

CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS

Instructor: Dr. Trevorrow

Class Times: 7/6/2009 - 9/15/2009 Tuesdays, 5:30pm -9:40pm Schofield Education Center

Office Hours: By arrangement usually before class 3pm-5pm or after class. 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. 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, knowledge and abilities. Problem solving will be studied using a variety of mathematical concepts, in class exercises and presentations. The text will be used to help develop mathematical constructs, approaches, and format

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

- 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, 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. Quizzes will usually be given at the beginning and end of class. Student presentations and summaries will be made throughout the course.

CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS

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.

Missing one class (4hrs) is the equivalent of missing 4 days classes and will significantly affect your learning and grade. For any missed work, check with your classmates. Forming study groups or buddies is encouraged.

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 20% (Homework, Presentations), Final Exam 40%

- 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. If you know you will miss class, pass your work onto a fellow student for delivery.

Attendance: 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 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, and a Calculator with exponential functions (dual line recommended). A PDA or Cell Phone or Text Device is not to be used for class work.

Resources: The text and class materials are the primary resources for the course. Often re-reading the same section of the text (several times) will help more than searching for other material. The Internet, library and bookstores (Barron's series) 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.

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.



CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS
COURSE SCHEDULE – MAY BE MODIFIED

Text Chapter & Section	Main Topics	Sample Text Questions
1.1	Problem Solving, Pascal's Triangle Presenting Mathematical Solutions	4,7,9,13,20,21,24,26,31, 35,44,48,51,53,54,55,56
1.2	Inductive and Deductive Reasoning Scientific Method	1-18,25,27,29,35,49,50,53, 54,57,58
1.3	Scientific & Exponential Notation, Order of Operations	1,2,3,5,7,10,13,23,25,26 ,27,28,30,31,33,34,36,3 7,44,49,53,54,59
2.1	Sets, Venn / Euler Diagrams	2,3,4,5,6,7,9,13,19,20,2 5,35,37,39,53,60
2.2	Set Operations Union, Intersection	1,2,3,4,5,9,13,15,19,21, 23,24,25,26,27,28,37,39 ,42,45,46,47,48,53,54,5 6,57
11.1	Simple, Compound Interest, Inflation	1,2,3,4,5,7,11,13,15,21, 27,31,35,37,41,43,47,49
11.2	Installment Loans Add On interest Credit Card Loans, Apr.	1,2,3,45,5,6,7,9,13,17,1 9,21,23,27,29,39,41,43, 45,47,49
14.1	Graph Types, Reading Frequency Distribution	1,2,3,4,5,7,9,11,13,14,1 5,18,21,41,60
14.2	Statistics Central Tendency Dispersion	1,2,3,4,9,10,11,13,17,21 ,22,25,30,34,37,43,45,5 8
13.1	Probability And & Or Spinners, Dice, Cards	1,2,3,5,8,9,11,12,23,27, 29,31,41,47,48,49,52,55 ,56,59
13.2	Expected Value Games, Contests Review Finals - Last Day of Class	1,2,3,4,5,6,7,9,10,12,13, 15,16,19,31,33,35,39,50 ,53,55,57