Tennessee Technological University
Mathematics Department

MATH 4620 (MATH 5620) History of Mathematics II

I. COURSE DESCRIPTION FROM CATALOG:

History of mathematics from the beginnings of calculus through the modern times. Lec. 3. Cr. 3.

II. PREREQUISITE(S):

C or better in Math 3400 (or consent of instructor for MATH 5620).

III. COURSE OBJECTIVES:

To show the development of mathematics over the ages.

IV. TOPICS TO BE COVERED:

1.Analytic Geometry: Descartes
2.The Invention of Projective Geometry
3.Calculus: Newton and Leibniz
4.Development of Algebra
5.Development of Analysis; ε-δ definition of the limit, complex analysis, etc.
6.Probability theory
7.Number theory: Fermat, Euler, Gauss
8.Non-Euclidean geometry
9.Set theory and topology
10.Other Topics

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., 1991
Carl B. Boyer, *A History of Mathematics,* Princeton University Press, New Jersey, 1985
David M. Burton, *The History of Mathematics: An Introduction,* 4th ed. McGraw-Hill, 1999.