SISP 1116
Astronomy for Beginners

Course description

The course aims to provide beginners with a comprehensive understanding of the history and fundamental concepts of astronomy. By the end of the course, students will have a greater appreciation of the universe's complexity and also understand how some everyday life phenomena and cultural practices are related to astronomy. Key topics include the history of astronomy, lunar phase, eclipses and seasons, Newton's law of gravitation and Kepler's laws, stellar evolution, galaxies and the big bang model.

Topics

- The principle and ancient root of science and astronomy
- Geocentric models and celestial sphere
- Copernican revolution
- Sidereal day and solar day, lunar phases and tides, eclipses, seasons
- The solar system
- Newton's law of gravitation and Kepler's laws
- Main sequence stars, white dwarfs, neutron stars, and black holes
- Milky Way galaxy, supermassive blackholes in galactic centers
- Dark matter and the big bang model
- Dark energy and the fate of the Universe.

Grading Scheme

- In-class quizzes (30%)
- Final Exam (70%)

[Topics and grading schemes are subject to change as deemed appropriate. Students will receive information and guidelines in class on how they will be assessed for the course.]

Teaching mode

The course will be delivered face-to-face

Attendance Requirement Class

Attendance is expected and required. The minimum attendance required is 70%. Attendance for the assessment activities [e.g. group presentation and final exam] is mandatory.

Instructor(s) Profile

Prof. CHEN Tian Wen

Prof. Chen Tian Wen received his Ph.D. at the Chinese University of Hong Kong. He is currently an Associate Professor of Science and Education in the Department of Physics, HKUST. Prof. CHEN has been very actively involved in UG/PG education of the department and training of the Hong Kong Physics Olympiad team, and is also in charge of training Physics UG students to take part in outreach activities.