

Office of Academic Affairs
Tarleton State University
August, 2003

Master Course Syllabus Outline

Department: Chemistry, Geosciences, and Env. Sci. Course Prefix/Number: **CHEM 5103**

Official Course Title: **Environmental Chemistry**

Master Syllabus Approved by Department on: ____/____/____
month date year

I. Catalog Description (50 words; brief synopsis of course content, emphases)

Study of the impact of chemistry on the environment, to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

II. Prerequisites?

CHEM 2014 (Organic Chemistry I)

III. Expanded Course Description (150 words; primary course content, intended student level and role(s) course is to play in the curriculum)

Study of the impact of chemistry on the environment, to include topics on air, water, and soil pollution, with special emphasis on water. Beneficial chemical modification of the environment will be covered.

The course consists of three (3) lecture hours per week for 3 hours of graduate credit. This is a required core course in the MS Environmental Science curriculum.

IV. Intended Student Learning Outcomes? Required; **knowledge outcomes** (what students who successfully complete the course will be expected to know). Optional; **skill outcomes** (what students who successfully complete the course will be able to do). Optional; **value outcomes** (what students who successfully complete the course will value or appreciate).

Knowledge outcomes:

Upon completion of this course students will have a satisfactory understanding of:

1. frequently used terminology in Environmental Chemistry
2. fundamental of aquatic chemistry, including solubility, pH, redox, phase interactions, and aquatic microbial actions
3. fundamentals of water pollution and water treatment
4. fundamentals of atmospheric chemistry and air pollution
5. fundamentals of geochemistry and soil chemistry
6. influences of technology on the environment

7. hazardous wastes
8. environmental biochemistry and toxicology
9. principles of major environmental chemical analytical techniques

Value outcomes:

Upon completion of this course students will have an appreciation of the complexity of the environment and the importance of environmental chemistry and the ways in which humans impact this chemistry.

V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:

- a) Course Requirements? (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)

Good attendance is essential to successful mastery of course material. Attendance will be monitored. Please notify the instructor of excused absences.

For this course, your grade will be determined in the following manner:

Homework	20%
MidTerm Exam	40%
Final Exam	40%

Make-up exams will be by permission of the instructor. Please contact the instructor immediately after the missed exam to make arrangements.

- b) Required Text(s)?

"ENVIRONMENTAL CHEMISTRY" by Manahan, 7th ed.

- b) Bibliography?

Department Head Signature/Date:

Signature

_____/_____/_____
Date