MATH 1351A – Finite Mathematics
MW 12:10-1:25       DOH 029

Instructor: Dr. Jack Follis
Office: MATH 113
Phone: 713-942-5046
E-Mail: follisj@stthom.edu

OFFICE HOURS:       Mondays 10-12
                       Tuesdays 11-12, 5:30-6:30
                       Wednesdays 10-12 and 2:30-4
                       Thursdays 11-12, 5:30-6:30
                       Or by appointment


Course Description (from the course catalog): Topics from contemporary mathematics, their development applications and role in society. Some typical topics, to be chosen by the instructor, include graph theory, mathematical finance, critical path analysis, statistical inference, coding, game theory and symmetry. Applications in the management, natural and social sciences.

Learning Objectives

Students are expected to:
1. Develop problem solving skills using logic and correct mathematical reasoning.
2. Classify objects using set theory and use set operations and comparisons to solve problems on the relationships between sets of objects.
3. Use graph theory techniques to quantify the connections between objects.
5. Apply logical principles to the process of voting and understand the factors that affect the outcome of the vote.
6. Explain and calculate basic probability and its applications in daily life.
7. Interpret statistical data by finding the mean and standard deviation.
Course Outline (tentative)

Chapter 1 Problem Solving: Strategies and Principles
1.1 Problem Solving
1.2 Inductive and Deductive Reasoning

Chapter 2 Set Theory
2.1 The Language of Sets
2.2 Comparing Sets
2.3 Set Operations
2.4 Survey Problems

Chapter 3 The Study of What’s True or False
3.1 Statements, Connectives and Quantifiers
3.2 Truth Tables
3.3 The Conditional and Biconditional
3.4 Verifying Arguments

Chapter 4 Graph Theory (Networks): The Mathematics of Relationships
4.1 Graphs, Puzzles and Map Coloring
4.2 The Traveling Salesman Problem
4.3 Directed Graphs

Chapter 8 Consumer Mathematics
8.1 Percent, Taxes and Inflation
8.2 Interest
8.3 Consumer Loans
8.4 Annuities
8.5 Amortization
8.6 Annual Percentage Rate

Chapter 11 Voting: Using Mathematics to Make Choices
11.1 Voting Methods
11.2 Defects in Voting Methods
11.3 Weighted Voting Systems

Chapter 12 Counting: Just How Many Are There?
12.1 Introduction to Counting Methods
12.2 The Fundamental Counting Principles
12.3 Permutations and Combinations
12.4 Counting and Gambling

Chapter 13 Probability: What Are the Chances?
13.1 The Basics of Probability
13.2 Complements and Unions of Events
13.3 Conditional Probability
13.4 Expected Value
13.5 The Binomial Distribution

Chapter 14 Descriptive Statistics
14.1 Organizing and Visualizing Data
14.2 Measures of Central Tendency
14.3 Measures of Dispersion
14.4 The Normal Distribution
14.5 Linear Correlation
GRADE IN COURSE:

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<tr>
<td>Quizzes*</td>
<td>40%</td>
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<tr>
<td>Assignments**</td>
<td>15%</td>
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<td>Midterm</td>
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<td>Final</td>
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* There are no make-ups for missed quizzes.
**Late assignments and/or electronic submissions will only be accepted with the instructor's consent.

GRADING SCALE: *In this class the final course grades will be determined using the following grade scale:*

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<td>93.0-100</td>
<td>A</td>
<td>90-92.9</td>
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<td>&lt; 60</td>
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Classroom time

Classtime will be an interactive lecture. We will continually explore new material and your class participation in the activities and discussion is required. No cell phones allowed! Questions are always encouraged as they help everyone understand things better.
Policy on Academic Dishonesty
(From the 2015-2016 Undergraduate Catalog)

Policy/Procedure
Every offense against academic honesty seriously undermines the teaching-learning process for which the University exists, and such offenses will be dealt with expeditiously according to the following criteria.

Definition
Academic dishonesty includes but is not limited to:
1. Cheating on an examination or test; for example, by copying from another’s work or using unauthorized materials before or during the test, including the use of electronic devices;
2. Plagiarism, which represents as one’s own the work of another, whether published or not, without acknowledging the precise source;
3. Participation in the academic dishonesty of another student, even though one’s own work is not directly affected;
4. Any conduct which would be recognized as dishonest in an academic setting.

Penalty
The penalty for an incident of academic dishonesty is, at the discretion of the faculty member, either a mark of zero for the work in question or a grade of F for the course.

Disabilities
Any student with a disability requiring accommodations in this course is encouraged to contact me after class or during office hours. Additionally, students will need to contact Counseling and Disability Services in Crooker Center. This office can be reached at (713) 525-2169 or 6953

Dropping the Course
If you decide you do not wish to continue the course, it is your responsibility to go through the proper channels and officially drop the course. The last day to drop a course is November 11.

Tutorial Services
Students needing extra assistance with course concepts may also visit the Tutorial Services Center and/or ust.askonline.net.