TOWN HALL MEETING

MAKE BME GREAT TOGETHER

PROF. RAYMOND TONG

29 MAR 2019

REGULAR TOWN HALL MEETING

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

AGENDA

1. Programme Outcome & HKIE Required Outcomes

2. Stonybrook university (4+S+1)

3. Updates on Summer Exchange and Internship

4. Course Offering in 2019-20
   - Stream Declaration
   -Report on Survey Results+ Proposed Course Offering
   -New Courses

5. Course Cancellation & Arrangement in 2019-20 & 2020-21

6. Policy of course cancellation due to low enrollment rate

7. Graduate Employment Survey

8. BME Society and Activities

1. PROGRAMME OUTCOME & HKIE REQUIRED OUTCOMES (1)

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

1. PROGRAMME OUTCOME & HKIE REQUIRED OUTCOMES (2)

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

1. PROGRAMME OUTCOME & HKIE REQUIRED OUTCOMES (3)

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 multi-disciplinary teams	Understand ethics, global, societal & professional responsibilities	Learn new knowledge & skills across disciplines & continuously
HKIE Graduate Attributes	A	B	C	E	K	L	G	D	F, H	I,J
REQUIRED COURSES										
BMEG2001 Intro to BME	✓	✓	✓	✓	✓					
BMEG2011 BME Lab & Hospital Experience	✓	✓	✓	✓	✓	✓	✓	✓		

2. STONYBROOK UNIVERSITY (4+S+1)

- Signed agreement with CUHK

- Fast-Track Master's Degree Program with State University of New York at Stony Brook, USA

- GPA3.0

- CUHK can nominate students

3. UPDATES ON SUMMER EXCHANGE AND INTERNSHIP

- Summer Exchange and Summer Oversea Internship
  Reminder for students joined Summer Research Exchange & Summer Oversea Internship
  >> Apply and follow-up with your visa application ASAP

- Local Summer Industrial Internships

  More may be available later in April/May, e.g. EMSD, Johnson & Johnson's etc.

  START to PREPARE your CV for the potential Interview by companies

Placement & Internship Programme via CINTEC

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

PiP CUHK   Guest   Guest ⌄

🏠 Home / Posted Jobs

Posted Jobs

🔍 Search All Jobs (Click to Expand)

📋 List out all posted jobs.

Type description: G: Graduate Employment W: Work Study Programme S: Summer Internship P: Part-time Jobs

Job ID	Company	Job Title	Type	Deadline	Status	Action
2508	FansWiFi Limited	Sales & Marketing Intern	P	05-02-2018	Posted	✏️
3797	Red Soldier Ltd.	IOS/Android/Web Developer 1-year intern (R201704_IOSI, R201704_AI, R201704_WI)	W	31-03-2018	Posted	✏️
3798	Red Soldier Ltd.	IOS/Android/Web Developer Summer intern (R201704_IOSSI, R201704_ASI, R201704_WSI)	S	31-03-2018	Posted	✏️
3818	Sengital Ltd	Engineering Manager / Project Manager	G	31-03-2018	Posted	✏️
3819	Sengital Ltd	Electronic Engineer / Project Engineer	G	31-03-2018	Posted	✏️
3825	Sengital Ltd	Assistant Engineering Manager / Assistant Project Manager	G	31-03-2018	Posted	✏️
3839	Jetta Company Limited	Graduate Scheme A Trainee (MCL)	G	01-06-2018	Posted	✏️
3841	Jetta Company Limited	Electronic Engineering Trainee	G	23-06-2018	Posted	✏️
3850	Hututa Technologies Limited	Software Engineer, System Engineer	G	01-06-2018	Posted	✏️
3857	5mina Limited	Software Engineer - Mobile and Web Infrastructure	W	23-02-2018	Posted	✏️
3884	A-oneTech Limited	Assistant Software Engineer	W	31-03-2018	Posted	✏️
3886	A-oneTech Limited	Assistant Mechanical Engineer	W	31-03-2018	Posted	✏️
3906	Document On Ready Ltd	Web Programmer	W	30-04-2018	Posted	✏️
3941	TopOne Information Technology Limited	Technical Engineer	G	30-06-2018	Posted	✏️
3942	Lakoo Games Limited	Fullstack Developer	G	30-04-2018	Posted	✏️
3943	Lakoo Games Limited	Growth/Marketing	G	30-04-2018	Posted	✏️
3964	ITE Smartcard Solutions Limited	System Engineer (Trainee)	W	30-04-2018	Posted	✏️
3965	ITE Smartcard Solutions Limited	Electronic Engineer (Trainee)	W	30-04-2018	Posted	✏️
3966	ITE Smartcard Solutions Limited	Mechanical Engineer (Trainee)	W	30-04-2018	Posted	✏️

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

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- Information for Non-local Students ▶

- Career Preparation & Skills ▶

- Programmes & Workshops ▶

- Global Internship Programme (GIP) ▶

- Career Resources

- Career Counselling

- Career Information & Quick Links ▶

Boao Forum for Asia Annual Conference 2018 博鰲亞洲論壇2018年年會– Call for Volunteers *5 February 2018*

■   Dear UG Students,   The Boao Forum for Asia (BFA) will organize its Annual Conference 2018 from 8 to 11 April in Hainan, China. Under ...

CUHK Business School : Alumni Sharing Session - Property Leasing *5 February 2018*

■ Dear Students,   CUHK Business School (Faculty of Business Administration) is inviting registration for its Alumni Sharing Session - Property ...

Working in Japan (BizReach, Mizuho Financial Group and SoftBank) *5 February 2018*

■ Dear Students,   The following companies are offering graduate opportunities to work in Japan. Details are shown as below.   ...

Allegiance Limited - Book Translation Intern *5 February 2018*

■ Dear Students,   Allegiance Limited is inviting applications for its Book Translation Intern. Hereunder please find the job descriptions and ...

The Garden Company Ltd - Management Trainee Program *2 February 2018*

■ Dear Students,   The Garden Company Limited is inviting applications for its Management Trainee Program. Hereunder please find the jo ...

Hong Kong Television Network Ltd - Management Trainee Program *2 February 2018*

■ Dear Students,   Hong Kong Television Network Limited is inviting applications for its Management Trainee Program. Hereunder please find the job ...

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AlphaSights (Hong Kong) Case Competition 2018 *2 February 2018*

■   Dear Students,   AlphaSights (Hong Kong) Case Competition 2018 is now inviting applications. The Competition allows students to learn ...

4. COURSE OFFERING IN 2019-20

- Report on Stream Declaration 2018-19
  (1) Medical Instrumentation and Biosensors
  (2) Biomedical Imaging, Informatics and Modeling
  (3) Molecular, Cell and Tissue Engineering

Declaration of Streams (2018-19)

11%

28%

17%

44%

■ Biomedical Imaging, Informatics and Modeling

■ Medical Instrumentation and Biosensors

■ Molecular, Cell and Tissue Engineering

■ No declaration
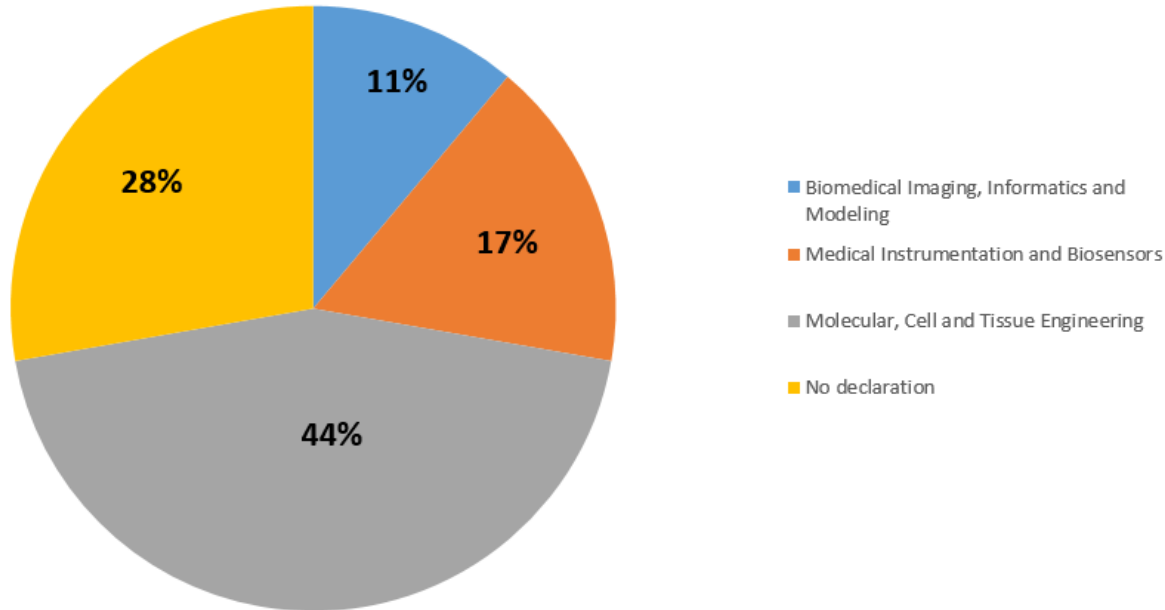
(1) Medical Instrumentation and Biosensors

- For Cohort 2016-17 and thereafter, at least 12 units chosen from the following courses

- BMEG4998 and 4999 in an approved topic relevant to the Stream

Elective Courses
- BMEG3130 Tele-Medicine and Mobile Healthcare
- BMEG3210/ESTR3212 Biofluids
- BMEG3330 Neuroengineering
- BMEG3420 Medical Robotics
- BMEG4220 Body Sensor Networks
- BMEG4330/ESTR4201 Advanced Imaging and Spectroscopy Techniques in Biomedicine
- BMEG4410/ESTR4203 BioMEMS
- BMEG4450/ESTR4202 Bionanotechnology
- BMEG4520 Cardiovascular Engineering
- BMEG4540 Electrophysiology
- ELEG3201/ESTR3200 Microelectronic Devices and Circuits
- ENGG2120 Introduction to Digital and Microprocessor Systems
- CSCI courses

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*Please refer to the Study Scheme on BME's website (http://www.bme.cuhk.edu.hk/new/undergrad-students.php)

(2) Biomedical Imaging, Informatics and Modeling

- For Cohort 2016-17 and thereafter, at least 12 units chosen from the following courses

- BMEG4998 and 4999 in an approved topic relevant to the Stream

Elective Courses
- BMEG3102 Bioinformatics
- BMEG3103 Big Data in HealthCare*
- BMEG3105 Data Analytics for Personalized Genomics and Precision Medicine*
- BMEG3120 Database and Security for Biomedical Engineering
- BMEG4103 Biomedical Modelling
- BMEG4320/ESTR4200 Biomedical Imaging Applications
- BMEG4330/ESTR4201 Advanced Imaging and Spectroscopy Techniques in Biomedicine
- CSCI courses

*New Course- subject to approval by Faculty Board

(3) Molecular, Cell and Tissue Engineering

- For Cohort 2016-17 and thereafter, at least 12 units chosen from the following courses
- BMEG4998 and 4999 in an approved topic relevant to the Stream

Elective Courses

- BIOL2120 Cell Biology
- BMEG3210/ESTR3212 Biofluids
- BMEG4410/ ESTR4203 BioMEMS
- BMEG4450/ESTR4202 Bionanotechnology
- BMEG4510/ESTR4204 Biomolecular Engineering
- BMEG4530/ESTR4214 Musculoskeletal Tissue Engineering
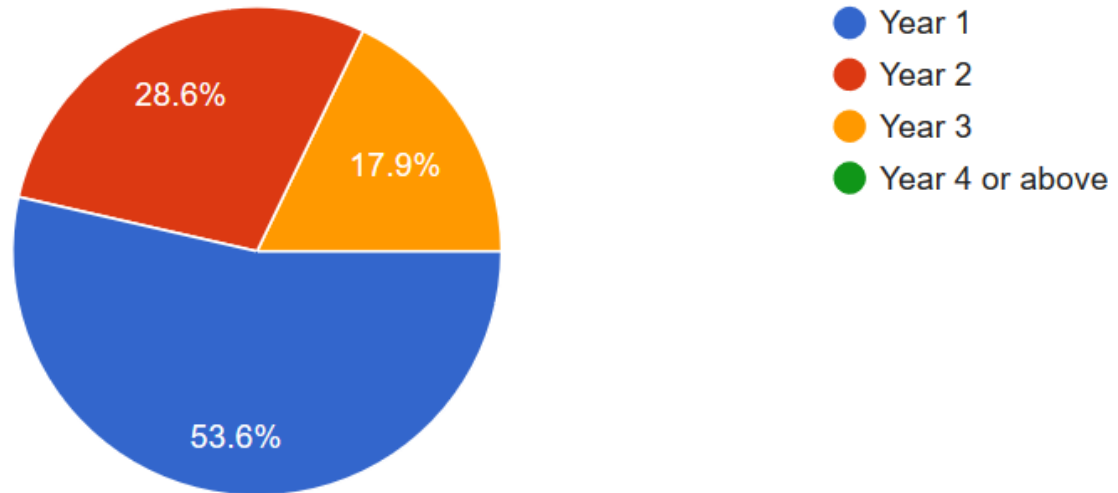- MBTE4320 Genetic Engineering
- CSCI courses

4. COURSE OFFERING IN 2019-20

Report on Survey Results

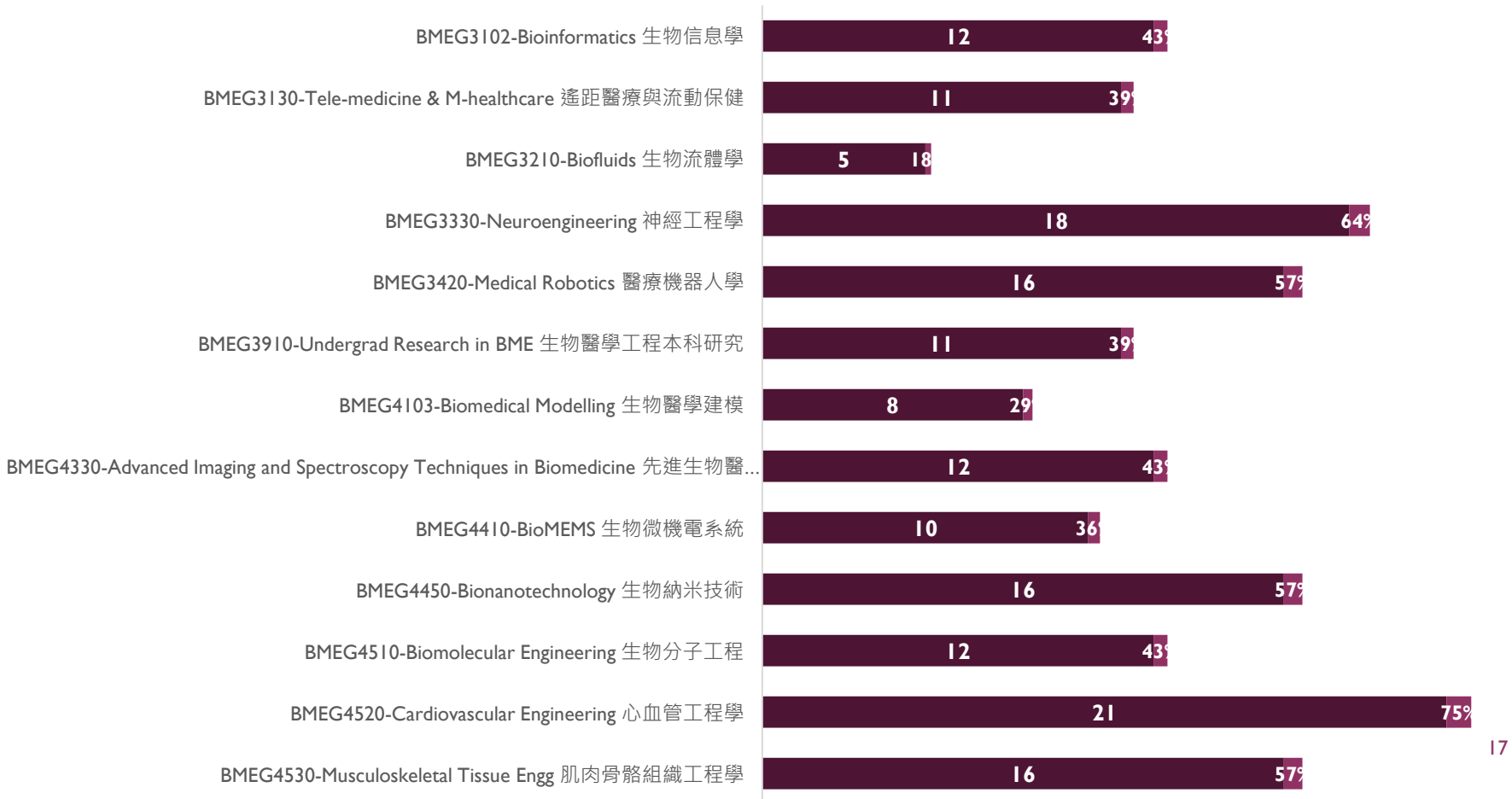• 28 students responded to the BMEG Elective Courses in 2019-20 survey

Year of Study

28 responses

Legend:
- Year 1
- Year 2
- Year 3
- Year 4 or above

Pie chart values: 53.6%, 28.6%, 17.9%

4. REPORT ON SURVEY RESULT FOR ELECTIVE COURSES IN 2019-20

Survey for 2019-20 Elective Courses (including current Year 1 students)

Course	Count	Percent
BMEG3102-Bioinformatics 生物信息學	12	43%
BMEG3130-Tele-medicine & M-healthcare 遙距醫療與流動保健	11	39%
BMEG3210-Biofluids 生物流體學	5	18%
BMEG3330-Neuroengineering 神經工程學	18	64%
BMEG3420-Medical Robotics 醫療機器人學	16	57%
BMEG3910-Undergrad Research in BME 生物醫學工程本科研究	11	39%
BMEG4103-Biomedical Modelling 生物醫學建模	8	29%
BMEG4330-Advanced Imaging and Spectroscopy Techniques in Biomedicine 先進生物醫...	12	43%
BMEG4410-BioMEMS 生物微機電系統	10	36%
BMEG4450-Bionanotechnology 生物納米技術	16	57%
BMEG4510-Biomolecular Engineering 生物分子工程	12	43%
BMEG4520-Cardiovascular Engineering 心血管工程學	21	75%
BMEG4530-Musculoskeletal Tissue Engg 肌肉骨骼組織工程學	16	57%

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4. REPORT ON SURVEY RESULT FOR ELECTIVE COURSES IN 2019-20

Survey for 2019-20 Elective Courses (excluding current Year 1 students)

Course	Count	Percentage
BMEG3102-Bioinformatics 生物信息學	5	38%
BMEG3130-Tele-medicine & M-healthcare 遙距醫療與流動保健	3	23%
BMEG3210-Biofluids 生物流體學	1	8%
BMEG3330-Neuroengineering 神經工程學	5	38%
BMEG3420-Medical Robotics 醫療機器人學	7	54%
BMEG3910-Undergrad Research in BME 生物醫學工程本科研究	4	31%
BMEG4103-Biomedical Modelling 生物醫學建模	3	23%
BMEG4330-Advanced Imaging and Spectroscopy Techniques in Biomedicine 先進生物醫學成…	7	54%
BMEG4410-BioMEMS 生物微機電系統	7	54%
BMEG4450-Bionanotechnology 生物納米技術	7	54%
BMEG4510-Biomolecular Engineering 生物分子工程	3	23%
BMEG4520-Cardiovascular Engineering 心血管工程學	9	69%
BMEG4530-Musculoskeletal Tissue Engg 肌肉骨骼組織工程學	6	46%

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4. COURSE OFFERING IN 2019-20 FOR OUR CONSIDERATION

Course Code	Course Title	Unit(s)	2017-18	2018-19	2019-20 (Pending)	2020-21 (Pending)
BMEG3102	Bioinformatics	3	Term 2	Term 2	Term 2	Term 2
BMEG3103*	Big Data in HealthCare	3	-	-	To be confirmed	To be confirmed
BMEG3105*	Data Analytics for Personalized Genomics and Precision Medicine	3	-	-	To be confirmed	To be confirmed
BMEG3130	Tele-Medicine and Mobile Healthcare	3	X	Term 1	X	Term 1
BMEG3210/ESTR3212	Biofluids	3	X	Term 2	X	X
BMEG3330	Neuroengineering	3	Term 2	Term 2	Term 2	Term 2
BMEG3420/ESTR4200	Medical Robotics	3	Term 2	Term 2	To be confirmed with similar subject	To be confirmed with similar subject
BMEG3910	Undergraduate Research in Biomedical Engineering	3	Term 1/2	Term 1/2	Term 1/2	Term 1/2
BMEG4103	Biomedical Modelling	3	Term 1	X	X	To be confirmed
BMEG4330/ESTR4201	Advanced Imaging and Spectroscopy Techniques in Biomedicine	3	X	Term 2	?	Term 2
BMEG4410/ESTR4203	BioMEMS	3	Term 1	X	Term 1	Term 1
BMEG4450/ESTR4202	Bionanotechnology	3	Term 2	Term 2	Term 2	Term 2
BMEG4510/ESTR4204	Biomolecular Engineering	3	Term 1	Term 1	X	Term 1
BMEG4520	Cardiovascular Engineering	3	X	X	To be confirmed	To be confirmed
BMEG4530/ESTR4214	Musculoskeletal Tissue Engineering	3	Term 2	Term 2	Term 2	Term 2

**New Course- subject to approval by Faculty Board

4. COURSE OFFERING IN 2019-20 FOR OUR CONSIDERATION

Suggestions from students:-

- Neuroengineering is particularly interested

- Biomedical enterprising (There are some enterprising courses in Faculty, Why don't consider)

From Department:-

- BMEG3105 Data Analytics for Personalized Genomics and Precision Medicine

- BMEG 4520 Cardiovascular Engineering

- We will like to collect more information.

4. COURSE OFFERING IN 2019-20

NEW! BMEG1217 Bionic Human and the Future of Being Human

- BME students are NOT ALLOWED to take UGEB1217 according to University regulations

- Double-coded with UGEB1217 ➡ BMEG students are ALLOWED to take BMEG1217 as a free elective course

- BME students are not allowed to use BMEG1217 to substitute UGEB1217, students still required to fulfill the GE foundation course requirement for their graduation requirement

- Course Offering: 2019-20 (tentative)

4. COURSE OFFERING IN 2019-20

BMEG1217 Bionic Human and the Future of Being Human

Course Description

This course exposes students to a range of state-of-the-art developments in biomedical engineering. It invites students from various disciplines to discuss the long-term societal impacts and ethical implications of these technological advances, particularly in human enhancements beyond therapy. The course starts by illustrating the many amazing designs in our human body and yet how vulnerable we are in terms of injuries, diseases and ageing. Examples will be given on how modern biomedical engineering helps us face our human conditions are, such as musculoskeletal prosthetics, cardiovascular implants, neuroengineering, stem cells and regenerative medicine, genome editing, bionanotechnology, artificial intelligence, and artificial vision, etc. The course would include a brief account of human quest for "living" machine, including a few modern movies on bionic human. The course wraps up with some social, ethical and philosophical reflections on the above issues and on the meaning of being human, raising questions concerning the perennial human quest of becoming super human.

4. COURSE OFFERING IN 2019-20

NEW! BMEG3103 Big Data in HealthCare

- New Elective Course

- New Elective Course in Biomedical Imaging, Informatics and Modeling (BIIM) Stream

- Course Offering: To be confirmed

Course Description:

This course will cover clinical ontologies and standards, clinical databases, electronic health record systems, event reporting systems, real-time monitoring systems, acquisition and mining of data from portable medical devices, heterogeneous data integration, topic models for free-text medical records, trend analysis and medical recommendation systems. Students form teams from different disciplines and each team would tackle a particular healthcare big data repository to go through the process of data analytics.

4. COURSE OFFERING IN 2019-20

BMEG3105 Data Analytics for Personalized Genomics and Precision Medicine

- New Elective Course

- New Elective Course in Biomedical Imaging, Informatics and Modeling (BIIM) Stream

- Course Offering: To be confirmed

Course Description:

This course will cover high-throughput experimental methods, standard data processing pipelines, distributed and hardware-accelerated sequence alignment and assembly, pseudo-alignment, integration of heterogeneous sequencing and non-sequencing data, multi-omic analysis methods, genomic sequence compression, identification, annotation and prioritization of genetic variants, and privacy-aware data sharing.

5. COURSE CANCELLATION & ARRANGEMENT IN 2019-20 & 2020-21(1)

(1) Course Cancellation effective from 2019-20

(i) ENGG1100 Introduction to Engineering Design (Faculty Package)

Arrangement for 2018 intake students (have not taken the course) _in 2019-20_:

- Students are advised to take MAEG1020 *"Computational Design and Fabrication"** (3 units)** offered by the Department of Mechanical and Automation Engineering (MAE) for course substitution to fulfill the Major requirement.

- MAEG1020 will offer in Term 1 and Term 2, 2019-20 tentatively

- Students can register the course via CUSIS

Arrangement for other students (failed the course/transfer-in) _after 2019-20_:

- Students who need to take/ retake the course are advised to take either MAEG1020 offered by MAE* or ELEG2700 "Introduction to Electronic System Design*" (3 units) offered by the Department of Electronic Engineering for course substitution to fulfill the Major requirement.

- The course offering term is proposed by the course offering department annually

*The course is subject to approval by the Faculty Board

5. COURSE CANCELLATION & ARRANGEMENT IN 2019-20 & 2020-21(1)

(1) Course Cancellation effective from 2019-20

(ii) **ENGG1410 Linear Algebra and Vector Calculus for Engineers** *(Faculty Package)*

Arrangement *in 2019-20 and thereafter:*

- Students who failed the course(s) will be advised to take another course recommended by the major programme and then arrange for course substitution.

5. COURSE CANCELLATION & ARRANGEMENT IN 2019-20 & 2020-21(1)

(2) Course Cancellation effective from 2020-21 (Foundation Mathematics Courses)

(i)   **ENGG2420 Complex Analysis and Differential Equations for Engineers**

(ii)   **ENGG2450 Probability and Statistics for Engineers**

Arrangement in 2020-21 and thereafter:

- Two courses will be offered for the **last time in 2019-20**

- Students who need to take/ retake the course are advised to take the course in 2019-20

- If students failed the course(s) or who cannot take them in 2019-20 will be advised to take another course recommended by the major programme and then arrange for course substitution.

6. 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 <u>BELOW 12</u> 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

7. GRADUATE EMPLOYMENT SURVEY

2018
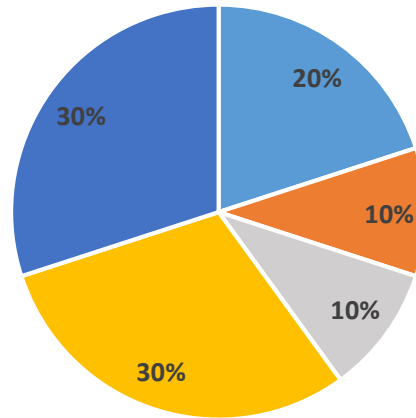
- Sales / Marketing
- Technical Engineering / Product support
- Lab / research
- Further study
- Others

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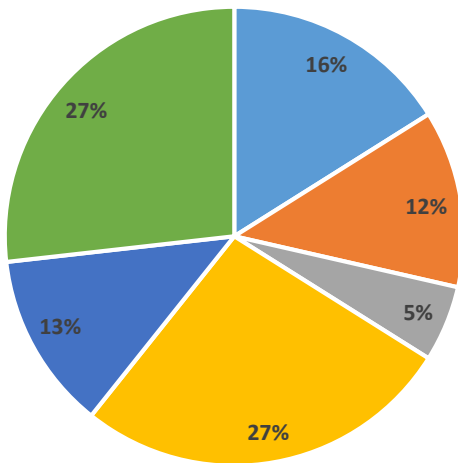
2017

- Sales / Marketing
- Technical Engineering / Product Support
- Lab / research
- Further study
- Others
- No information

16%
12%
5%
27%
13%
27%

2016

- Sales / Marketing
- Technical Engineering / Product Support
- Lab / research
- Further study
- Others
- No information

13%
21%
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16%
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32%
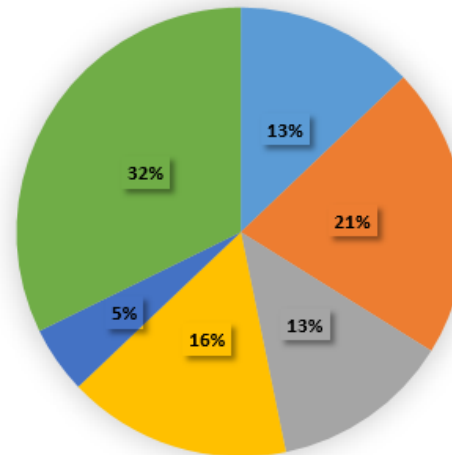
8. BME SOCIETY & ACTIVITIES

Arbitrium - the 9th Biomedical Engineering Society

 cuhkarbitrium

Member	Position
CHEN Chun Hin, Jack	President
LAO King Fung, Anthony	Vice President
LI Tsz Ching, Sharon	External Vice President
FAN Ching Yin, Cynthia	Secretary
NG Wing Fai Sofie	Financial Secretary
LAU Fong Yung, Yolanda	Chung Chi College Representative & General Officer
YAN Tin Lok, Cyrus	New Asia College Representative & Promotion and Publication Officer
TANG Yuman	United College Representative & Promotion and Publication Officer
HUI Ka Ho, Roger	Shaw College Representative & Academics
CHENG Ho Chun, Martin	New College Representative
CHAN Chi Chung, Francis SETO Chun Him Tomas	Recreation & Sports Officer
LAU Yat Yan, Brian	Liaison
NG Wing Sze, Vincy	Welfare

8. BME ACTIVITIES

Alumni Talks
(Jan 2019)

Photo Day
(Mar 2019)

Briefing of Celki VitalAire
Scholarship and Internship
Opportunities (Jan 2019)

Join now for BME updated news!

CUHK Biomedical Engineering

CUHK BME Alumni Association