CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS

Instructor: Dr. Trevorrow
Class Times: 10/06/08-12/18/08 Fridays from 5:30pm to 9:40pm, Schofield.

Office Hours: By appointment usually before or after class. For the online class I usually check the web board 3-5 times per day. In addition some Saturday sessions are offered, usually near Pearl Harbor (open to all).

Email: torrance.trevorrow@adjunct.chaminade.edu.

Text Book: The Nature of Mathematics, Eleventh Edition by Karl Smith. Brooks/Cole Publishing Company, ISBN 0-495-01272-6. If ordered online make sure to pay for priority shipping. A student solutions manual may also be helpful. (Check sources)

Course Description: (from the catalog) 3 Credits. Mathematical thought is studied through interactions between the foundations of knowledge and the study of the nature of both algebra and geometry. Issues of mathematical thought are addressed through selected studies of the nature of sets, logic, numbers and operations, algebra, geometry, measurement, financial management, probability, statistics, graphs and functions and mathematical systems. This course fulfills the Track A general education requirement in mathematics. The course is intended as a terminal course and is not a prerequisite for any other course in mathematics

Prerequisites: The student should already be competent with basic arithmetic, fractions, percents, and very elementary algebra.

Course Goals: This course will place an emphasis on increasing the student's mathematical skills and knowledge using a variety of conceptual approaches. Content may vary according to class abilities and interests at the discretion of the instructor. The overall goal will be to encourage a procedural and computational understanding of mathematics encompassing both logical reasoning, generalization and abstraction as well as gain experience in the careful analysis of data and become skilled at conveying mathematical knowledge in a variety of areas.

Course Objectives: At the completion of this course the student should be familiar and demonstrate competency with the following concepts and topics.

Problem Solving, mathematical style and modeling

Scientific and Exponential notation, order of operations, reasons, applications

Sets, Venn / Euler diagrams, concepts and uses in problem solving

Set Operations, rules, applications, a way to solve some types of problems

Finance and Interest, types of loans, inflation, compound interest

Installment loans, add on interest, credit card interest, Apr.

Frequency distribution, graphs, types, advantages, disadvantages, reading

Descriptive Statistics, central tendency - measures, dispersion, applications

Probability, terms, union, intersection, (and,or), spinners, cards, die/dice

Expected Value, is something worth are time or cost, games, contests

Methodology: Most of your learning will come from class participation and activities, meticulous study of the text, and completing the assigned work. Multiple quizzes, discussions, and articles will be used to reinforce learning.

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Success: All courses require a high degree of personal responsibility and time management skills. Grades tend to be proportional to the *personal effort* that is taken for the learning process. Universities often recommend 2-3 hours of study time for each hour of class time. A three credit course would require about 12 hours per week for study, research, reading, and assignments.

Grading:The contributions of various components of the course are indicated as percentages. Changes may be made to the course and grading at the instructor's discretion. The instructor reserves the right to adjust a students grade up or down if your quizzes and final do not reflect expected achievement. Quizzes 40% Class Work 10%, Final Exam 50%

A	90% +	Outstanding Scholarship and excellent initiative with course
B	80% +	Superior Quality done in a consistent intellectual manner
C	70% +	Satisfactory showing competent understanding of course
D	60% +	Lowest passing grade, inadequate for prerequisites
F	0-59%	Unsatisfactory understanding and class work

Late Work: Not accepted or graded. No exceptions (do not ask). Start early, avoid problems. By making significant class contributions you may compensate for unavoidable circumstances.

Attendance: Active and early participation is vital to your success. Each student is accountable for all the information presented in class. If you miss a class, please find a colleague for class notes and handouts. Guidelines from the undergraduate catalog indicate that if you miss more than a week of classes you are are subject to a grade reduction; missing two weeks of classes will result in notification to the Associate Provost and Records office, and possible withdrawal. Should an illness or personal reasons necessitate continued absence the student should officially withdraw.

Academic Integrity: All material submitted in fulfillment of course requirements must be done by the registered student. Cut and paste research, copying, substitute work, “wandering eyes”, or sharing exams will result in a grade of zero and possible failure for the course.

Supplies: Text Book, 3 Ring Binder, Ruler, Graph paper, and a Calculator with exponential functions (see text). A PDA or Cell Phone or Text Device is not to be used for coursework.

Resources: The text and class materials are the primary resources for the course. Often rereading the same section of the text (several times) will help more than searching for other material. However, the Internet, library and bookstores can also be useful.

Requirements: You are required to **immediately** seek clarification on any material that you do not understand. You are expected to maintain standards of academic performance and courtesy and to comply with all CUH policies. No cell phones, PDA, laptop, mp3's etc, or food in class. Any disruptive behavior or violations will result in expulsion from class (subsequent occurrence possible withdrawal from course).

Finals:Specific information will be provided towards the end of the semester. Usually the final is written, closed book, no notes, calculator permitted. Formulas are normally provided.

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PLANNED COURSE SCHEDULE – MAY BE MODIFIED

Date	Text	Main Topics	Sample Text Questions
	1.1	Problem Solving, Pascal's Triangle Presenting Mathematical Solutions	4,7,9,13,20,21,24,26, 31,35,44,48,51,53,54, 55
	1.3	Scientific & Exponential Notation, Order of Operations	1,2,3,5,7,10,13,23,25, 26,27,28,30,31,33,34, 36,37,44,49,53,54,59
	2.1	Sets, Venn / Euler Diagrams	2,3,4,5,6,7,9,13,19,20 ,25,35,37,39,53,60
	2.2	Set Operations Union, Intersection	1,2,3,4,5,9,13,15,19,2 1,23,24,25,26,27,28,3 7,39,42,45,46,47,48,5 3,54,57
	11.1	Simple, Compound Interest, Inflation	1,2,3,4,5,7,11,13,15,2 1,27,31,35,37,41,43,4 7,49,51,57
	11.2	Installment Loans Add On interest Credit Card Loans, Apr.	1,2,3,45,5,6,7,9,13,17 ,19,21,23,27,29,39,41 ,43,45,47,49
	14.1	Graph Types, Reading Frequency Distribution	1,2,3,4,5,7,9,11,13,14 ,15,18,21,60
	14.2	Statistics Central Tendency Dispersion	1,2,3,4,9,10,11,13,17, 21,22,25,30,34,37,43, 45,58
	13.1	Probability And & Or Spinners, Dice, Cards	1,2,3,5,8,9,11,12,23,2 7,29,31,41,47,48,49,5 2,55,56
	13.2	Expected Value Games, Contests (FINALS)	1,2,3,4,5,6,7,9,10,12, 13,15,16,19,31,33,35, 39,50,53,55