

**MATH 573**  
**HISTORY OF MATHEMATICS**  
Nicholls State University, Spring 2006

**Instructor:** Dr. Brian Heck  
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My office hours are 9:30-11:45 Mon, Wed, 9:00-12:00 Tue, Thurs, and 5:00-6:00pm Wed. Please contact me (phone, email, or in person) during these times if you have any questions. If you need assistance at a different time, contact me and we'll work something out.

**Course Description/Text:** Our required text is *An Introduction to the History of mathematics (6<sup>th</sup> ed.)* by Howard Eves. This course will be a humanities-style course that is approximately 75% history and 25% mathematics.

The history of mathematics covers a period of times roughly 6000 years in length. It is therefore obvious that we will be unable to adequately cover every important development. The goal of this course is to explore how mathematics has developed over the years, so broad trends will be as important as specific mathematical topics. We will progress fairly chronologically through history, only diverging from this track to follow a particular topic in more detail. Particular attention will be paid to the people behind the achievements as well as the cultures in which they were made.

A few words need to be said about the Internet aspect of this course. All assignments, notes, announcements, etc will be posted on Blackboard. All students enrolled in an Internet course should have basic computer skills (such word processing, e-mail, navigating the Internet, etc). Some tips on preparing yourself for an online course are available at [www.nicholls.edu/distance/requirements.htm](http://www.nicholls.edu/distance/requirements.htm). As an online student, you will be self-paced. This therefore requires self-discipline and self-motivation. The problem sets need to be turned in on time. It is the responsibility of the student to notify the instructor of technical and/or personal problems that may interfere with online participation. All students must have an e-mail account that they check regularly. E-mail will be our primary means of communication. If you need more personalized assistance, I invite you to visit my office during office hours. Just like a typical class, instances of academic dishonesty, such as plagiarism, will not be tolerated.

**Course Objectives:** At the completion of this course, a student will be able to:

- demonstrate an understanding of the development of mathematics over the years

- research historical topics in mathematics and communicate their findings orally and in writing
- effectively discuss the lives of significant mathematicians
- explain the relationships between many fields of mathematics
- analyze mathematics in the context of the cultures in which it developed

**Grading Structure:** We will have two exams, many assignments, and a term paper. These will be described fully below.

**Exams:** We will have a “in-class” midterm exam and a “take-home” final. Exam questions will be of the following types: true/false, multiple choice, short answer, matching, essay, and mathematical. You will be expected to know math, names, dates, and places (the “what”, “who”, “when”, and “where” of mathematics). But perhaps more importantly, you will need to understand the origins and context (the “how” and “why” of mathematics). *Each exam will count for 20% of your semester grade.*

**Assignments:** You will have (at least) one assignment every week. These will range in style over the various types of problems appearing on the exams. In fact, let’s get it started. **Assignment #1** is to tell me *your* mathematical history. I will leave the format and length up to you, but I do not just want a list of courses you’ve taken. Tell me about you. Get this to me via email (the email account you will use for this course) by this **Friday (January 20, 2006)**. *This component will account for 40% of your semester grade.*

**Term Paper:** This will be due to last week of classes (May 1-3). The topic is up to you, but I have a list of possible topics if you have no idea what you would like to research. I suggest you discuss this with me (as I retain veto power over topics) as soon as possible. You must turn in to me your selected topic at the latest by **Friday, February 3, 2006**. Let’s call this **Assignment #2**. Your paper can be neither all history nor all mathematics. It should be self-contained mathematically (do not assume I know what you are talking about). If you have any doubts, let a friend read it. Your paper should be written using the normal college formatting (regarding spacing, bibliography, etc), as it will be graded for grammar and spelling as well as content. If you have any trouble with this, visit the WAC Center in Beauregard Hall (Room 153). They would be glad to help you and I’m sure they would be thrilled to learn that a math class requires writing. The length is up to you. Noted mathematical historian Fred Rickey once said,

...[a paper] has a natural length. You are telling a story which needs a certain background, exposition, and detail. When that is successfully done, stop.

Well put. You should turn in two copies so that I may keep one. ***This will account for 20% of your semester grade.***

**Course Outline:** We will begin, as mathematics did, in the ancient worlds of Egypt and Babylon.

- I. Ancient Times (Egypt, Babylon, China, and India)
- II. Greece
- III. Renaissance Europe
- IV. The Calculus
- V. Number Theory
- VI. The Crisis in Foundations
- VII. The 20<sup>th</sup> Century

**Disability:** If you have a documented disability that requires assistance, you will need to register with the Office of Disability Services for coordination of your academic accommodations. The Office of Disability Services is located in Peltier Hall, Room 100-A. The phone number is (985) 448-4430 (TDD 449-7002).