Course Description

Opportunity to study the growing and increasingly intricate problems of controlling and processing the refuse created by urban society. Includes discussion of issues concerning regulations and legislation with major emphasis on solid waste engineering principles.

Course Textbook


Course Learning Objectives

Upon completion of this course, students should be able to:

1. Explain solid waste generation and management in a technological society.
2. Generalize integrated solid waste management economics, legislation, and material flow concepts.
3. Analyze physical, chemical, and biological properties of municipal solid waste and their quantities.
4. Discriminate various waste collection system practices.
5. Assess landfill planning and permitting techniques.
6. Explain the closure, restoration, and rehabilitation of old landfills.
7. Illustrate the phases of municipal solid waste processing.
8. Generalize certain materials separation processes and components.
9. Compare combustion and energy related recovery processes.
11. Describe and explain composting fundamentals, including composting municipal solid waste.
12. Assess current issues concerning solid waste management.

Credits

Upon completion of this course, the students will earn three (3) hours of college credit.

Course Structure

1. Unit Learning Objectives: Each unit contains learning objectives that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. Written Lectures: Each unit contains a Written Lecture, which discusses lesson material.
3. Reading Assignments: Units I, II, III, V, VI, VII, and VIII contain Reading Assignments from one or more chapters from the textbook. Unit IV requires that you find and critique an article of your choosing. Supplemental Reading is provided in Unit I to aid students in their course of study.
4. Key Terms: Key Terms are intended to guide students in their course of study. Units I, II, III, V, VI, VII, and VIII contain Key Terms. Students should pay particular attention to Key Terms as they represent important concepts within the unit material and reading.
5. Discussion Boards: Discussion Boards are a part of all CSU term courses. Information and specifications regarding these assignments are provided in the Academic Policies listed in the Course Menu bar.
6. Unit Assessments: This course contains seven Unit Assessments, one to be completed at the end of Units I, II, III, V, VI, VII, and VIII. Assessments are composed of multiple-choice questions and written response questions.
7. Article Critique - Students are required to submit for grading an Article Critique in Unit IV. Specific information and instructions regarding this assignment are provided below.
8. **Case Study** - Students are required to submit for grading a Case Study in Unit VIII. Specific information and instructions regarding this assignment are provided below.

**Unit IV Article Critique**

The Article Critique assignment for this class is to choose and investigate a peer reviewed article of interest from a professional journal related to solid waste management. The object of your critique is to describe how the study followed or failed to follow the criteria for good research. Speculate on which of the writer’s conclusions were warranted and which were not. Please include the following topics in your critique.

- A brief introduction of the article
- A statement of the research problem
- A description of the research procedures
- Any flaws in the procedural design
- An analysis of the data
- Limited and justifiable conclusions

Your critique should be at least two full pages of text in 12 point double-spaced Times Roman font. Please include an APA style reference for the article that you are reviewing.

The article you select for this assignment should be less than five years old and should be at least five pages long. You are encouraged to utilize the Research Database found in the CSU Online Library located in the Course Menu. This database will allow you to quickly search through thousands of journal articles.

Use the CSU Online Library to locate and review a recent issue of a peer reviewed journal about solid waste management.

- Click on the My Library button
- Select Academic Onefile
- Enter "landfill" or other search term in the "Find" space
- Limit the search to Full text, Peer reviewed, with images (optional)
- Consider limiting the search to articles in the past five years
- Click "Search" or "Go"

Continue to “drill down” until you find an article of interest.

To submit your completed assignment, upload it using the "View/Complete" link located in Unit IV. **Do not e-mail your paper directly to your professor.** By uploading through Blackboard, your university record will automatically be updated to indicate you have submitted your assignment, and it will be provided to your professor for grading.

**Unit VIII Case Study**

Research an article related to the privatization of solid waste management within a city in the United States or another country. You can utilize resources relating to the topic from your textbook, online journal articles, CSU Online Library, and/or Internet Resources. (Please note that Wikipedia is not an acceptable reference source for academic papers)

Analyze the issue of privatization in solid waste management. Outline the current debate between public and private ownership operation in solid waste management. Some options to keep in mind while researching this topic should include the following:

1. Can you argue for or against the privatization of solid waste management?
2. Does privatization improve service quality or reduce cost?
3. How are compactness, road network integrity, collection cost, and regional proximity taken into account when a community decides on whether or not to privatize their solid waste management facility or keep it public?
4. Do you believe that this promotes a competitive bidding market in communities?

Describe your thoughts in detail regarding the subject.
The completed assignment must be a minimum of three pages in length, not including the title page and reference list. The entire assignment must be written following APA style guidelines. Therefore, APA rules for formatting, quoting, paraphrasing, citing and listing of sources are to be followed. A minimum of three references is to be used. A document titled “CSU APA Guidelines Summary” is available for review through the myCSU Student Portal.

To submit your completed assignment, upload it using the “View/Complete” link located in Unit VIII. Do not e-mail your paper directly to your professor. By uploading through Blackboard, your university record will automatically be updated to indicate you have submitted your assignment, and it will be provided to your professor for grading.

APA Guidelines

CSU requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. A document titled “APA Guidelines Summary” is available for you to download from the APA Guide Link, found in the Learning Resources area of the myCSU Student Portal. It may also be accessed from the Student Resources link on the Course Menu. This document provides links to several internet sites that provide comprehensive information on APA formatting, including examples and sample papers.

CSU Grading Rubric for Papers/Projects

The course papers will be graded based on the CSU Grading Rubric for all types of papers. In addition, all papers will be submitted for electronic evaluation to rule out plagiarism. Course projects will contain project specific grading criteria defined in the project directions. To view the rubric, click the Academic Policies link on the Course Menu, or by accessing the CSU Grading Rubric link, found in the Learning Resources area of the myCSU Student Portal.

Grading

- Discussion Boards (8 @ 2%) = 16%
- Unit Assessments (7 @ 9%) = 63%
- Article Critique = 10%
- Case Study = 11%
- Total = 100%

Course Schedule/Checklist (PLEASE PRINT)

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

### Unit I  Integrated Solid Waste Management

- **Review:**
  - ☐ Unit Study Guide
- **Read:**
  - ☐ Chapter 1: Integrated Solid Waste Management
  - **Supplemental Reading:** Environmental Protection Agency ([www.epa.gov](http://www.epa.gov))
- **Discuss:**
  - ☐ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Submit:**
  - ☐ Assessment by Tuesday, Midnight (Central Time)

### Unit II  Solid Waste Characteristics, Quantities, and Collection

- **Review:**
  - ☐ Unit Study Guide
- **Read:**
  - ☐ Chapter 2: Municipal Solid Waste Characteristics and Quantities
  - ☐ Chapter 3: Collection
- **Discuss:**
  - ☐ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
  - ☐ Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)
- **Submit:**
  - ☐ Assessment by Tuesday, Midnight (Central Time)

### Unit III  Landfills

- **Review:**
  - ☐ Unit Study Guide
- **Read:**
  - ☐ Chapter 4: Landfills
- **Discuss:**
  - ☐ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
  - ☐ Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)
- **Submit:**
  - ☐ Assessment by Tuesday, Midnight (Central Time)

Notes/Goals:
# Course Schedule

## Unit IV
### Article Critique

**Review:**
- Unit Study Guide

**Read:**
- **Article:** A peer reviewed article of your choice related to solid waste management. The article should be at least five pages long and be less than five years old.

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student's Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Article Critique** by Tuesday, Midnight (Central Time)

**Notes/Goals:**

## Unit V
### Processing Solid Waste Materials

**Review:**
- Unit Study Guide

**Read:**
- **Chapter 5:** Processing of Municipal Solid Waste
- **Chapter 6:** Materials Separation

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student's Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)

**Notes/Goals:**

## Unit VI
### Combustion, Energy, and Biochemical Processes

**Review:**
- Unit Study Guide

**Read:**
- **Chapter 7:** Combustion and Energy Recovery

**Discuss:**
- **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- **Discussion Board Comment:** Comment on another student's Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- **Assessment** by Tuesday, Midnight (Central Time)

**Notes/Goals:**
## Unit VII: Biochemical Processes

### Review:
- [ ] Unit Study Guide

### Read:
- [ ] Chapter 8: Biochemical Processes

### Discuss:
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

### Submit:
- [ ] **Assessment** by Tuesday, Midnight (Central Time)

### Notes/Goals:

## Unit VIII: Case Study-Privatization of Solid Waste Management

### Review:
- [ ] Unit Study Guide

### Read:
- [ ] Chapter 9: Current Issues in Solid Waste Management

### Discuss:
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

### Submit:
- [ ] **Assessment** by Tuesday, Midnight (Central Time)
- [ ] **Case Study** by Tuesday, Midnight (Central Time)

### Notes/Goals: