THE CHINESE UNIVERSITY OF HONG KONG
Earth System Science Programme

Announcement for Students
2019-20 Summer Term

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ESSC4210 Land-Atmosphere Interactions and Boundary-Layer Meteorology is an in-depth look on how the land surface (including soil, vegetation, urban roads and buildings) strongly influences daily weather phenomena, air pollution episodes, and long-term evolution of the climate system. This course is recommended for students with sufficient physics and mathematics background who are interested in meteorology, climatology and atmospheric chemistry, and those planning to pursue a career in related fields. See more info below.

If you have any questions about any of ESSC courses, feel absolutely free to contact Prof. Amos Tai (amostai@cuhk.edu.hk).

ESSC 4210 – Land-Atmosphere Interactions and Boundary-Layer Meteorology
Pre-requisite: ESSC2020 or ESSC3200 or permission of instructor.
Tue 1430-1715
Thu 1430-1715
This course introduces the physical and chemical processes governing the exchange of energy, momentum, water and other chemical materials between the atmosphere and the land surface, including an formal introduction into boundary-layer meteorology. Topics covered include the fundamental equations governing the momentum, mass and energy conservation and transfer at the land-atmosphere interface; soil physics and hydrometeorology; surface energy balance; theories and observations of atmospheric turbulence; structure and evolution of the atmospheric boundary layer; biometeorology and eddy covariance measurements of vegetated landscapes; pollutant dispersal and urban climatology. Applications to weather phenomena, air pollution, forest and agricultural management will be emphasized throughout.