COURSE SYLLABUS

Ohio Northern University
College of Arts and Sciences
Department of Mathematics and Statistics

Date: Fall 2011

Course Math 1461 Name: Calculus for Life Sciences

Credit hours:3 Lecture hours/week:3 Lab hours/week: 0

Instructor: Staff

Usual Student Level: Freshman/Sophomore

Course required of students in: Pharmacy

Course frequency per semester/year: Offered yearly; fall and spring semesters

Average enrollment per year: 240

This course has a prerequisite: Math 1251 or 2 years of H.S. Algebra

This course is a prerequisite for: none

Catalogue Description:

Concepts of differentiation and integration applied to algebraic, exponential, and logarithmic functions.

Course Objectives:

To introduce the students to the essential ideas of calculus and its applications.

Textbook: Calculus for Business, Economics, Life Sciences, and Social Sciences, Eleventh Edition, by Barnet, Ziegler, and Byleen

Outline of content follows:
(see attached)

Course Outline
MATH 1461
Calculus for Life Sciences

Chapter 1	Linear Equations and Graphs Sections 1.1 – 1.2	2 class meetings
Chapter 2	Functions and Graphs Section 2.1 – 2.5	6 class meetings
Chapter 3	Limits and the Derivative Sections 3.1 – 3.6	6 class meetings
Chapter 4	Additional Derivative Topics Sections 4.2 – 4.6	7class meetings
Chapter 5	Graphing and Optimization Sections 5.1, 5.2, 5.4, 5.5, 5.6	8 class meetings
Chapter 6	Integration Sections 6.1 – 6.5	6 class meetings
Chapter 7	Additional Integration Topics Sections 7.1 - 7.3	3 class meetings
Examinations and Review		7 class meetings
TOTAL		45 class meetings

Comments:
1. A steady pace must be maintained if all of the material in this syllabus is to be covered in one three-credit hour course.
2. It is assumed that the students are familiar with the content of Appendix A (Basic Algebra Review). However, portions of this material can be reviewed as needed during the course.
3. The material in section 4.1 concerning the constant e can be included in the review of exponential and logarithmic functions (sections 2.4 and 2.5).
4. If necessary sections 4.5 and 4.6 may be covered lightly so that there is time to cover the material in sections 7.1, 7.2, and 7.3.
5. Appropriate use of graphing calculators is encouraged.