Syllabus for CE 647 Geotechnical Aspects of Solid Waste Management – Fall 2016

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Geotechnical Aspects of Solid Waste Management Syllabus*

1. **Introduction**	**Lecture 1**
2. **Engineering Properties of Municipal Solid Waste**	**Lecture 2**
3. **Landfills and Impoundments**	**Lecture 3**
4. **Principles of Decomposition**	**Lecture 4**
5. **Mass Balance, Leachate and Gas Generation**	**Lecture 5**
6. **Landfill Covers**	**Lecture 6**
7. **Barriers and Liners**	**Lecture 7**
8. **Mid-Term Exam**	**Lecture8**
9. **School Break**	**Lecture 9**
10. **Leachate Collection Systems**	**Lecture 10**
11. **Landfill Gas Collection and Control Systems**	**Lecture 11**
12. **Stability of Waste Landfills – Part A**	**Lecture 12**
13. **Stability of Waste Landfills – Part B**	**Lecture 13**
14. **Settlement of Landfills**	**Lecture 14**
15. **Bio Reactors (as time dictates)**	**Lecture 15**
16. **Final Exam**	**Lecture 16**

- **Selected Solid Waste topics may be substituted for one or more listed lectures.**

Textbook : "Geotechnical Aspects of Landfill Design and Construction" by Xuede Qian, Robert M. Koerner, and Donald H. Gray, 2002 Prentice Hall Publishers, ISBN: 0-13-012506-7

Notes:

1. **Using, viewing or listening to cell phones, tablets or computers is not permitted in class.**
2. **All exams are open book. However, only your book, class notes, HW problems and a standalone calculator may be used for exams. No cell phones or computers are permitted. Please make sure you bring a calculator, straight edge, scale, compass and protractor to each exam.**

Grading Procedure:

Attendance, Class Participation and HW Problems 15% of grade

Midterm 40% of grade

Final Exam 45% of grade