



Handling Sequences and Series (MATS2410)

Introduction

Sequences and series appear occasionally in our daily life such as growth and depreciation, numbers of victims in disease outbreaks, etc. On the other hand, sequence of numbers is always an intersecting topic at both primary and secondary levels. In this course, special types of sequences and series with their formulae will be introduced and students will learn how to make use of those formulae to handle sequences and series. Also, they will learn how to solve problems related to this topic.

This is the second programme in the **Subject Core Series** which is comprised of four level 2 programmes. They are namely

1. Equations and Identities (MATS2220)
2. Handling Sequences and Series (MATS2410)
3. Plane Geometry (MATS2310)
4. Quadratic Functions and Standard Conics (MATS2610)

MATS2220 and MATS2310 will be held in Jun and Jul 2019 respectively while MATS2610 is scheduled to be held in Dec 2019. For details, please refer to the programme flyer to be posted in due course.

Programme Type / Level

Numbers and Arithmetic Course (Level 2) ([Token-required](#))

Instructor(s)

Mr Tse Siu On

Pre-requisites

Students should have the basic knowledge in

1. algebraic manipulations such as addition and multiplication of polynomials, factorisation, simplification of rational expressions, etc;
2. theories on quadratic equations such as finding roots, nature of roots and sum and product of roots;
3. basic properties of indices and logarithm and know how to solve equations and inequalities involving logarithm and index variables.

Target Participants



- S1 – S3 HKAGE student members
- Class size: 50

Medium of Instruction



Cantonese with English handouts

Certificate



E-Certificate will be awarded to participants who have:

- ❖ Attended **at least 3 sessions AND**
- ❖ Completed all assignments with **satisfactory performance** in the course tests

Intended Learning Outcomes



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

1. Understand the general term of a sequence;
2. Formulate the general term of an arithmetic or geometric sequence;
3. Evaluate the sum of finite terms of an arithmetic or geometric series;
4. Evaluate the infinite sum of a geometric series whenever exists.

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 basic knowledge of sequences and series in the screening question can be enrolled in the programme.

Application Deadline

6 May 2019 12:00 n.n

Application Result Release Date

17 May 2019

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

Schedule



| Session | Date | Time | Venue (HKAGE) |
|---------------------------|-------|-----------------------|---------------|
| 1 | 2 Aug | 2:00 p.m. – 5:00 p.m. | Room 105 |
| 2 Cancelled | 5-Aug | | |
| 3 | 7 Aug | | |
| Make-up | 8 Aug | | |
| 4 | 9 Aug | | |

Remarks: For any assessment to be held in the programme, no make-up will be arranged.

Sample Examples for the Programme

Eg. 5 A poor man **Mr P** is employed by a harsh rich man **Mr R** as a safety guard at Mr R's house and they have signed a 3-year **contract** with the following conditions:

- (1) Mr P should pay Mr R for his daily meals and accommodation with \$1000 on the first day and then **increased by \$1000** next day. (i.e. \$2000 in the second day, \$3000 in the third day and so on.)



- (2) Mr R will pay Mr P for his monthly salary with 1 cents for the first month and then **doubled** next month. (i.e. 2 cents in the second month, 4 cents in the third month and so on.)

After the end of the contact, find out who should pay the other and how much should be paid correct to the nearest dollar. (assume 1 year = 12 months = 365 days)



Enquiries



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