Master Syllabus

1. Course Information
   College: College of Science and Mathematics
   Department: Mathematics and Statistics
   Course Title: Mathematics and the Modern World
   Course Designation and Number: MTH 145
   GE Area(s): I: Communication and Mathematical Skills

   Writing Intensive: Yes  No

   For WI Courses: All sections  Selected Sections are WI.

   Method(s) of Instruction: Lecture  Discussion
   Web-enhanced  Web-only (At least one section)
   Other
   Small group activities
   One section is a distance-learning, on-line section

   Includes Lab: Yes  No

   Prerequisites: Dev 095 or Level three on Math Placement Test

2. Objectives

   GE Program Objectives:
   …to develop skills and knowledge that will form the basis for lifelong learning.
   …sharpen critical thinking, problem solving and communication skills.

   GE Area One Objectives:
   d. use, formulate and interpret mathematical models
   e. summarize and justify analyses of mathematical models or problems using appropriate words, symbols, tables and/or graphs

   Course Objectives and GE Learning Outcomes:
   Mathematics and the Modern World presents applications of mathematical models to real world problems. The primary focus is on applying algorithms, interpreting results, and summarizing analyses of a variety of problems. Topics covered include financial management and statistical reasoning.

   Area One learning outcomes addressed:

   Sharpens critical thinking, problem solving and communication skills
   Uses, formulates and interprets mathematical models
   Summarizes and justifies analyses of mathematical models or problems using appropriate words, symbols, tables and/or graphs

3. Suggested Course Materials
   Scientific calculator required, graphing calculator recommended

4. Suggested Methods of Evaluation
   Three tests and the collection of homework and/or quizzes are recommended. A cumulative final exam is required.
5. Grading Policy

All GE courses are graded A-F.

6. Suggested Weekly Course Outline Including Typical Assignments

Wk 1: Review of selected mathematical topics. Handout to be provided by the Math dept. Topics include order of operations, exponents and radicals, simplifying expressions, and solving equations.

Wk 2: Financial Management, section 4A. The Power of Compound Interest
Exercises: 3,4,8,9,11-15,21,22,26,32,33,41

Exercises: 6,7,10,11,15,16,21,22. Review and Test 1.

Wk 4: Financial Management, section 4C. Loan Payments, Credit Cards, and Mortgages. Exercises: 1,3-5,10,15,17,18,23,29,33

Wk 5: Continue with 4C.

Wk 6: Fundamentals of Statistics, section 5A.
Exercises: 1,2,6,13,14,37-40,41-46

Wk 7: Review and Test 2. Begin Statistical Studies, section 5B
Exercises: 1-9,11-14,17,18

Wk 8: Statistical Tables and Graphs, section 5C
Exercises: 11-14,20,22

Wk 9: Characterizing a Data Distribution, section 6A.
Exercises: 2,3,6-12,13-16,18

Wk 10: Measures of Variation and the Normal Distribution-selected topics
Sections 6B and 6C. Exercises: 3,4,6,7 from 6B and 1-14 from 6C
Review and Test 3

7. Other

Syllabus distributed to students should employ the format approved by UCAPC and must include:
- Instructor name, office hours, and contact information
- Office of Disability Services information
- Information on how grades will be determined
- Attendance policy

2-7-03jf