

Office of Academic Affairs
Tarleton State University
June, 2004

Master Course Syllabus Outline

Department: **Chemistry, Geosciences and Environmental Science**

Course Prefix/Number: **CHEM 586-**

Official Course Title: **Chemical Problems (Credit variable)**

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

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

Independent research in the laboratory or in the library under the guidance of a member of the graduate faculty. Up to 6 hours may be taken.

II. Prerequisites?

CHEM 2014. Organic Chemistry I or higher.

The student may also need further background in a specific area of chemistry relevant to the research project being done.

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

The student will investigate a basic chemical research problem under the direct supervision of a Chemistry, Biology, or Geology faculty member - as appropriate. The student will be expected to spend time in the laboratory and the library and become familiar with the project background and research techniques appropriate to the project. The student will also be required to present research results in both written and oral formats.

IV. Intended Student Learning Outcomes?

knowledge outcomes (what students who successfully complete the course will be expected to know).

Upon completion of this course, the student will be able to demonstrate a satisfactory understanding of the chemical principles involved in the specific research project in which he /she was involved and an understanding of the chemical techniques utilized in the investigation.

skill outcomes (what students who successfully complete the course will be able to do).

The student will be able to demonstrate mastery of chemical laboratory techniques and understanding of chemical instrumentation utilized in the particular project. The student must also demonstrate the ability to communicate research results in both oral and written format.

value outcomes (what students who successfully complete the course will value or appreciate).

Upon completion of this course, the student will be able to demonstrate a satisfactory understanding of the importance of the scientific method as utilized in basic chemical research.

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 completion of research project. Amount of time spent per week is proportional to semester hours of credit and should be about 3 hours per semester credit hour. Times to be arranged with Research Project Director.

For this course, **the final grade will be assigned by the Research Project Director based on the following:**

1. quality and quantity of research done.
2. written report of results (required).
3. oral presentation of results (required).
4. student attendance and attitude.

- b) Required Material(s)?

Protective eyewear for laboratory.
Other materials as appropriate for project.

- c) Bibliography?

Department Head Signature/Date:

Signature

_____/_____/_____
Date