SISP 1315

Course Description
The objective of this course is to provide an opportunity for secondary school students to understand our solid waste problems and engineering approaches to turn solid waste into valuable resource, renewable energy and environmental business. It intends to give our students some basic concepts of solid waste management and environmental sustainable development.

Topics
1. Solid Waste Generation and Collection
2. Integrated Solid Waste Management for Waste Valorization
3. Waste Recycling and Charging: How to Make it Effective?
4. Municipal Solid Waste into Renewable Energy
5. Food Waste into Biogas for Automobile Eco-fuel
6. Sustainable Use of Construction and Demolition Waste
7. Circular Economy and Environmental Business

Grading Scheme
- Project Report (40%)
- Presentation (40%)
- Course Participation (20%)

[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
Prof. Irene LO
Prof. Lo is currently a full professor in the Department of Civil and Environmental Engineering at The Hong Kong University of Science and Technology (HKUST) and has been joining HKUST since 1992. Prof. Lo is an elected Academician of the European Academy of Sciences and Arts (EASA). She is the first Hong Kong scholar inducted into the EASA. She is an elected Fellow of the Hong Kong Institution of Engineers (FHKIE), and elected Fellow of the American Society of Civil Engineers (FASCE). She received her Ph.D. degree in Civil (Environmental) Engineering from the University of Texas at Austin in 1992. She is also Adjunct Professor of Tongji University, Tianjin University, Jilin University and Harbin Institute of Technology in China. She had been Visiting Professor of Technical University of Denmark and the University of Wisconsin at Madison. Prof. Lo was the recipient of the 2004 ASCE James Croes Medal, the 2007 ASCE Samuel Arnold Greeley Award, the 2008 EWRI Best Practice-Oriented Paper Award, the 2009 ASCE Wesley W Horner Award, and the 2012 ASCE EWRI Best Practice-Oriented Paper Award. Prof. Lo has held 3 Patents, edited 7 technical books, and published over 280 SCI journal articles and conference papers with citation of 6000+ and H-index of 41. Her research areas include biomass waste treatment and management; remediation technologies for river sediment, contaminated soils and groundwater; magnetic nano- and microparticles for environmental pollution control; and pollutant migration in soils.