

## CHAMINADE UNIVERSITY: MA 100 NATURE OF MATHEMATICS

**Instructor:** Dr. Trevorrow

**Class Times:** Schofield, Thursdays 5.30p-9.40p.

**Office Hours:** By appointment, also before or after scheduled class times. In addition some Saturday sessions are offered, usually near Pearl Harbor.

**Email:** All course related email: [torrance.trevorrow@adjunct.chaminade.edu](mailto:torrance.trevorrow@adjunct.chaminade.edu).

**Text Book:** The Nature of Mathematics, Tenth Edition by Karl Smith. Brooks/Cole Publishing Company, ISBN 0-534-40023-X. Earlier editions may be used with discernment. If ordered online make sure to pay for priority shipping.

**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.

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

1. History of Mathematics
2. Problem Solving
3. Deductive / Inductive Reasoning
4. Scientific Notation and Estimation
5. Financial Management, Interest, Loans
6. Graphing & Statistics
7. Measurement, Accuracy, Precision
8. Perimeter, Area, Volume, Conversions
9. Sets and Set Operations
10. Probability and Mathematical Expectation

**Methodology:** Most of your learning will come from meticulous study of the text, completing the provided worksheet. Multiple quizzes, discussions, and articles will be used to reinforce learning. By carefully reading all posts you will gain additional insight into problem solving and mathematical reasoning. You will have the opportunity to demonstrate your proficiency through careful presentation of assigned work.

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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 and seeking immediate clarification for enigmatic areas.

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.

Class Contributions	0-10% (criteria specified on web board)
Quizzes	20% (weekly, multiple choice)
Assignments	20% (provided during the course)
Final Exam	60% (proctored, written)

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. Start early, avoid problems. By making significant class contributions/posts 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 on the web board.

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

**Supplies:** Text Book, Notebook, 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 exams.

A three ring binder is an excellent way of organizing information. Commonly used folder dividers include: Course information, Study Notes, Homework, Assignments, Articles, Quizzes, Questions to ask.

**Resources:** The Internet also offers an amazing variety of math sites; Wikipedia, Msn Encarta, and glossary can provide very useful background information.

**Requirements:** You are required to **immediately** seek clarification on any material that you do not understand. Polya's model is to be used for all problem solving. You are expected to maintain standards of academic performance and comply with all CUH policies.

**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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## COURSE SCHEDULE

Date	Week	Text	Topic	Review *
7/2	1	Prologue 1.1	Historical Overview  Problem Solving Pascal's Triangle	
7/9	2	1.2  1.3	Order Operations Inductive Deductive  Scientific & Exponential Notation, Estimation and Approximation	
7/16	3	9.1	Interest Borrowing Investing	
7/23	4	9.2	Installment Loans	
7/30	5	12.1 12.2	Graphs Descriptive Statistics	
8/6	6	7.1 7.2 7.3	Perimeter Area Volume Capacity	
8/13	7	10.1 10.2	Sets Set Operations	
8/20	8	11.1	Probability & Experiments	
8/27	9	11.2	Mathematical Expectation	
9/3	10	Study	Final Review Approximately 60 Practice Questions and Topics	

\* Write in specific text or worksheet questions that you need to review  
Specific Homework and Assignments will be given in class