

**Office of Academic Affairs
Tarleton State University
July, 2002**

Master Course Syllabus Outline

Department: Chemistry and Geosciences Course Prefix/Number: CHEM4743

Official Course Title: Biochemistry I

Master Syllabus Approved by Department on: / /

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

An introduction to the basic principles of biological chemistry and to fundamental processes of plants, animals, and microorganisms. Credit for both BIOL 4743 and CHEM 4743 will not be awarded.

II. Prerequisites?

One semester of organic chemistry (2 semesters recommended) and 8 hours of biological science or approval of department head.

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

Major topics to be covered include basic protein structure, functionality and regulation, basic enzyme structure, functionality and regulation, basic carbohydrate metabolism, and energy production via carbohydrate metabolism.

This course is recommended for chemistry and biology majors, pre-professional students, and graduate students in any life science field.

The course consists of three lecture hours per week.

IV. Intended Student Learning Outcomes?

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

Upon completion of this course:

1. Students will be able to demonstrate a satisfactory understanding of basic protein structure, functionality and regulation.
2. Students will be able to demonstrate a satisfactory understanding of basic enzyme structure, functionality and regulation.
3. Students will be able to demonstrate a satisfactory understanding of basic carbohydrate metabolism and principles.
4. Students will be able to demonstrate a satisfactory understanding of energy production via carbohydrate metabolism.

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

Upon completion of this course:

1. Students will be able to recognize and draw several amino acids and simple carbohydrates.
2. Students will be able to apply mathematical models of basic enzyme kinetics.
3. Students will be able to apply mathematical models of acid/base relationships to biological systems.

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

Students will have an appreciation of the chemical commonality of cells of all living organisms.

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.)

Grading Policy

The course grade is determined as follows:

3 tests	60%
Best 10 quiz scores	20%
Final exam	20%

Quizzes are given once a week.

b) Required Text(s)?

Biochemistry: The Molecular Basis of Life, McKee & McKee. 3rd Edition, McGraw Hill Publishing Co., 2003.

c) Bibliography?

Department Head Signature/Date:

Signature

____/____/_____
Date