香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education

Probability- When luck meet with Mathematics (MATP1521)

Introduction	Probability concerns the study of uncertain events and its application is highly involved in decision-making in our daily life. However, as a classic topic in Mathematics, Probability is often presented through dull, repeated and complicated lessons in secondary school curriculum. This programme should allow primary students to explore the meaning of probability and investigate real-life activities related to probability. Case-study approach with project-based learning should be adopted so as to strengthen students' analytical ability especially in the areas of probability. Many problems in daily-life involve counting that can be simple or complicated and tedious. Students should learn how to integrate knowledge of counting principles in solving various daily-life problems. The course aims at broadening students' horizons in Mathematics through the study of Probability.
Programme Type / Level	Discrete Math, Probability, Statistics Course (Level 1) (Token-required)
Instructor(s)	Mr. Lo Yat Lung(Caritas Fanling Chan Chun Ha Secondary School, Mathematics Teacher) This programme is co-organized with Caritas Fanling Chan Chun Ha Secondary School.
Pre-requisite	Students should be able to: • Understand the meaning and simple calculation of percentage; • Interpret and construct of simple statistical diagrams.
Target Participants	➢ P4 to P6 HKAGE student members ➢ Class size: 30
Medium of Instruction	Cantonese with Chinese Notes
Certificate	**E-Certificate** will be awarded to participants who have: ❖ Attended **AT LEAST 3** sessions AND ❖ Completed all the assessments with satisfactory performance.
Intended Learning Outcomes	Upon completion of the programme, participants should be able to: • Use various methods to compute probabilities in appropriate ways; • Recognize real-life activities related to probability; • Apply various counting skills in solving practical problems; • Explain basic concepts of probability and use them appropriately.
Screening	Please answer the screening question in the online application form. *The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and the knowledge of

mathematics/probability in the screening question can be enrolled in the programme.

Application Deadline	**5 Aug, 2019 12:00n.n.**	Application Result Release Date	**16 Aug, 2019**

Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.

Schedule

Session	Date	Time	Venue
1	12 Oct	2:00 p.m. – 5:00 p.m.	Caritas Fanling Chan Chun Ha Secondary School*
2	19 Oct		
3	26 Oct		
4	2 Nov		

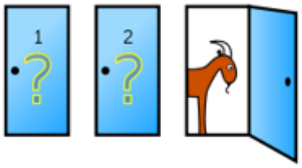
*Address: 28 San Wan Road, Fanling,N.T.(MAP)

Sample Example for the Programme

(1) **Game Theory : Monty Hall problem** (蒙提霍爾問題)

(Source : https://en.wikipedia.org/wiki/Monty_Hall_problem)

(i) Suppose you're on a game show, and you're given the choice of three doors: Behind one door is a car; behind the others, goats. You pick a door, say No. 1, and the host, who knows what's behind the doors, opens another door, say No. 3, which has a goat.



(ii) He then says to you, "Do you want to pick door No. 2?"

Question 1 : Will the chance of winning the car increase if you switch the choice?

Yes / No

Question 2 : If the answer is Yes in question 1, the chance will be increased to _____

Reference

[1] 蕭文強、林建 (2010)
概率萬花筒 教育局「課程發展處數學教育組」

[2] 川久保勝夫 / 高淑珍 譯 (2003)
圖解數學基礎入門 世茂出版社

[3] Amir D. Aczel / 邱文寶 譯 (2006)
大於二分一 - 投資、愛情、生活的獲勝機率日 究竟出版社股份有限公司

[4] 野口哲典 / 張珊 譯 (2010)
你的人生，需要多懂一點機率 漫遊者文化事業股份有限公司

[5] Rob Eastaway and Jeremy Wyndham / 蔡承志 譯 (2014)
一條線有多長 --- 生活中意想不到的 116 個數學謎題 城邦文化事業股份有限公司
How Long is a Piece of String Robson Books

[6] Michael M. Woolfson / 王繼延、吳穎康、程靖、戴浩暉 譯 (2010)
人人都來擲骰子：日常生活中的概率與統計 上海科技教育出版社
Everyday Probability and Statistics : Health, Elections, Gambling and War (2008)
Imperial College Press

Enquiries For enquiries, please contact us at 3940 0101 after language selection, press "1".