

UNIVERSITY CORE CURRICULUM

SECTION III. INTEGRATIVE STUDIES - INTERDISCIPLINARY

1. COURSE NUMBER: **MATH 300i**

SEMESTER HOURS: **3**

COURSE TITLE: **History of Mathematics**

Start Date: Fall 2004

Catalog Copy: Summer 2005

2. COURSE FORMAT: Faculty taught. Average class size: 25.

3. STUDENT LEARNING OBJECTIVES: Students should be able to: (a) identify the major historical periods, cultures and personalities that have contributed to the development of mathematical thought; (b) discuss and write about their understanding of the philosophical issues as regards the logical foundations and practical applications of mathematics; and (c) do independent research and write a well-organized research paper.

4. DETAILED COURSE DESCRIPTION: This course examines how diverse cultures and history from the ancient past to the present have shaped the development of mathematical thought and how developing mathematical ideas have influenced history and society. Particular attention will be given to the evolution of the concepts of number and space; the emergence and applications of calculus, probability theory, non-Euclidean geometries and technology; and to the changes in the concept of mathematical rigor. This course is open to all students, but does not count towards the mathematics requirements of a mathematics major. Prerequisite: Math 150.

5. REQUIRED READING: Texts may include one or more of the following: Dunham, *Journey Through Genius*; Kline, *Mathematical Thought From Ancient to Modern Times*; Boyer, *History of the Calculus and Its Conceptual Development*; Ore & Ore, *Number Theory and Its History*; Nelson, Joseph & Williams, *Multicultural Mathematics*; Closs, *Native American Mathematics*; Zaslavsky, *Africa Counts*; Ascher, *Ethnomathematics*; Schmandt-Besserat, *Before Writing: From Counting to Cuneiform*; Articles to be distributed in class or that are available over the world wide web.

6. COURSE REQUIREMENTS AND GRADING:

- Two or three in-class exams
- Periodic quizzes or homework
- One or two research papers
- Comprehensive final exam

7. ADVANCED UCC COURSE(S): None

6/15/04