Teaching Time Tables

Teaching Terms

First term	September 7, 2020 (Mon) – December 18, 2020 (Fri)
Add/Drop	September 7, 2020 (Mon) at 10:00 a.m. – September 21, 2020 (Mon) at 5:30 p.m.
Course Examination	The **LAST** lesson of the course (to be confirmed)
Second term	January 11, 2021 (Mon) – May 7, 2021 (Fri)
Add/Drop	January 11, 2021 (Mon) at 10:00 a.m. – January 25, 2021 (Mon) at 5:30 p.m.
Course Examination	The **LAST** lesson of the course (to be confirmed)

No Summer Term to be offered

Timetable of Required and Elective Courses

	1st Term, 2020-2021 (Period: September 7, 2020 (Mon) – December 18, 2020 (Fri))					
Day	Monday	Tuesday	Wednesday	Thursday	Friday	To be arranged by supervisor
Course code	BMEG5710	BMEG5720	BMEG5820	BMEG5760	BEMG5540	BMEG5920
	Required	Required	Elective	Elective	Elective	Elective
	2nd Term, 2020-2021 (Period: January 11, 2021 (Mon) – May 7, 2021 (Fri))					
Day	Monday	Tuesday	Wednesday	Thursday	Friday	To be arranged by supervisor
Course code	BMEG5750	BMEG5850	BMEG5840	BMEG5790	BEMG5830	BMEG5930
	Elective	Elective	Elective	Elective	Elective	Elective

** Students are allowed to take up TWO elective courses from the specified group, subject to approval of Divisions/Units concerned. For course detail from specific group, please refer the Curriculum Structure.

Course Information

1st Term, 2020-2021 (Period: September 7, 2020 (Mon) – December 18, 2020 (Fri))

- BMEG 5540
- BMEG 5710
- BMEG 5720
- BMEG 5760
- BMEG 5820
- BMEG 5920

BMEG 5540

Course Code:	**BMEG 5540**
Course Title:	**BioMEMs and Biophotonics**
Day of Week:	Friday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	Online Teaching
Course Outline:	Review of physical properties of light. Optical sources and detectors. Interaction between light and biological materials. Introduction to cell and tissues, DNA and protein. Photo-absorption, emission and spectroscopy. Bio-imaging principles and techniques. Modeling of light-tissue interaction. Light-activated therapy. Micro-array technology. Laser tweezers. Emerging biophotonic technologies.

BMEG 5710 (Required Course for Year 1 Student)

Course Code:	**BMEG 5710**
Course Title:	Introduction to Biomedical Engineering
Day of Week:	Monday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	Online Teaching
Course Outline:	Definition, scope, basic principles and problems in biomedical engineering. Applications of technology to medicine and biology. Contemporary issues and roles of engineering applied to complex biological systems. Brief description of professional ethics.

BMEG 5720 (Required Course for Year 1 Student)

Course Code:	**BMEG 5720**
Course Title:	Basic Biomedical Science

Day of Week:	Tuesday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	Online Teaching
Course Outline:	This course introduces students to the structure and function of anatomy, physiology, and chemical constituents of living systems. The course provides a system-based review of the structure and function, normal as well as abnormal, of cells, organs and systems. Emphases will be placed on those structures/functions that are important in biomedical engineering. Case studies will also be included to introduce the importance of medical sciences related to biomedical engineering.

BMEG 5760

Course Code:	**BMEG 5760**
Course Title:	**Bioelectronics and Nanotechnology**
Day of Week:	Thursday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	Online Teaching
Course Outline:	Introduction to MEMS and Nanotechnology, with focus on biomedical applications. Recent developments in BioMEMS, including micro-fluidic systems, integrated DNA analysis chips, and micro-fabricated bio-detection and cell-sorting systems. Recent advances in nanoscale biomedical applications, including AFM based bio-manipulation and bio-sensing, soft-lithography for DNA, proteins and cells, self-assembly of peptides and proteins, nanoscale drug delivery systems, and bio-nano-informatics fusion.

BMEG 5820

Course Code:	**BMEG 5820**
Course Title:	Virtual Medicine and Computer Aided Surgery
Day of Week:	Wednesday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	Online Teaching
Course Outline:	Image guided surgery, including CT base, fluoro-image, and others; non-image guided surgery. Introduction to clinical applications. Virtual reality and surgical simulation. Augmented reality and image-guided minimally invasive surgery. Use of telerobotics in surgery. Surgical navigation.

BMEG 5920

Course Code:	**BMEG 5920**
Course Title:	M.Sc. Project I
Period:	To be arranged by supervisors
Day of week:	Meetings will be arranged between students and supervisors
Course Outline:	The objective of this course is for students to get hands-on practical experience. Each student is required to design, simulate or test a medical device/algorithm/bioinformatics database.

2nd Term, 2020-2021 (Period: January 11, 2021 (Mon) – May 7, 2021 (Fri))

- BMEG 5750
- BMEG 5790
- BMEG 5830
- BMEG 5840
- BMEG 5850
- BMEG 5930

BMEG 5730

Course Code:	**BMEG 5730**
Course Title:	Medical Devices and Sensor Networks
Day of Week:	Monday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	To be confirmed
Course Outline:	Origins of physiological signals. The mechanisms of bioelectrical, biochemical, biophysical, and biophotonic sensors. The principles of wearable medical devices for homecare and mobile health care system. Features of body sensor networks (BSN). Security issues for BSN. Multi-sensor data fusion for BSN. Wearable and implantable sensor integration. Wearable devices and sensors for monitoring, diagnosis, therapy, spots, etc. Applications of medical devices, biosensors, and BSN.

BMEG 5790

Course Code:	**BMEG 5790**
Course Title:	Bioinformatics
Day of Week:	Thursday

Period:	6:45 p.m. - 9:45 p.m.
Venue:	Room 1022, William M.W. Mong Engineering Building, CUHK
Course Outline:	This course covers DNA and protein bioinformatics. It introduces basic programming techniques, sequence analysis, including alignment of sequence, database search, statistical analysis, phylogenetic trees, scoring matrices, pattern recognition, clustering and structural prediction in bioinformatics.

BMEG 5830

Course Code:	**BMEG 5830**
Course Title:	Medical Imaging
Day of Week:	Friday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	To be confirmed
Course Outline:	The course introduces various diagnostic medical imaging modalities, such as projection radiography, conventional X-ray, computerized tomography (CT), nuclear medicine (PET and SPECT), ultrasound, and magnetic resonance imaging (MRI). Each of these modalities will be introduced from basic physical principles to the process of image formation. This course also reviews the basic signal processing techniques. Image processing and analysis will be introduced.

BMEG 5840

Course Code:	**BMEG 5840**
Course Title:	Biomedical Engineering Laboratories
Day of Week:	Wednesday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	To be confirmed
Course Outline:	This course aims to provide students from different science & engineering backgrounds opportunities to learn how to fabricate simple medical materials and devices, how to collect data on human subjects and other biological samples, and how to analyze the results to address various health-related issues. The course starts with a series of lectures on the principles underpinning each of the planned laboratory modules. Students will then form teams to conduct a number of hand-on laboratory modules in different areas of biomedical engineering to achieve the course aims and learning outcomes. Examples of laboratory modules include fabrication of basic biomedical device for biosignal acquisition, advanced electrophysiological techniques, fabrication of biomaterials for drug deliveries, PCR and gel electrophoresis, confocal fluorescence microscopy, functional MRI data processing, biomedical imaging for musculoskeletal

	applications, measurement of interfacial pressure at body support surfaces, electromyography & exoskeleton hand robot, etc.

BMEG 5850

Course Code:	**BMEG 5850**
Course Title:	Medical Device Regulatory Affairs and Intellectual Property
Day of Week:	Tuesday
Period:	6:45 p.m. - 9:45 p.m.
Venue:	To be confirmed
Course Outline:	This course provides an overview on medical device regulation and intellectual property. Regulatory affairs is how to get a medical product registered in different countries' health authorities. A registered product would demand a lot of technical documentation to prove its efficacy, safety, and quality. To successfully and smoothly register a product, knowledge and skills are required to deal with various key stakeholders in governments, testing centers, hospitals, and medical doctors. Intellectual Property, such as patent, is to protect the invention and to support licensing their rights to manufacturers in the medical device industry.

BMEG 5930

Course Code:	**BMEG 5930**
Course Title:	M.Sc. Project
Period:	To be arranged by supervisors
Day of week:	Meetings will be arranged between students and supervisors
Course Outline:	The objective of this course is for students to get hands-on practical experience. Each student is required to design, simulate or test a medical device/algorithm/bioinformatics database.

General Information

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

A. Suspension of Classes (except medical students at the Prince of Wales Hospital)

(a) If the local storm warning signal No. 8 or above or the black rainstorm signal is issued at the following hours, classes will be suspended as appended below:

Signal	Classes of	Sessions/Periods

issued by	Programme affected	suspended
7:00 a.m.	(a) All Postgraduate Programmes (other than those specified below)	8:30 a.m. - 1:15 p.m.
12:00 noon	(a) All Postgraduate Programmes (other than those specified below)	1:30 p.m. - 6:15 p.m.
	(b) Executive MBA Programme (for Saturday classes)	2:00 p.m. - 6:45 p.m.
5:00 p.m.	(a) All Postgraduate Programmes (other than those specified below)	From 6:30 p.m. onward
	(b) All Postgraduate Programmes run by the Faculty of Medicine	Evening sessions

(b) If the local storm warning signal No. 8 or above or the black rainstorm signal is issued during a class period, all classes will be suspended immediately. When the black rainstorm signal is still in force, staff members and students are advised to take shelter at a safe place until the weather and traffic conditions have improved.

(c) Public announcements on suspension of classes made by the Education Bureau are not applicable to the University.

B. Examination Arrangements

The arrangements for course examinations will be as follows:

Typhoon Signal	Rainstorm Signal	Signal Issued	Examination Arrangements*
No. 1 or No. 3	Amber or Red	-	Examinations to be held as scheduled
No. 8 or above	Black	After the start of the examination	Examinations will continue until the end of the session
		8:00 a.m. or after	All course examinations, daytime postgraduate examinations postponed
		5:00 p.m. or after	Evening examinations of postgraduate programmes postponed