

ENVS 402 01E
Air Pollution Control
Courses Syllabus: Spring, 2025

Instructor: Dr. Lin Guo

Email: Lin.Guo@tamuc.edu

Classroom: BA 106

Office location: SCI 353

Office hr: 9:00–9:50; 12:00-1:00 MWF

Class time: Tue, Thurs 11:00-12:15

Text Book: No book is required.

Course Description: As a comprehensive course, it introduces the effects of air pollutants on human beings and environment, the sources of air pollution, and the physical and chemical behavior of pollutants in the atmosphere. Also, it covers legislation and regulation; control technologies and future trends toward preventing air pollution.

Instructional Method: Lecture, discussion and project.

Learning Objectives: Upon completion of this course you should be able to:

1. Describe current air pollution issues;
2. Know the main air pollutants and its effect on human health and environment;
3. Understand the regulations and policies to manage air pollution;
4. Have a knowledge of technologies used to control and remove air pollutants

Evaluations:	2 tests	200 points	A \geq 90%
	1 Term-paper	200 points	B \geq 80%
	1 small article	100 points	C \geq 70%
	1 presentation	100 points	D \geq 60%
	Total	600 points	F<60%

Presentation: Search for cases of air pollution events in history; do 10 minutes presentation to introduce the cases and lessons human learned.

The presentations will be done in the week of **Jan 27-31**.

Term-paper: Select a topic related to air pollution, do literature review and write a term paper about the topic; Use 12 pt font, 1.5 line spacing; more than 4 pages; Due on or before 5 pm on **Apr 30**. The topics can be:

1. Hydraulic fracturing and its impact on air quality.
2. Advanced vehicle technologies for reducing greenhouse gas emissions (GHG emissions) and air pollution.
3. Advanced power-generation technologies for reducing GHG emissions and air pollution.
4. Reducing GHG emissions by technology, planning, and policy.
5. your opinions about global climate change
6. The impact of Tier 3 gasoline standards on air quality and human health.
7. The effects of PM_{2.5} on human health.
8. Ozone and human health
9. The effect of aerosols on global atmospheric change
10. Oceans and climate change
11. NO_x control in combustion systems
12. Absorption of gases by liquids, with and without reaction.
13. Adsorption of gases by solids
14. The three-way catalytic converter
15. Removal of particles from gas streams
16. The actions of individual to improve air quality, e.g., lifestyle choices, consumer choices
- 17 The effects of urban forests on air pollution
- 18 Should we rely on biofuels to reduce emissions of CO₂
- 19 New findings on particulate emissions from vehicles
- 20 Indoor air pollution and its causes, effects, and control
- 21 Any other topics you are interested

Small article: you need to read find a journal article from library, read it and submit a brief review. The review should be typed (12 pt font, 1.5 line spacing) and include two full paragraphs. First, conclude the opinions of the article (about one half to one page). In the second paragraph (about one half to one page), please critique of the article with substantive or evidence-driven arguments for or against the opinions of

the article. **The topics of the articles will be related to outdoor air pollution.** It is due on or before 5 pm on **Feb 28**; Any paper that is not properly referenced will receive a zero.

Tests: Exam 1 **March 7**; Exam 2 **May 9**.

Contents:

The following contents will be included in class:

The composition of atmosphere; Main air pollutants in the air; Air pollution control technologies of particulate and gaseous pollutants; Regulations of air pollution control; Compliance and enforcement of regulations; Monitoring of air pollution; Emissions of air pollutants; Prevention of air pollution; Indoor air pollution.

Attendance:

Students are required to attend all sections and sign the rosters every class. **Be late for class and/or leaving early will be treated as absences.** **Official documents** (e.g. doctor's letter) must be presented if you ask for a leave from class or it will be treated as an absence.

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>

Students with Disabilities:

The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities.

If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835 Fax (903) 468-8148 Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Academic Integrity:

Students at East Texas A&M University 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

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Graduate Student Academic Dishonesty 13.99.99.R0.10

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

Nondiscrimination Notice:

East Texas A&M University 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.

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/registrar/documents/studentGuidebook.pdf>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette <http://www.albion.com/netiquette/corerules.html>

Campus carry rules:

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University 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 (<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). 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.

Technology Requirement

D2L Access and Log in Information

This course will be facilitated using D2L, the learning management system used by East Texas A&M University. To get started with the course, go to myLeo, then select Apps, and then select myleo online (D2L Brightspace).

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.

If you are having technical difficulty with any part of D2L Brightspace, please contact Brightspace Technical Support at 1-877-325-7778.

Interaction with Instructor Statement

If you have questions pertaining to the content of this course, please contact me via email or office time. Generally, emails will be answered within 24 hrs. If I can not answer emails on time, I will let you know in advance.

AI Statement

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

<https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

13.99.99.R0.10 Graduate Student Academic Dishonesty

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