ENVS 406 01E, Environmental Remediation, Section #23359
COURSE SYLLABUS: Spring 2020

INSTRUCTOR INFORMATION

Instructor: Dr. Lucina Kuusisto
Class Time and Location: T R from 5:00-6:15 PM; Location: STC 123
Office Location: Science Building (STC), 208
Office Hours: MWF from 2-5 PM
Office Phone: 903.886.5221
Office Fax: 903-886-5997
University Email Address: Lucina.Kuusisto@tamuc.edu
Preferred Form of Communication: Email
Communication Response Time: Weekdays: 1-24 hours; Evenings, Weekends: 5-~48 hours

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Recommended: Title: Basic Environmental Technology: Water Supply, Waste Management and Pollution Control, 6th Edition
Year: 2015
Title status: Available
Imprint: Pearson
Author: Nathanson & Schneider
Isbn10: 0132840146
Isbn13: 9780132840149
Item id: PGM301691
Software Required: MS Office
Optional Texts and/or Materials: Handouts and Academic worksheets

Course Description

ENVS 406 01E Environmental Remediation: A detailed survey of the various methods used in the remediation of contaminated sites; review of federal and state regulations; chemistry of hazardous materials; responding to incidents involving the release of toxic substances; selection of remedial technology; and design of remedial plans.
Student Learning Outcomes

After successfully completing this course, the student will be able to:
1. Learn and comprehend the fundamental principles of remediation processes, and acquire profound knowledge, after researching, on the latest remediation technologies;
2. Acquire precise information for correct decision-making skills;
3. Learn specific measures for personal protection techniques from hazardous chemicals;
4. Learn the names and chemical compositions of hazardous chemicals;
5. Learn, be aware, and ready to respond to accidental spills and similar incidents;
6. Learn about disaster preparedness;
7. Perform calculations to design and size treatment facilities and disposal for hazardous chemicals;
8. Sketch and size the layout of treatment processes for hazardous chemicals;
9. Calculate the dosage of chemicals for treatment of hazardous chemicals

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Algebra, engineering math, basic chemistry.
In addition, using the learning management system, using Microsoft Word and PowerPoint, using presentation and graphics programs, etc.

Instructional Methods

Conduct lectures, resorting to videos and visual-aid presentations, e.g., “PowerPoint” and “You tube”, solve math problems together with the students in the classroom, expect student participation in the classroom discussions, assign Exams, Quizzes, and homework, etc.

Student Responsibilities or Tips for Success in the Course

Turn-in all the assigned academic work; actively participate in verbal discussions; take notes and copy written explanations during class periods; take assigned written Exams; log into the course website, regularly; complete the assigned weekly study.

GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% or Below
Subjects per Chapter
1. Intro to Hazardous Chemicals Terminology: Warning signs, Labels, Legalities;
2. Hazardous Waste Management: Characteristics, Transportation, Storage, Treatment;
3. Municipal Solid Waste: Characteristics, Collection, Processing, Recycling, Landfills;
4. Wastewater Treatment and Disposal: Legislation, Primary, Secondary, Tertiary Treatment, On-site Wastewater Treatment and Disposal, Sludge (Bio-solids) Management;
5. Conventional methods of remediation: Mineralization, Bio-Transformation;
6. Bioremediation Techniques: Requirements, Suitability, Reaction Rates;
8. Hazardous Pollutants, and Review of Inorganic Chemistry;
9. Biodegradable Chemicals; and Review of Organic Chemistry;
10. Absorption, Adsorption, Filtration, and other technologies;
11. Design and Sizing of Decomposition Reactors: Aerobic, Anaerobic, and Facultative Technologies

Assessments

Course Grading:

Exams (2 x 15% each) 30%
Homework Modules (8 x 2.5% each) 20%
Presentation 20%
Final Exam 30%
Total 100%

NOTE #1: Late assignments are not accepted. Very, very extreme circumstances may or may not provide a warranted exception. This course moves very fast and there is not enough time to catch up. In case of extreme circumstances, I may accept late work. However, 10 points will be deducted from late assignments.

Exam #1: Chapters: 1, 5, 8, & 9
Exam #2: Chapters: 10, 11, & 12
Final Exam: Comprehensive

Homework Modules: ONLY handwritten answers will be accepted
(i) Solve assigned problems from Textbook, as specified on the Course Schedule Section of this Syllabus
+ 
(ii) Written Summary of Chapter 12 (Please include a process flow diagram

Presentation: Research Written Report: Each student will choose 1 type of treatment technology.

Overall Weighted Average Grade will be computed by adding the percentage of each grade earned from each assignment, as stated on the Course Grading table, shown above. ONLY unofficial grades will be posted on D2L. Official grades are in my grade
book. It is most strongly recommended that each student retain their grades until the final grade has been entered into the university system to ensure all was recorded correctly.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport
Interaction with Instructor Statement

Weekdays: 1-24 hours; Evenings, Weekends: 5--48 hours

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

NOTE #1: Late assignments are not accepted. Very, very extreme circumstances may or may not provide a warranted exception. This course moves very fast and there is not enough time to catch up. In case of extreme circumstances, I may accept late work. However, 10 points will be deducted from late assignments.

NOTE #2: Missed Homework and Exams are not acceptable. Very, very extreme circumstances may or may not provide a warranted exception. This course moves very fast and there is not enough time to catch up. In case of extreme circumstances, I may accept let you take a missed Exam or submit a missed Homework. However, 20 points may be deducted from the missed Exam or from the missed Homework.

Syllabus Change Policy
The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook, http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

TAMUC Attendance
For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01, http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf
Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03


Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a
concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url: http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

COURSE OUTLINE / CALENDAR

Meet from January 13 through May 8th
## Course Schedule

**NOTE for Homework:** ONLY handwritten answers will be accepted

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**Spring Break**

**Exam #1**

**Exam #2**

**Student Presentation + Diagram**

**Homework #6 Ch. 10:** Review Qs: ...30, 31, 32, 34, 38, 39, 46, 47, 48, 49, 50, 53, 54, 56

**Homework #7 Ch. 11:** Review Qs: 4, 7, 8, 9, 11, 17, 21, 22

**Chapters 1 & 8**

**Homework #3 Ch. 8: Review Qs: ...12, 13, 16, 17, 20**

**Homework #2 Ch. 8: Review Qs: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11...**

**Homework #1 Ch. 1: 15, 16, 17, 19, 21, 22, 23, 31**

**Homework #4 Ch. 8 Problems: 1, 2, 3, 5, 7, 8**

**Homework #5: Ch. 10: Review Qs: 2, 4, 7, 9, 11, 12, 13, 16, 18, 24...**

**Homework #8 Ch. 12:** Review Qs: 1, 2, 7, 8, 9, 10, 12, 17

**Final Comprehensive**