

# Syllabus for MSMGT 785 Waste Management and Resource Recovery

## Course Description

The topics included in this course include the generation, processing, and disposal of municipal, industrial, and agricultural waste materials, along with emerging issues like zero waste, producer responsibility and life cycle assessment. These topics are addressed from a technical, economic and environmental perspective, with an emphasis on beneficial reuse and resource recovery as opposed to traditional waste management. The interdisciplinary nature of this field, as well as its increasing emphasis on sustainability, will also be addressed through discussions, exercises and projects.

## Course Learning Outcomes

1. Develop an understanding of the generation, treatment, and disposal of municipal, industrial, and agricultural wastes.
2. Critically evaluate waste management and resource recovery processes and policies in the United States and other developed and developing countries.
3. Understand the critical linkage that waste management and resource recovery has in achieving sustainability, particularly as it relates to resource efficiency, energy, climate change and human health.
4. Develop communication skills necessary to effectively convey technical, economic, and social information related to waste management.

## Course Materials

Information on course materials can be found in the [textbook section](#) of the SMGT website.

Other reference texts available through the instructor

## Course Requirements

### Class Participation/Discussions

Students are expected to be prepared for class by reading the assigned materials and being active participants in the course discussions. For most weeks of the course, discussion sections will be created where students can respond to the readings, assignments or other course materials for that week. Each student would be expected

to make an initial post on the topic, as well as respond to at least one other student post.

### **Homework Problems/Assignments**

Homework problems and assignments will be given periodically throughout the semester. These assignments are due as listed on the calendar. It should be noted that several of the homework assignments will be sequential. Therefore, it will be necessary to correct any errors on previous assignments to complete those that come later. This will be explained in more detail as the homework problems and assignments are provided to you.

### **Project/Presentation**

During the course of the semester, students will work on individual research projects on a topic closely related to waste management or resource recovery. A final research paper will be submitted to the instructor. This research paper should be 12-15 pages. Comments on the research paper will be provided by the instructor. Based on the instructor's comments, students will develop presentations that will be posted on the course website, where they will be reviewed and evaluated by the instructor and the other students in the course. A project review form used by the instructor will be provided at the beginning of the semester, so the expectations for the project are clearly articulated to the students. Examples of research topics, formatting details, and grading specifics can be found in the course.

### **Critique of Student Presentation**

After the student presentations are submitted, a critique of each presentation will be completed by the other students. This activity will serve two purposes: 1) students will have the opportunity to see the other projects completed during the semester, thereby learning about a more diverse set of waste management related topics, and 2) students will be able to receive feedback from other students in the course on their project, which will be compiled and summarized by the instructor. A project critique form, which will be similar to the project review form, will be provided at the beginning of the semester, so the expectations for the student critique are clearly articulated.

### **Exams**

Exam 1 and Exam 2 will consist of short answer and essay type questions that reflect the materials covered during lecture, provided by guest speakers and covered during field trips. There will also be computational problems on each exam, which will be more closely related to the homework assignments. Exam 2 will **not** be cumulative.

## Grading Policy

Class Participation / Discussions	20%
Homework Problems / Assignments	20%
Project / Presentation	25%
Critique of Student Presentations	5%
Exam 1	15%
Exam 2	15%

A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	64-66
D-	60-63
F	<60