

**Tennessee Technological University
Mathematics Department**

MATH4610 (MATH5610) History of Mathematics I

I. COURSE DESCRIPTION FROM CATALOG:

The development of mathematics and its relation to the development of civilization prior to the beginnings of calculus. Lecture 3. Credit 3.

II. PREREQUISITE(S):

C or better in Math 3400 (or consent of instructor for MATH 5610).

III. COURSE OBJECTIVES:

To show the development of mathematics over the ages.

IV. TOPICS TO BE COVERED:

- 1.Origins of number and culture
- 2.Mathematics in ancient Mesopotamia and Egypt
- 3.Mathematics in Greece
- 4.Alexandria and Euclid
- 5.Mathematics in ancient Rome
- 6.Mathematics in India, China and America before 1500
- 7.Islamic world
- 8.Medieval Europe and early Renaissance
- 9.Cubic and quartic equations
- 10.Cardano and Viete
- 11.Logarithms, Napier

IV. ADDITIONAL INFORMATION:

Graduate credit is earned on the basis of additional work required by the instructor. Graduate students are usually required to write an essay about a specific mathematician or a theory, and include at least four references other than the textbooks. They may also be required to make a seminar presentation in the class on a topic selected by the instructor.

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VI. POSSIBLE TEXTS AND REFERENCES:

Howard Eves, *An Introduction to the History of Mathematics*, Saunders, 1990

Jeff Suzuki, *A History of Mathematics*, Prentice Hall, 2002

Ronald Calinger, *A Contextual History of Mathematics*, Prentice Hall, 1999

Carl B. Boyer, *A History of Mathematics*, 2nd ed., Wiley, 1991

David M. Burton, *The History of Mathematics: An Introduction*, 5th ed. McGraw-Hill, 2002

Morris Kline, *Mathematical Thought from Ancient to Modern Times*, vol. 1, Oxford University Press, 1990

H. L. Resnikoff & R. O Wells, Jr., *Mathematics in Civilization*, Dover, 1984

Ubiratan D'Ambrosio, H. Selin (Editor), *Mathematics Across Cultures: The History of Non-Western Mathematics*, Springer, 2001