

**MATH 573**  
**HISTORY OF MATHEMATICS**  
Nicholls State University, Summer 2009

**Instructor:** Dr. Brian Heck  
**Office:** 106-E Peltier  
**Phone:** 448-4383  
**Email:** [brian.heck@nicholls.edu](mailto:brian.heck@nicholls.edu)  
**Web:** <http://math.nicholls.edu/heck>

My office hours are 9:00-11:30 am M-F. Please contact me (phone, email, or in person) during these times if you have any questions.

**Course Description/Text:** This course will be a humanities-style course that is approximately 75% history and 25% mathematics. There is no required text. I will post class notes to blackboard roughly once a week. This course is cross-listed as Math 495 (for undergraduate credit) and Math 573 (for graduate credit). Students enrolled for graduate credit will be responsible for a term paper (described more below).

The history of mathematics covers a period of times roughly 6,000 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
- 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
- (grad. students) research historical topics in mathematics and clearly communicate their findings in writing

**Grading Structure:** We will have two exams, as well as many weekly assignments. Additionally, students enrolled for graduate credit will be assigned a term paper. These will be described fully below.

**Exams:** We will have an “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). The “in-class” midterm exam will obviously not actually be in-class, since we do not have class. What I mean is that it will be a typical timed exam that students will take at a specified time and place (as opposed to a “take-home” exam that you can complete when and where you want during the time you are working on it). *\*\*Distance education students will need to make arrangements with an approved testing center in their local area and complete a Distance Learning Test Administration Procedure and Approval Form (located under “Course Documents”) prior to taking the exam. I will need to have the form returned to me two weeks prior to the scheduled exam date, July 9, 2009. Therefore, please look into this soon, complete the form, and return it to me by Thursday, June 25, 2009.\*\** **Each exam will count for 20% of your semester grade.**

**Assignments:** You will have one assignment approximately 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 send me an email. In this email, please let me know (a) if you were able to access this syllabus, (b) if you have any questions about the structure of the course, the distance education aspects, or any other concerns, and (c) *your* mathematical history. I will leave the format of part (c) and its 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 by this **Friday, June 12, 2009**.

Of particular note is the term paper for graduate students. This will be due to last full week of classes (July 27-31). 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, June 26, 2009**. Let’s call this **Assignment #2** (undergraduate students are exempt from this assignment of course). 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. 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. ***This component will account for 60% of your semester grade (of which 25% will be the term paper for the graduate students).***

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

- I. Ancient Times
- II. Greece
- III. Renaissance Europe
- IV. The Calculus
- V. Number Theory
- VI. The Crisis in Foundations
- VII. The 20<sup>th</sup> Century (as time allows)

**Important Dates:** Mid-Term Exam – Thursday, July 9, 2009  
'W' Day – Friday, July 17, 2009  
Final Exam Due– Wednesday, August 5, 2009

**Academic Grievances:** The proper procedure for filing grade appeals or grievances related to academic matters is listed in Section 5 of the *Code of Student Conduct* and at the following link: [www.nicholls.edu/documents/student\\_life/code\\_of\\_conduct.pdf](http://www.nicholls.edu/documents/student_life/code_of_conduct.pdf).

**Continued Learning following an Extreme Emergency:** In order to make continued learning possible following an extreme emergency

***students are responsible for:***

- reading regular emergency notifications on the NSU website;
- knowing how to use and access Blackboard (or university designated electronic delivery system);
- being familiar with emergency guidelines;
- evacuating textbooks and other course materials;
- knowing their Blackboard (or designated system) student login and password;
- contacting faculty regarding their intentions for completing the course.

***faculty are responsible for:***

- their development in the use of the Blackboard (or designated) software;
- having a plan for continuing their courses using only Blackboard and email;
- continuing their course in whatever way suits the completion of the course best, and being creative in the continuation of these courses;
- making adjustments or compensations to a student's progress in special programs with labs, clinical sequences or the like only in the immediate semester following the emergency.

**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).