

Math 1313 section 001 – Liberal Arts Honors Mathematics
9:30-10:50 Tues/Thurs
308 PKH
Fall 2006

Instructor: Dr. Theresa Jorgensen

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Office hours: Tu 8 - 9am, Th 8 - 9am, Th 12:30 - 1:45pm, and by arrangement

Required textbook: *The Heart of Mathematics-An invitation to effective thinking*, by Burger and Starbird, 2nd edition.

Course description: We will explore what mathematics is about by delving into some beautiful and intriguing topics that you might not have necessarily thought would fit within the realm of math. The overriding theme of the course is to gain an appreciation for mathematics and to discover the power of mathematical thinking in your everyday life. Some of the topics we will investigate include

- Numerical patterns in nature (Fibonacci numbers and Golden Rectangles)
- What does infinity mean?
- Does there exist two nonbald people on the planet who have exactly the same number of hairs on their bodies? (Pigeonhole Principle)
- The fourth dimension (Möbius band and Klein bottle)
- The power of prime numbers (Public Key Cryptography)
- The birthday problem (Probability)

Prerequisites: An open and curious mind and the willingness to put aside any preconceived prejudices or dislikes for mathematics.

Homework: Each day I will assign homework, which will usually include a reading component. **READ THE BOOK.** It is good. Homework will not be collected, but it is to your advantage to solve every assigned problem.

Quizzes: Every non-exam week there will be a “quiz”. This may consist of an honest-to-goodness quiz (covering definitions or basic concepts), a short writing assignment, or student presentations of solved problems. Makeup quizzes will not be given.

Exams: There will be three midterm exams. The tentative dates for those exams are September 26, October 26, and November 30. There will be no final exam.

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Research project: One of the best ways to really understand mathematics is to learn and discover it on one's own. Working in small assigned groups (no larger than 3), students will select a mathematical topic outside of those covered in our class, read and teach themselves any necessary background to understand it, and then investigate the topic. Each group will write a final paper on their findings and present a poster display during the class poster session the last week of class. Progress reports will be collected throughout the semester. The project will be due on December 5.

Grading policy: Your final grade in the course will be determined as follows:

Exam 1	25%
Exam 2	25%
Exam 3	25%
Research project	15%
Quizzes	10%

Grading scale: 90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, <60% = F

Important dates:

September 4	Labor Day Holiday
September 13	Census date
September 26	Midterm 1
October 26	Midterm 2
November 3	Official last day to drop this class
November 23-26	Thanksgiving Holiday
November 30	Midterm 3
December 5	Research project due
December 8	Last day of classes

University Information:

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 - The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "**reasonable accommodation**" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with **informing the instructor at the beginning of the semester** and in providing *authorized* documentation through designated administrative channels.

Academic Dishonesty: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

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"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents Rules and Regulations, Part One, Chapter IV, Section 3, Subsection 3.2, Subdivision 3.22)

Grade Exclusion and Grade Replacement Policies: The Grade Replacement Policy is being phased out and a Grade Exclusion Policy is being phased in. For any and all questions about these policies, go to:

<http://www.uta.edu/catalog/general/academicreg>

If you are still confused, all questions should be directed to your academic advisor and not the instructor of this course.

Student Disruption: The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

Drop for Non-Payment of Tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.