

ENVS 303 01B

Research Methods in Environmental Sciences

Courses Syllabus: Spring, 2025

Instructor: Dr. Lin Guo

Email: Lin.Guo@tamuc.edu

Classroom: SS 312

Office location: Sci 353

Office hr: 9:00–9:50; 12:00-1:00 MWF

Class time: Tue, Thurs 12:30-1:45

Text Book:

Recommended

Watts, Simon and Lyndsay Halliwell. 1996. Essential Environmental Science: Methods and Techniques. Routledge, London, England..

Course Description:

This course is designed to provide an overview of the research methods in environmental sciences. It includes an introduction to interdisciplinary research, creating the research question, searching the literature, developing the sampling methods, and analyzing data. An emphasis will be placed on sampling methods and data analysis.

Instructional Method:

Lecture, discussion, article analysis, quiz. The course is blended.

Learning Objectives:

Upon completion of this course you should be able to:

1. To have a basic understanding of common research methods in environmental sciences;
2. To understand data gathered for sampling methods;
3. To understand the methods used to collect soil and water samples;
4. To have knowledge of technologies used to test soil and water qualities
5. To know the basic knowledge about ecological fieldwork methods, social survey and safety.

Assignments:

Journal articles review

Reading and assimilating information is a critical part of research. For each assign date, choose a paper from the assigned journal which are available in our library (online resources). Then write a short summary of the paper. In the summary, you need to state what is the problem, what are the solutions/methods; the novelty of current methods; what are the findings and suggestions for future.

Date	Journal
30 SEPT	Chemosphere
30 OCT	Environmental Science and technologies
30 NOV	Environment International

Tests:

There will be two small quizzes and one final exam in the course. Quiz one is related to water and soil sampling. Quiz two is focused on data calculations. The final exam is designed to evaluate the student's understanding of all the subjects covered in class.

Presentation:

Each student needs to find journal articles about **projects of phytoremediation or case studies of bioremediation**. Lab experiment is acceptable, but field project is preferred. Please make slides and do presentations to introduce the background, methods, results/findings and suggestions of the projects/cases, and your opinions about the projects/cases (about 15 min).

Discussions:

Participate in the online discussions. **Post at least one** comment to each question posed by the instructor. Read the postings of others and respond (**at least two peer review responses** are needed). Your level of participation - both quantity and quality- is part of your participation grade. **Discussions will open for one week. It will close at midnight of Friday.** I encourage you to do it as earlier as possible. Do not wait to the last minute.

Grades:	Tests (two quizzes and final)	140 points	A≥90%
	Articles writing	30 points	B≥80%
	Discussions	50 points	C≥70%
	Presentation	50 points	D≥60%
	Total	270 points	F<60%

Topics and schedule: The following topics will be included in class. The schedule is approximate and subject to change.

Jan 13-17 introduction of the course; classroom	Mar 24-28 interdisciplinary Research; online
Jan 20-31 water sampling; classroom	Apr 1-4 develop your research question; online
Feb 3-14 soil sampling; classroom	Apr 7-11 search the literatures; online
Feb 17-21 social survey; classroom	Apr 14-18 data quality; online
Feb 24-28 phytoremediation; classroom	Apr 21-25 data analysis quiz 2; online
Mar 3-21 bioremediation; classroom	Apr 28-May 9 field safety, final; online

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,

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/>

East Texas AM Attendance:

Students are required to attend all sections. Be late for class and/or leaving early will be treated as absences. The final grades may be affected by the 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>

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 (preferred) or by appointment. Generally, emails will be answered within 24 hrs. If I can not answer emails on time, I will let you know in advance.

Counseling

The Counseling Center at East A&M, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

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

<https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/graduate/13.99.99.R0.10.pdf>