COURSE DETAIL

MATERIALS FOR ENERGY TECHNOLOGIES

Country Hong Kong

Host Institution Hong Kong University of Science and Technology (HKUST)

Program(s) Hong Kong University of Science and Technology

UCEAP Course Level Upper Division

UCEAP Subject Area(s) Mechanical Engineering

UCEAP Course Number 109

UCEAP Course Suffix

UCEAP Official Title MATERIALS FOR ENERGY TECHNOLOGIES

UCEAP Transcript Title MATERIALS/ENERGY

UCEAP Quarter Units 4.50

UCEAP Semester Units 3.00

Course Description

The societal energy transition from fossil fuels to renewable sources requires novel energy technologies, with material design and engineering at the center of the innovation process. This course explains the enabling materials science and engineering behind advanced energy technologies by answering questions such as why lithium powers our batteries and why it takes silicon to make a solar panel. The course also examines major material challenges of emerging energy technologies. Course topics include: material structure-property correlations used in energy technologies, materials synthesis and fabrication techniques for their incorporation into energy devices, and material evaluation principles in energy applications.

Language(s) of Instruction

English

Host Institution Course Number MECH3110

Host Institution Course Title MATERIALS FOR ENERGY TECHNOLOGIES

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department Mechanical and Aerospace Engineering

<u>Print</u>