Course Description

This course discusses many examples where simple and basic physics theories are used to understand everyday applications and phenomena. Topics include atoms and heat, force and gravity, radioactivity and nuclear power, visible light and invisible light, mechanical waves and sound, the greenhouse effect, etc.

Topics

1. Atoms and Heat
2. Force and Gravity
3. Radioactivity and Nuclear Power
4. Visible Light and Invisible Light
5. Mechanical Waves and Sound
6. The Greenhouse Effect; Documentary
7. Daily Applications of Physics in Entertainment, Transportation, and Medicine

Grading Scheme

- Attendance (10%)
- Essay (30%)
- Final examination (60%)

[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.]

Instructor

Dr. Yee Fai NG

Dr. Ng is a Teaching Associate in Physics at HKUST. He received his PhD in Surface Physics from the University of Hong Kong. He is experienced in developing and teaching courses ranging from UG to MSc level, including large-scale Common Core courses (Physics and the Modern Society, Physics in Movies) and Experiential Learning courses (Teaching Science Using Innovative Teaching Tools). Besides teaching at university, he has been promoting science to secondary school students by teaching at the Center for the Development of the Gifted and Talented (Pre-stage Level Physics), the Summer Institute (Physics of Everyday Life), and the Physics Olympiad. Dr. Ng also gives various talks on popular science for the public, secondary school students, and University staff (at the InnoCarnivals, the HKUST-John Hopkins Center for Talented Youth Family Academic Program, the Sidewalk Scientist on TVB; the JUPAS Inspiring Science Talks, the Summer Camp Sample Lectures, the Women in Science and Engineering Discovery Mini-lectures; the Common Core Peer Sharing, the One-day Schooling).