Syllabus

Course Description
The South Texas Environmental Education and Research (STEER) Program, housed within the Department of Family and Community Medicine at The University of Texas Health Science Center at San Antonio, conducts this community based, four-week course for health professionals in training. Students reside at the U.S.-Mexico border and receive training in Harlingen, Texas and Matamoros, Mexico. STEER has been the recipient of awards from the Texas Commission on Environmental Quality (TCEQ) (formerly known as Texas Natural Resources Conservation Commission) and the Organization Committee from the 2002 Salt Lake Winter Olympic Games, and the Association of Physician Assistant Programs Partnership Award in 2003.

Participants will live at the Texas-Mexico border where they will learn firsthand about local environmental health concerns, including air pollution, water pollution, and sanitation problems. Students will visit colonias, a landfill, EPA superfund site and various other sites. They will participate in the conferences, case studies, and readings on a wide range of topics such as folk medicine, indoor air pollution, pesticides, heavy metals, including lead and mercury, rabies, and dengue fever. In addition, they will interview physicians and public health officials in the community and test air and water for selected contaminants. Students will learn how to take exposure histories and may be engaged in ongoing projects such as performing “environmental house calls” to identify exposures that may contribute to asthma.

Course Objectives
At the end of this course, the students will be able to:

1. Identify the major factors associated with environmental health.
2. Predict unique public health challenges posed by the geographic proximity of a developed country and a developing country.
3. Take patients’ exposure histories.
4. Determine how environmental data is collected, and know which individuals or agencies to turn to for environmental testing and statistical data base references.
5. Locate pertinent information concerning health responses to environmental factors and communicate risks accurately and effectively to patients and the community.
6. Recognize symptoms and illness patterns that may have underlying environmental causes.
7. List various potential etiologies for common environmentally related health conditions such as asthma.
8. Elicit relevant sociocultural information when taking a health history.
9. Work with patients to determine effective and culturally appropriate interventions.
10. Interact appropriately with local, state, and national public health agencies as health professionals addressing patient and community needs.
11. Identify the major agencies involved in environmental health, their particular roles (compliance, conservation, air, water, pesticides, etc.), and what resources each has to offer.
12. Serve as informed public health advocates for their own communities.

Course Faculty and Staff
Two full-time faculty coordinators oversee the program:

- **Beatriz Tapia, M.D., M.P.H.,** Faculty Associate
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Different segments of the course are taught by subject-matter experts, including faculty from other universities, from Harlingen and the surrounding areas. Bios and contact information for all course instructors are found in the student folder.

**Teaching-Learning Principles**

The course is organized around two principles: (1) learning is most efficient and permanent when it is a concrete experience and (2) learning is enhanced when students perceive new information as relevant to their personal and professional goals.

*Course activities are based on these two key principles in the following ways:*

1. **Learning should be motivated through “hands-on” experiences in the community.**
   The course provides a period of intensive immersion in the community. This immersion enables students to develop a broad, multifaceted understanding of health care and environmental medicine within a specific community context. Students meet with local leaders, visit the homes of persons who live in the community, interview local health care providers, and explore both sides of the border. “Hands-on” experiences are a component of most of the teaching modules. For example, the activities in the course’s Water Quality unit include sampling water quality at four different sites along the Rio Grande.

2. **Learning should be organized around the students’ anticipated professional roles.**
   *Problem solver*
   Actual and simulated patient case presentations provide an opportunity for students to identify information needed to solve a clinical problem, research the problem by collecting actual data, for example, testing water samples, consult experts, or review literature on the topic. After data has been collected and analyzed, they diagnose the patient’s condition and recommend remedies, analyze potential underlying environmental contributors, and suggest steps to mitigate these environmental exposures. Lecturers representing diverse fields enable the students to approach cases from cross-disciplinary perspectives.
Reflective practitioner
The course includes reflective activities designed to produce insightful health practitioners. Students share their personal reactions, analyze the effect of personal values and beliefs on patient care, predict community health status based on data collected and patient cases reviewed, judge the validity of these inferences, formulate plausible hypotheses, and prepare a written summary of their personal experiences as a final course exercise.

Community volunteer
Students have the opportunity to participate in health fairs, rabies vacunas and other volunteer health-related activities, thus giving back to the community that has graciously hosted them during this in-vivo learning process.

Researcher
Students are encouraged to enhance understanding of public health concerns by participating in STEER’s community-based research projects. Past students have helped gather data for studies of asthma, water quality, health promotion, and the use of herbal medicine. Some students conduct individual research projects to fulfill requirements at their school of matriculation if necessary, or as a matter of self-interest. Such projects might include gathering data on chemical residues in tributaries of the Rio Grande, assisting in a study to determine asthma prevalence in Harlingen schoolchildren, and evaluating the effectiveness of a binational effort that has taught colonia families how to treat water to make it safe to drink.

Requirements
1. Attendance and participation
Students are required to attend all course-scheduled activities. A calendar will be distributed separately. Participation in the weekly or bi-weekly discussion sessions (see calendar) is also required. During the over two dozen modules in the STEER course, you will encounter new ideas and meet a wide variety of instructors. These sessions are designed to help students digest and process these new ideas by asking students to reflect on the things they have seen and learned during the previous week(s). In a roundtable-type format, you will be asked to share with the group about your experience. You will also be asked to reflect on some of the required readings.

2. Readings
Students are expected to be prepared for each session by completing the scheduled readings ahead of time. The reading list below details the readings for unit and module. All readings are available on-line through our web site: http://steer.uthscsa.edu/secure/

USERNAME: fapr7008
PASSWORD: STEERall

STEER- Harlingen Course Content Outline
Unit 1 Overview of Environmental Medicine
   Module 1- Introduction to Border Health/ Environmental Health
   Module 2- LRGV Community Assessment
Unit 2 Socio-cultural Orientation
  Module 1- Cultural Sensitivity and Cultural Bound Syndromes
  Module 2- Curanderismo
  Module 3- Colonias

Unit 3 Hazardous Exposures
  Module 1- The Importance of Environmental Exposure History Taking
  Module 2- Asthma Triggers and Environmental House Calls
  Module 3- Lead Exposures

Unit 4 Medicine and Public Health
  Module 1- The Role of Public Health and Medicine on the Border
  Module 2- Outbreak Case Study
  Module 3- Food Sanitation
  Module 4- Zoonosis Control
  Module 5- Immigration and Health Care Delivery

Unit 5 Public Health Research and Community Outreach Programs
  Module 1- The role of Promotoras
  Module 2- School and Community Interventions
  Module 3- Migrant Health

Unit 6 Environmental Policy in Action
  Module 1- EPA Superfund Sites
  Module 2- U.S. Fish and Wildlife Service
  Module 3- Texas Commission on Environmental Quality

Unit 7 Current and Emerging Epidemics
  Module 1- Autism
  Module 2- H1N1 Influenza
  Module 3- Tuberculosis
  Module 4- Diabetes
  Module 5- Dengue

3. Presentations
   Students are required to prepare a power point presentation to be delivered on the final day of the course. Each presentation should be 10-15 minutes in length. Each presentation should cover one topic of relevance to environmental public health at the border (either site) in more depth than it was presented during the rotation. Students will be asked to sign-up as teams for presentations at the end of the 2nd week and to list a first and second choice presentation topic. Teams will be informed during the 3rd week of the rotation which topic they have been assigned.

4. Reflection paper
   All students are required to write a reflection paper at the conclusion of the course. Papers must be typed, double spaced, and at least two pages in length. The purpose of the reflection paper is to provide an opportunity for students to share what they have learned with STEER faculty and staff.
We wish to know your reactions to the course and to your experiences at the Border. We do not want your itinerary for the month, but rather a reflection on what you have learned. Please focus on how the STEER experience has affected your educational or career goals, if at all. What is the primary take-home message that you will carry with you? Papers should be submitted electronically before leaving on the last day of the program. All students should email papers to Drs. Noe Garza (garzan4@uthscsa.edu) and Beatriz Tapia (tapiab@uthscsa.edu).

5. Exit interviews

Exit interviews will be conducted as a group and with each student individually. The purpose of these interviews is to determine students’ satisfaction with course content and presenters. Your feedback allows us to continuously improve content and delivery to STEER segments.

Evaluation

A grade of pass/fail will be awarded based on:

1. Attendance at all course-scheduled activities.
2. Completion of a final Power Point presentation
3. A reflection paper describing the student’s observations, reactions pre-conceptions, and post-conceptions.

All students will receive a certificate of completion for attending the course. Additionally, we are happy to complete any forms required by your school in order for you to receive credit for this course. Please let us know what your school’s requirements are.