



E2AST003C

(Token-required)

Astronomy Course (Level II): Mars – Our First Space Colony

Teachers of Galaxy Scientific Group



Application Deadline
2 May 2023 12:00 noon

Result Release
12 May 2023

Intended Learning Outcomes

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

1. apply the three Kepler's laws of planetary motion;
2. design a trajectory for a manned mission to Mars using physics and mathematics;
3. explain the latest technological developments in manned mission to Mars;
4. set up a telescope and use a planisphere;
5. discuss ethical issues in space exploration.

◆ Introduction

The rise of private space enterprise and new rocket development have made human mission to Mars closer to reality than ever. This course provides a guide to designing a manned mission to Mars using laws of physics and mathematics. Students can also experience space exploration through simulator and digital planetarium.

Remarks: An 80-hour Advanced Learning Programme Series in Astronomy (A4AST001C, A4AST002C, and A4AST003C) would be provided in Sep 2023 – Apr 2024 (tentative). It is suitable for students who have a keen interest in astronomy. Please refer to our website for the latest information.

◆ Schedule

Session	Date	Time	Venue
1	19 Aug	2:00 p.m. – 5:00 p.m.	Room 403, HKAGE
2		6:00 p.m. – 9:30 p.m. ^[1] 6:00 p.m. – 9:00 p.m. ^[3]	Galaxy Scientific Group Activity Centre at So Kwun Wat ^[2] Room 105, HKAGE, and Tai Po Waterfront Park HKFYG Jockey Club Sai Kung Outdoor Training Camp ^[3]
3	26 Aug	2:00 p.m. – 5:00 p.m.	Room 403, HKAGE
4		6:00 p.m. – 9:30 p.m. ^[1]	Galaxy Scientific Group Activity Centre at So Kwun Wat ^[2]

Addresses: ^[2] DD378 Lot 389 (Ching Uk Tsuen), So Kwun Wat, Tuen Mun, New Territories

^[3] DD256, Tai Mong Tsai Road, Sai Kung

Remarks:

- In the two evening classes, stargazing will be organised. The instructor has already arranged a chartered shuttle bus for pick-ups between HKAGE and stargazing location. Evening classes will be dismissed at HKAGE. Details will be explained during class.
- ^[1] The evening stargazing activity may be cancelled (or postponed to a later date) due to inclement weather. In case if the stargazing is cancelled, the evening class will be conducted in HKAGE (Room 105) with time 6:00 p.m. – 9:00 p.m. Students please watch out for the instructor's announcement in the afternoon class, and inform parents about earlier class ending (9:00 instead of 9:30) if needed.
- ^[3] The evening stargazing activity on 19-Aug evening will be dismissed at HKAGE at 9:00 p.m. (instead of 9:30).

◆ Target Participants

- S1 to S3 HKAGE student members in 2022/23 school year
- Class size: 35

◆ Pre-requisite

No special prerequisites are needed

◆ 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 astronomy in the screening questions can be enrolled in the programme.

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended at least 3 sessions; and
- completed all the assignments with satisfactory performance.