CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS - ONLINE

Instructor: Dr. Trevorrow
Class Times: 7/6/09 - 9/15/09

Web Board: eCollege is our current web board. Your instructor usually checks our site 3-5 times per day. In addition some live Saturday sessions are offered, usually near Pearl Harbor (open to all) as well as Tuesday afternoons at Schofield (by arrangement).

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. The first chapter is available online as a Pdf. 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: To increase the student's mathematical knowledge, skills and abilities. Mathematical style and perspectives are developed and analyzed from the text, problem solving, examples, posts and critiques. A variety of mathematical topics are chosen to expose the student to different types of mathematical thinking and approaches to numerical problem solving.

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

Problem Solving, mathematical style and modeling

Inductive and Deductive Reasoning, Scientific Method

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, time value, extended warranties, games, contests

Methodology: Most of your learning will come from class participation, 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. 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

Homework: May be mailed to the instructor at the end of the semester for up to 10 points. This is optional but may help compensate for any missed quizzes or work.

Late Work: Not accepted or graded. No exceptions Start early, avoid problems. By making significant class contributions or submitting homework you may compensate for unavoidable circumstances.

Attendance: Active and early participation is vital to your success. Each student is accountable for all the information posted on the web board and to present work by the due dates. 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, sharing quizzes or exams will result in a grade of zero and possible failure for the course.

Supplies: Text Book, Loose leaf notebook, Calculator with exponential functions.

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. 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. Any requests from the instructor require a prompt response.

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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TOPICS AND SEQUENCE – MAY BE ADJUSTED

Text Chapter.Section	Main Topics	Homework Questions
1.1	Problem Solving, Pascal's Triangle Presenting Mathematical Solutions	4,7,9,13,20,21,24,26,31,35,44, 48,51,53,54,55,56
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	1,2,3,4,5,9,13,15,19,21,23,24,2 5,26,27,28,37,39,42,45,46,47,4 8,53,54,56,57
11.1	Simple, Compound Interest, Inflation	1,2,3,4,5,7,11,13,15,21,27,31,3 5,37,41,43,47,49
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 ,41,60
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	1,2,3,5,8,9,11,12,23,27,29,31,4 1,47,48,49,52,55,56,59
13.2	Expected Value Games, Contests REVIEW WEEK	1,2,3,4,5,6,7,9,10,12,13,15,16, 19,31,33,35,39,50,53,55,57 (FINALS)