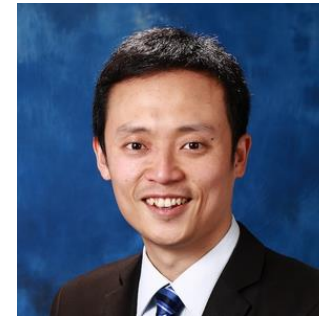
Prof. Raymond TONG
Professor & Chairman



Prof. Sebastian BEYER
Research Assistant Professor



Prof. Liming BIAN
Associate Professor



Prof. Jonathan CHOI
Associate Professor



Prof. Liting DUAN
Assistant Professor



Prof. Zhaoli GAO
Assistant Professor



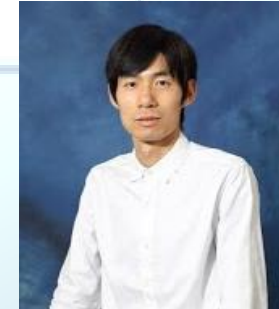
Prof. Aaron HO
Professor



Prof. Megan HO
Assistant Professor



Prof. Scott YUAN
Assistant Professor



Prof. Renjie ZHOU
Assistant Professor



Dr. Wutao LOU
Lecturer

BME Student Ambassadors 2020-21

Name	Admission Channel	Year of Study	Gender	Contact
LAU Yolanda Fong Yung	Non-JUPAS Local	Year 3	F	1155113627@link.cuhk.edu.hk
LEUNG Chi Kit Boris	Non-JUPAS Local	Year 3	M	1155124628@link.cuhk.edu.hk
LI Xuanxuan	Non-JUPAS International	Year 3	F	1155123725@link.cuhk.edu.hk
NG Wing Fai Sofie	Non-JUPAS Local	Year 3	F	1155113921@link.cuhk.edu.hk
Dayeon ROO	Non-JUPAS International	Year 3	F	1155122982@link.cuhk.edu.hk
MAK Kin Shing Wickey	Non-JUPAS Local	Senior-entry (admitted in 2019-20)	M	1155131964@link.cuhk.edu.hk
LI Szehon Anson	JUPAS	Year 2	M	1155141910@link.cuhk.edu.hk



Yolanda



Boris



Xuanxuan



Sofie



Dayeon




Wickey



Anson

How to get Study Pattern?

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

STUDY SCHEME	
YEAR 2020-2021	Applicable to students admitted in 2020-21 - download link 
YEAR 2019-2020	Applicable to students admitted in 2019-20 - download link
YEAR 2018-2019	Applicable to students admitted in 2018-19 - download link
YEAR 2017-2018	Applicable to students admitted in 2017-18 - download link
YEAR 2016-2017	Applicable to students admitted in 2016-17 - download link

Academic Advisor

██████████ ID: ██████████ ★

[student center](#) [general info](#) [academics](#) [admissions](#) [financial aid](#)

██████████ Student Center

Academics

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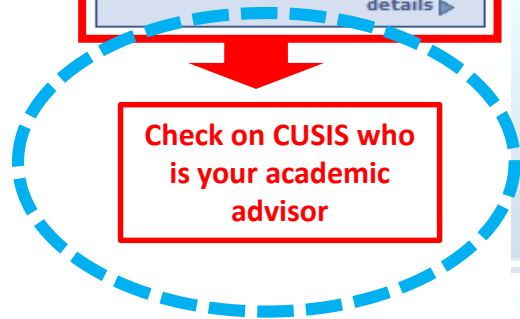
other academic... ▾ >>

SEARCH FOR CLASSES

Enrollment Dates
[Open Enrollment Dates](#)

Advisor
Program Advisor
Professor TONG Kai Yu
[details ▶](#)

This Week's Schedule		
	Class	Schedule
	BMEG 2001-- LEC (4896)	Mo 1:30PM - 2:15PM Y.C. Liang Hall 103
	BMEG 2210-- LEC (7344)	We 10:30AM - 11:15AM Institute of Chin Studies L1 Tu 4:30PM - 6:15PM William M W Mong Eng Bldg 407
	BMEG 2210--T01 TUT (7377)	We 11:30AM - 12:15PM Institute of Chin Studies L1
	CHEM 1380-B LEC (7507)	Tu 1:30PM - 2:15PM Science Centre L1 Th 3:30PM - 5:15PM Science Centre L1
	CHEM 1380-BT01 TUT (7508)	Tu 2:30PM - 3:15PM Science Centre L1
	CHLT 1200-GH LEC (4181)	Th 12:30PM - 3:15PM Y.C. Liang Hall G03



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

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
Research Component Courses	6
Major Elective Courses	15
Total:	75

Let's talk about here

Free Electives: 10

Minimum Units for Graduation: **123**

**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.*

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

Recommended Study Pattern: Year 1

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

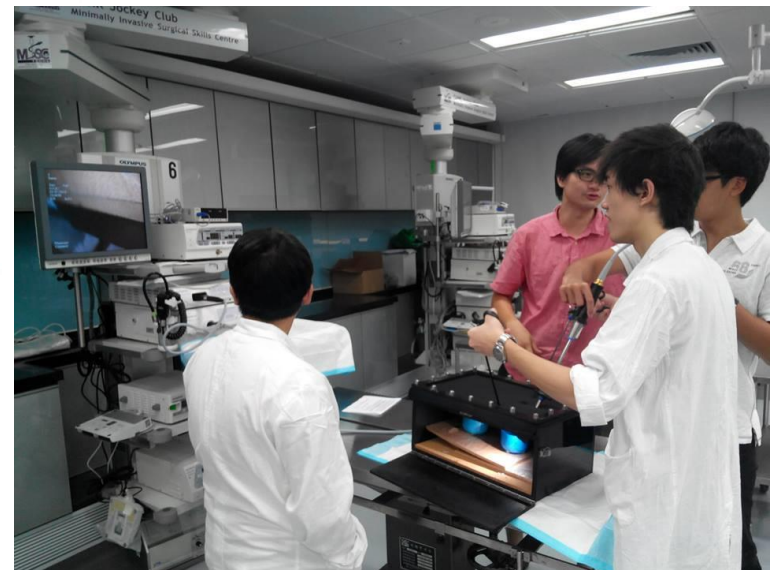
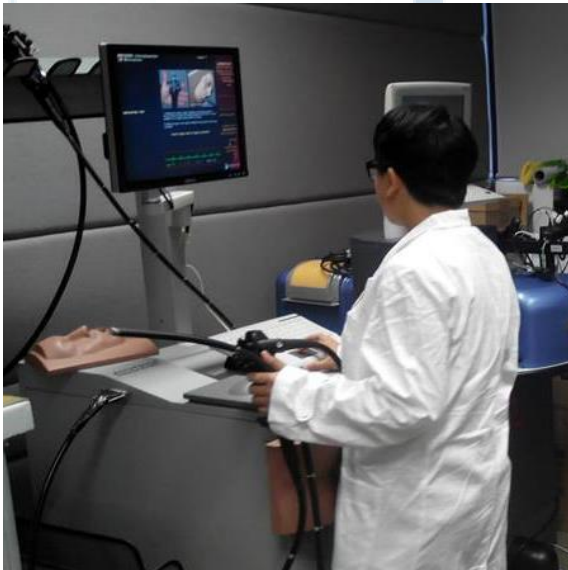
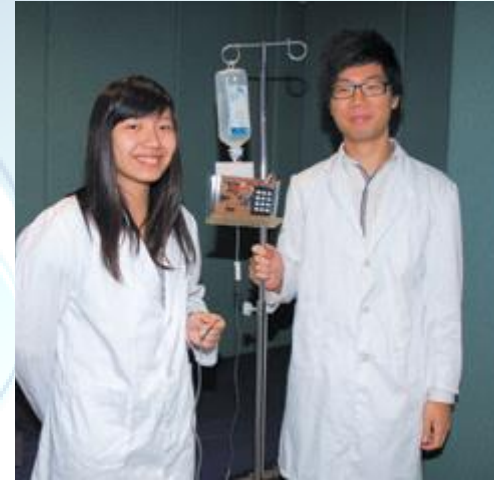
For Year 1 students, all required courses will be pre-assigned to you except CHEM & LSCI courses (unless there is time clash due to re-take of foundation courses)

**For those who have passed summer training in Year 1 summer, BMEG2012 Biomedical Engineering Laboratory will be pre-assigned in Year 2 term 2.*

BME Summer Training - BMEG2602

Two-week training at the **Prince of Wales Hospital** for Year 1 students:

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



Recommended Study Pattern: Year 2

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

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
<u>Year 3 – Term 1</u> Major required: (1) BMEG3430 Biomaterials and Tissue Engineering (2) BMEG3111 Medical Instrumentation and Design (3) BMEG3320 Biomedical Imaging Major Elective: 1 course	 9 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: may get one unit from ENGG1820 Engineering Internship		
<u>Year 4 – Term 1 (or Year 5 for workstudy)</u> Major required: BMEG4998 Final Year Project I Major Elective: 1 course	 3 3	 ✓
<u>Year 4 – Term 2</u> Major required: BMEG4999 Final Year Project II Major Elective: 1 course	 3 3	 ✓

Just talk to your Academic Advisor!

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 **Mathematics Placement Test**.
- The placement test was conducted online on 20 August 2020.
- 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 **Physics placement test**.
- Students will be invited to attend the online test which shall be arranged by the Physics Department (details will be informed by Faculty Office)

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 free elective but could not be used to fulfill the Foundation Science course requirements.
	iii)	Students without HKDSE results shall sit for the placement test arranged by the Department of Physics. Students who pass the placement test shall take PHYS1110 . Students who fail or are absent from the placement test shall take PHYS1003 in advance . PHYS1003 would be counted as a free elective but could not be used to fulfill the Foundation Science course requirements.
[b]	Students are strongly advised to take any one course from CHEM1280 or 1380 if they have not attained Level 3 or above in HKDSE Chemistry, or other equivalent qualifications.	
[c]	Students are strongly advised to take either LSCI1001 or 1003 if they have not attained Level 3 or above in HKDSE Biology, or other equivalent qualifications. LSCI1001 is only for students who have not taken science courses with Biology component in HKDSE.	
[d]	i)	Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test . 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]	Students admitted in 2017-18 and thereafter will be exempted from ENGG1000 when they have successfully fulfilled the major programme requirements of any engineering programme. Such students DO NOT need to apply for exemption to the IT Foundation Course Office. The student will satisfy the requirement of ENGG1000 advisement rule in CUSIS automatically whenever they have fulfilled all the major programme requirements of an engineering programme.	

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 Medical Innovation	BMEG4330 Advanced Imaging and Spectroscopy Techniques in Biomedicine	

Biomedical Imaging, Informatics & Modeling (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 Biomedical Imaging Applications
BMEG3440 Global Engineering Medical Innovation	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 - CUSIS

- Register your courses through CUSIS during your allotted timeslot on 1 September 2020 (*10:00am – 10:00pm)
- Select courses for **1st Term only**
- 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
14 September 2020 (8:30pm) - 20 September 2020 (8:30pm)	CUSIS e-Add/Drop

- 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 are allowed to take up to **19 units** in each term. 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

- University of California at Irvine
- Columbia University
- Imperial College
- Korea Institute of Science & Technology
- Northwestern University
- University of Pittsburgh
- National University of Singapore
- University of Toronto
- Nanyang Technological University
- The University of California
- University of California at San Diego
- University of Illinois at Urbana-Champaign

Other past summer BME internship opportunities include:

- **Public sector:** HKPC, EMSD
- **Medical sector:** PWH, local private hospitals, HA
- **Academic sector:** CAS SIAT, HKSTP, and many other overseas universities

Student Advising on internships opportunities : Prof. Megan Ho

Overseas Exchange



Student Advising on Overseas Exchange: Prof. Megan Ho



Stony Brook University



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE



THE UNIVERSITY OF
WESTERN
AUSTRALIA



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



Universitat
Pompeu Fabra
Barcelona



NUS
National University
of Singapore



SAN DIEGO STATE
UNIVERSITY



KTH
VETENSKAP
OCH KONST



KIT
Karlsruher Institut für Technologie



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE



uOttawa

BME Outstanding Achievement Scholarship

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

EIGHT awards of \$10,000 each

Awardees in 2019-20:

Name	Year of Study in 2019-20
CHEUNG Suen	Year 1
LIN Yi Ting Jonathan	Year 1
WANG Han Yi Jennifer	Year 1
LAU Yolanda Fong Yung	Year 2
SHYNGYS Moldir	Year 2
CHENG Chak Kit	Year 3
MELISOV Dayan	Year 3
TUNG Lok Him	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)



Important Regulations

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

Important Regulations

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:** prior permission from the Registrar through written application, endorsed by Major Programme

Important Regulations

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

Important Regulations

- Rules to be Observed by Candidates at Examinations Centre

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

Regulations and Rules – Rules to be Observed by Candidates at Examination Centre

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

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

Regulations and Rules – 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

Fax: +852 3942 1024

Email: bmeinfo@cuhk.edu.hk

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

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

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When emailing your academic advisor, course instructors and major programme, be professional, courteous and clear. Your email must be included all of the necessary details such as:

- Email subject line
- Your full name
- Student ID
- Course code and name

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 BME Department

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