



## College of Science, Engineering, and Agriculture Biological & Environmental Sciences

### ENVS303 Research Methods in Environmental Sciences

#### I. General Information

Course syllabus fall 2015  
Instructor: Johanna Delgado Acevedo, Ph.D.  
Office: Science Building (STC) 262  
Office hours: LWF 2-3:30  
Phone: 903.468.3333  
Email: [johanna.delgado-acevedo@tamuc.edu](mailto:johanna.delgado-acevedo@tamuc.edu)

Instructor: Lin Guo, Ph.D.  
Office: Science Building (STC) 202  
Office hours: LF 11-1:00  
Phone: 903.886.5371  
Email: [lin.guo@tamuc.edu](mailto:lin.guo@tamuc.edu)

Prerequisites: none

Book: Watts, S. and Halliwell, L. 1996. Essential Environmental Sciences Methods and Techniques. Routledge, New York, NY.

#### II. Course Description

This course is designed to provide an overview of the research methods in environmental sciences. An emphasis will also be placed on understanding research project design, data analysis, and sampling methods.

#### III. Student Learning Objectives

To understand research methods in environmental sciences, how to apply and analyze them.  
To understand data gathered for sampling methods.  
To develop a reading tradition.  
To develop communication skills and clarity to present ideas and explain them in public.  
To understand the methods used to collect soil and water samples  
To have a knowledge of technologies used to test soil and water qualities.  
To know the basic knowledge about ecological fieldwork methods, social survey and safety.

#### IV. Learning strategies

Lectures  
Discussions and Talks  
Reading assignments to be discussed in class  
Analysis of Case Study Samples



## College of Science, Engineering, and Agriculture Biological & Environmental Sciences

Individual work, analysis of free reading  
Homework  
Audiovisual projections  
Project and presentation

### V. Assumptions, Expectations, Philosophy

University students are a select group of students soon to be professionals.  
Instructors can have high expectations of student performance.  
Demanding courses benefit students more than easy courses.  
Assignments are due on time unless you have made a prior arrangement with me (only granted for unusual or extenuating circumstances and in case of health issues proper medical excuse is required).  
Come to class prepared, having read and thought about the assigned readings; course materials are meant to be studied, not merely read.  
Actively participate in class discussions; ask questions.

In university, a lot of your learning will occur outside of the classroom, during your own research, and in formal and informal interactions with your peers– both here and at meetings, correspondence, etc. Therefore, I expect you to take full advantage of ALL learning opportunities, including seminars and invited speakers.  
Reading and assimilating information is a critical part of your current and continuing education. This will help you become a better writer, a more rounded individual, and expose you to subjects outside of your immediate knowledge.

### VI. Tentative course outline

- Part I. Introduction to Research Methods  
*week: 1*
- Part II. Sampling  
*week: 2-3*
- Part III. Use of statistics  
*week: 4-5*
- Part IV. Surveying  
*week: 6*
- Part V. General laboratory equipment and techniques  
*week: 7*
- Part VIII. Soils  
*week: 8-9*
- Part IX. Water  
*week: 9-10*
- Part X. Ecological fieldwork methods  
*week: 11*
- Part XI. Social survey  
*week: 12*
- Part XII. Safety



## College of Science, Engineering, and Agriculture Biological & Environmental Sciences

*week: 13*

Part XIII: project and presentation

Week 14-15

### VII. Course Requirement and Evaluation Method

Attendance and punctuality is required and non-negotiable.

Homework, quizzes, exams, and term paper are required.

Activities that distract surrounding people are inconsiderate and disrespectful.

Activities such as texting, emailing, browsing or using cellular phones are prohibited.

We encourage student contribution to the overall progress of the group. We encourage interactive participation.

It is necessary that students have a professional and ethic behavior through the entire course.

Lectures are a group activity, and so it requires social consideration and respect amongst members of the group, teachers and professors.

Grade basis:

2 tests, including final (200 points)

Research project and presentation (100 points)

4 Assignments (40 points)

5 Quizzes (50 points)

Total 390 points

Penalty enforcement (We reserve the right to adjust your grade for violation of the minimum expectations).

Make-up exams will only be given if arrangements are made with the instructor before missing the scheduled exam. A documented excuse will be required. Otherwise, missing exams will be counted as zeroes in the overall grade computation.

Grading Scale: The following scale is adhered to strictly.

90.0 - 100% = A

80.0 - 89.9% = B

70.0 - 79.9% = C

60.0 - 69.9% = D

<60.0% = F

Assignments (5)

Journal articles

Reading and assimilating information is a critical part of your current and continuing education. For each assign date, a journal is named in the right column of the table, choose and read a paper from that journal that you find interesting or relevant. These journals are available in our library (online resources). On that date, provide me a citation and a short description of the paper (10 sentences).



## College of Science, Engineering, and Agriculture Biological & Environmental Sciences

Date	Journal
3 SEPT	Environmental Earth Science
1 OCT	Journal of Environmental Studies and Sciences
5 NOV	Environmental Geology and Water Sciences
3 DEC	Environment International

Research project and presentation:

You will develop a research project in which you will have a methodology to collect soil or water samples from the field (e.g. river/stream) you are interested in; what parameters you want to test and how to test. The project will be due on Dec 1<sup>st</sup>. You will present your research project in the classroom; presentation will be for 10 minutes and 2 minutes to answer questions. You need at least 5 reference to support your research project.

### VIII. Course and University and Policies

*Responsible Use of Technology* — It is expected that all students will only use cellphones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class and/or other penalties. Students are not allowed to use image, video, nor audio recording devices of any kind during class time without prior consent of the instructor.

*University Specific Procedures:*

ADA Statement-Students with Disabilities:

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-Commerce

Gee Library

Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

[StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

*Student Conduct*

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.



**College of Science, Engineering, and Agriculture  
Biological & Environmental Sciences**

ENVS303 Research Methods in Environmental Sciences

I. General Information

Course syllabus fall 2015  
Instructor: Johanna Delgado Acevedo, Ph.D.  
Office: Science Building (STC) 262  
Office hours: LWF 2-3:30  
Phone: 903.468.3333  
Email: [johanna.delgado-acevedo@tamuc.edu](mailto:johanna.delgado-acevedo@tamuc.edu)

Instructor: Lin Guo, Ph.D.  
Office: Science Building (STC) 264  
Office hours: LF 11-1:00  
Phone: 903.886.5371  
Email: [lin.guo@tamuc.edu](mailto:lin.guo@tamuc.edu)

Note regarding reasonable accommodation for persons with disabilities:

Any student or faculty with a disability that requires adaptations to the curriculum or reasonable accommodation should contact the:

Office of Student Disability Resources and Services Texas A&M-Commerce  
Gee Library  
Room 132  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
[StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

THIS SYLLABUS IS SUBJECT TO CHANGE WITH PREVIOUS NOTICE TO ATTENDING STUDENTS,  
DUE TO ANY UNFORSEEABLE CAUSE.

-----  
-  
I HEREBY CERTIFY THAT I HAVE READ AND UNDERSTOOD THE SYLLABUS FOR THE  
COURSE ENVS303 Research Methods in Environmental Sciences, AS DISCUSSED BY THE  
PROFESSOR DURING CLASS SESSION ON THE DATE SIGNED BELOW.

NAME: \_\_\_\_\_

INSTITUTIONAL E-MAIL ADDRESS: \_\_\_\_\_

PLEASE DESCRIBE ANY SPECIAL PERSONAL SITUATION OR CONDITION THAT YOU WISH THE  
PROFESSOR TO BE AWARE OF:

DATE / SIGNATURE: \_\_\_\_\_