香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education
香港特別行政區政府教育局資助
Subvented by the Education Bureau, The Government of the HKSAR

E3BTE003C
(Token-required)

Biotechnology Course (Level III):
Unveiling Tricks in Genetics and Microbiology

Dr YK YUE

Application Deadline
18 Dec 2023 12:00 noon

Result Release
22 Dec 2023

Intended Learning Outcomes

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

1. state different forms of microbial contaminants in food or common areas;
2. carry out analytical study on food safety or environmental hygiene study;
3. describe the roles of genetics materials and flow of the genetic information in biota;
4. explain how the genetic defects could be developed and resulted in diseases;
5. discuss the technical concerns in genetic study;
6. reflect critically on food safety and public hygiene.

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

Introduction

When we perform experiments and read scientific articles or news, we may only focus on experiments, or the conclusions of articles. Sometimes, the basic theories may be overlooked; while in other occasions, the concluding remarks could be interpreted from another point of view. In this course, selected “tricks” commonly encountered in genetic and microbial studies will be discussed. For instance, why DNA can be amplified via polymerase chain reaction (PCR), or what hygienic concerns while we are cooking or using disinfectants are. Lectures provide a strong base of knowledge of the topics and related applications. Hands-on experiments allow students to build up practical skills in the focused areas. In group discussion and presentation, students report their findings and ideas. At the end of the course, students can have a comprehensive understanding of genetics and microbiology.

Schedule

Session	Date	Time	Venue
1	6 Jan 2024	9:00 a.m. – 12:00 noon	~~HKAGE~~ Physics Laboratory, Buddhist Kok Kwong Secondary School (MAP)
2		1:00 p.m. – 4:00 p.m.	
3	13 Jan 2024	9:00 a.m. – 12:00 noon	
4		1:00 p.m. – 4:00 p.m.	
5	20 Jan 2024	9:00 a.m. – 12:00 noon	
6		1:00 p.m. – 4:00 p.m.	

Target Participants

- S3 to S6 HKAGE student members in 2023/24 school year
- Class size: 30

Pre-requisite

- Students with primary interest on biology, biotechnology, and biomedical science;
- Biology knowledge of S3 or above level is recommended.

Medium of Instruction

English with English Handouts

Screening

Please answer the screening questions in the online application form.

*The screening questions are designed to help the applicant understands the course level and the course content. The questions must be answered by the student applicant and it can only be attempted once. The answers cannot be changed once the application is submitted. Selection is based on students’ performance in answering the questions. Only students who can demonstrate motivation and knowledge of biotechnology in the screening questions can be enrolled in the programme.

Certificate

E-Certificate will be awarded to participants who have:

- attended at least 5 sessions; and
- completed all the assignments with satisfactory performance.

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