



E3BME001W

(Token- required)

Biomedical Engineering Workshop (Level III): Medical Data Analysis

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Application Deadline
22 Apr 2022 12:00 noon

Result Release
29 Apr 2020

Intended Learning Outcomes

Upon completion of the programme, participants should be able to:

1. Describe the scope and main purpose of Biomedical Engineering.
2. Understand the basic concepts of some selected topics in Medical Data Analysis.
3. Carry out calculations for tumour classification using Weighted Voting method.
4. Recognise that biomedical engineering is a promising area to develop a career.



◆ Introduction

Biomedical Engineering (BME) is an interdisciplinary field in which biology, medicine, and engineering technologies are combined and applied innovatively to solve human health problems. This workshop will first give a brief overview of BME. Then, an area of BME – Medical Data Analysis – will be introduced. Selected topics in it will also be discussed, e.g. analysis of DNA microarray data, brain signal processing, and brain-computer interface.

Remark: This workshop has 70% content the same as Biomedical Engineering Talk (Level I): Medical Data Analysis (E1BME001T). The 30% added content is mainly about the analysis of DNA microarray data, where more explanation will be given concerning feature extraction and classification steps. Students also need to carry out calculations in a classification method.

The instructor, Dr Gary Tam, has worked on research in Bioinformatics (an area belongs to BME) for about 10 years. His research mainly focused on analysis of DNA microarray data from medical experiments, topics included gene selection, tumour classification and gene regulatory network reconstruction.

◆ Schedule

Session	Date	Time	Venue
1	2 Jul 26 Aug	2:00 p.m. – 5:00 p.m.	Room 204, HKAGE

◆ Target Participants

- S3 to S6 HKAGE student members only in 2021/22 school year
- Class size: 30

◆ Pre-requisite

- Students are recommended to be good at scientific reasoning and mathematical calculation.
- Students need to bring their calculators to the lesson.

◆ Medium of Instruction

English with English handouts

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended the session; AND
- completed all the assignments with satisfactory performance.



◆ Application Procedure

This programme is Programmes with No Screening.

There are no screening questions, written test or other screening methods for this type of programmes.

- Student members can select up to 5 programmes from a list of selection. Applicants have to state the priority when submitting the application. (1st priority, 2nd priority, 3rd priority, etc). 1 token is required for each programme

(For programme list, please refer to the latest Programme Schedule [here](#);

- The application can only be submitted once. After submission of the application, the programme selection and the priority cannot be changed;
- If a student member removes a programme from the application before the application deadline by withdrawal, the choice priority will remain unchanged. (For example: A student has selected three programmes and removed the programme with the 1st priority from the application. The choices of 2nd and 3rd priority will remain unchanged with no promotion in priority);
- We will select the students based on the student's choice of priorities and a randomly generated selection by the computer system. If there is time clash between the applied programme and other programmes with offer, HKAGE will consider if the application will be accepted;
- Student members should avoid applying programmes with time clash;
- The decision of HKAGE on the result of selection should be final.