

Mathematics and Computer Science 104
Fall 1995

Instructor: Professor R. Alperin, Duncan 239, Office hours: 3:30-5:00MW or by appointment

Text:

JTG: *Journey Through Genius* by William Dunham, Wiley, Penguin,
MIC: *Mathematics in Civilization* by H. L. Resnikoff & R. O. Wells, Dover

Course: History of Mathematics

The main goal of this class is to study some of the important ideas of modern mathematics via their growth and development since antiquity. Since mathematics is a fundamental human activity, its ideas may sometimes occur simultaneously in different places, sometimes at different times with subtle changes due to culture.

Final grade is based on a 400 point total on quizzes and tests, homework, and research papers. Students are required to keep a notebook of homework exercises which will be collected.

i)

MIC: MATHEMATICS IN ANTIQUITY pp. 1-128

JTG: Chapters 1-5: Greek Mathematics: Hippocrates-Archimedes, pp. 1-132

5 weeks

QUIZ 1: October 2, 50 points

ii)

MIC: ADOLESCENCE OF COMPUTATION pp. 129-232

JTG: Chapter 6: Cardano and the Cubic, pp. 133-154

3 weeks

PAPER: Ancient Mathematics in Other Cultures (5 pages typed) October 15, 50 points

QUIZ 2: October 30, 50 points

iii)

MIC: RISE OF GEOMETRICAL ANALYSIS pp. 233-348

JTG: Chapter 7-9: Newton, Bernoullis, Euler, pp. 155-222

3 weeks

QUIZ 3: November 20, 50 points

iv)

JTG: Chapter 10: Euler and Number Theory, pp 223-244

MIC: TWENTIETH CENTURY MATHEMATICS pp. 349-364

JTG: Chapter 11-12 Cantor, pp. 245-281

3 weeks

PAPER: Development of a Topic in Modern Mathematics (5 pages typed), December 11, 50 points

COMPREHENSIVE FINAL: December 13, 17:15-19:30, 100 points