

CASE STUDY ANALYSES OF WASTE-TO-ENERGY PROJECTS

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- Lecture:** Tuesday 17:00-17:50 (Lectures), Friday (Field Trips)
- Class room:** Building #38 Room #420
- Contents:** The objective of this course is to understand how the waste-to-energy technologies are applied in fields and acquire the current situation of the technology development. Classes consist of lectures and field trips. Lectures are delivered by the researchers and engineers from research institutes and companies. Students can learn the research and development information, technical problems in fields and solutions. Field trips help students understand how technologies are implemented in fields. Speakers are invited by professor in charge of this course. Students are evaluated based on the exams in lectures and participations in discussion during classes.
- References:** This class does not require any text book. Handouts may be provided depending on subjects.
- Prerequisites:** No prerequisite course
- Term Paper:** Each student has to write a term paper. Topic of term paper is decided by student for one of the field trips in this semester. The written report is around 30 pages including figures, tables, references, and appendices. The due of the term paper is the date of final presentations. The only manuscripts submitted in due date and presented are evaluated. Manuscripts must be written in a neat and orderly fashion as a technical report. Term paper is evaluated by the students not by the instructor. Not only the final reports but also presentations, questions & answers, etc should be considered for evaluation.
- Grading:**
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| Quizzes (for each lecture) | 40% |
| Analysis reports (Field Trips) | 20% |
| Term paper | 20% |
| Attendance | 20% |

2017 Outline:

Week (Date)	Topics	Instructors
1 (Sep. 5)	Class Introduction	Dr. Jae Young Kim (Prof., Seoul National University)
2 (Sep. 12)	Waste Management in Malaysia: An Overview	Dr. Agamuthu Pariatamby (Prof., University of Malaya)
3 (Sep. 19)	Solid Waste Management in Korea	Dr. Jae Young Kim (Prof., Seoul National University)
4 (Sep. 26)	Reduction of Sludge Production - Alternative to Energy Recovery from Waste Sludge	Dr. Duck-Hyun Nam (Principle Research Fellow, Daelim industrial Co., Ltd)
5 (Sep. 29)	[Field Trip] Sludge Reduction Process (Seonam Sewage Treatment Plant) – 10 a.m.	Dr. Ki-Hoon KANG (Principle Research Fellow, Daelim Industrial Co., Ltd)
6 (Oct. 10)	Human feces composting technology in cold climate	B. Shijirtuya (Mongolian Univ. of Science & Tech.)
7 (Oct. 17)	Use of micro-pyrolyzer-GC/MS for polymer analysis and energy production	Dr. Young-Min Kim (Hallym University)
8 (Oct. 24)	Key factors and inhibitors for the biogas plant operation	Myeong Cheol Cha (Halla Energy & Environment)
9 (Nov. 3)	[Field Trip] Kangnam Energy Recovery Facility – 10 a.m.	Myeong Cheol Cha (Halla Energy & Environment)
10 (Nov. 7)	Solid Waste Legislation of Mongolia	E. Nyamjav (Adviser, Mongolia Ministry of Environment and Green Development)
11 (Nov. 14)	Climate Change and Renewable Energy	You Geun Kim (Managing Director, Dohwa Engineering Co., Ltd.)
12 (Nov. 21)	Case Study on Operating Chungju Food Waste Bioenergy Center	Miyeon Oh (Hyundai Engineering & Construction Co., Ltd.)
13 (Nov. 24)	[Field Trip] Sudokwon Landfill Corporation – 10 a.m.	You Geun Kim (Managing Director, Dohwa Engineering Co., Ltd.)
14 (Dec. 1)	[Field Trip] Chungju Food Waste Bioenergy Center – 11 a.m.	Dr. Young-O Kim (Hyundai Engineering & Construction Co., Ltd.)

15 (Dec. 12)	Student Presentations on Waste to Energy Projects	Dr. Jae Young KIM (Prof., Seoul National University)
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