Chaminade University of Honolulu

Math 100-90: Quantitative Reasoning and Mathematical Skills
Spring 2015

Course Description

A study of various topics including an introduction to sets, logic, number systems, basic skills in algebra and geometry, consumer mathematics, probability and statistics, with an emphasis on problem solving, quantitative and logical thinking. 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.

Instructor Information

Peter Anzalone, M.P.H.

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Class Meeting Information

Location: Online
Live Chat Sessions: By appointment

Key Dates

First Day of the Term: April 6, 2015
Last Day to Add/Drop: April 13, 2015
Last Day to Withdraw: May 22, 2015
Last Day of Term: June 13, 2015

Textbook

Thinking Mathematically-Sixth Edition, Blitzer, Robert 2015, Boston, MA: Pearson Education.

MyMathLab & Mastering

MyMathLab is an excellent resource that gives students access to excellent resources and practice questions that provide instructional assistance. **Enrollment in MyMathLab is mandatory during the first week of class.**
Go to www.mymathlab.com to register. To enroll in the MyMathLab course, each student needs:

- **Student access code, a valid credit card, or a PayPal account**– Students get an access code with a new book purchase or by buying the code separately in a student access kit/card at the campus bookstore. Students can also buy access to a course online with a credit card or PayPal account while they are enrolling.

  Course ID: anzalone58584. Important: The student access code is nontransferable and can be used only once.

- **Email address** – The student's registration and enrollment confirmation will be sent to this email address.

- **Multimedia library**: MyMathLab has powerpoint presentations, video lectures, chapter test prep viedeos and textbook excerpts to help you master your skills.

- **Sample Tests and Quizzes**: Sample tests and quizzes can be taken for practice or to build your study plan. Sample tests and quizzes do not affect your grade.

- **Required Tests and Quizzes**: All required tests and quizzes will be taken on MyMathLab.

Learning Expectations and Course Objectives

At the end of this course, the student will gain knowledge of the following topics:

1. Inductive and Deductive Reasoning
2. Estimation
3. Problem Solving
4. Basic Set Concepts, Subsets, Venn Diagrams and Set Operations
5. Problem Solving using Logic and Truth Tables
6. Our Hindu-Arabic System and Positional Number Systems
7. Number Theory: Prime Numbers and Composite Numbers
8. The Integers: Order of Operations
9. Exponents and Scientific Notations
10. Algebraic Expressions, Formulas and Linear Equations
11. Percent, Sales Tax, and Income Tax
12. Mathematics and Finance
13. Geometry and Trigonometry
14. Euler Paths, Euler Circuits. Hamilton Paths and Hamilton Circuits
15. The Fundamental Counting Principle
16. Permutations and Combinations
17. Fundamentals of Probability

Grading

Assignment	Weight		Final Grade
Quizzes:	15%		**A= 90%-100%**
Homework:	25%		**B= 80%-89%**
Mid-term Exam:	25%		**C= 70%-79%**
Final Exam:	25%		**D= 60%-69%**
Project:	5%		**F= below 60%**
Discussion Posts:	5%		

Failure to complete all required coursework will result in a final grade of "F".

Homework

Math is not a spectator sport. In order to master the skills learned in this course, you need to practice them each week. Homework problems will be assigned weekly from each section and posted on MyMathLab. They must be completed by the due date indicated. Late submissions will be accepted but will receive a 10% penalty.

Quizzes

There will be six weekly quizzes to test your understanding of the material from the previous week. Bonus questions will be assigned from the current week's material. Quizzes will be assigned online and must be completed by the due date indicated. Late submissions will not be accepted.

Exams

There will be two exams: one mid-term exam and one final exam. Exams will be assigned online and must be completed by the due date indicated. Late submissions will not be accepted. The final exam will be cumulative.

Project

As active participants in the learning experience, each student is required to investigate the role mathematics plays in a topic of their choice and submit either a 3-5 page paper or a 8-10 slide PowerPoint presentation on your findings.

The topic you select may be anything related to mathematics and must be either one that demonstrates the significance that mathematics has in an "every day" application like your job or a hobby or one that we have not covered in class. Your selection must be submitted and approved by your instructor.

Some examples of topics are:

- Mathematics and Construction/Engineering
- Pythagoras and Pythagorean Society
- Mathematics and Art
- Numerology
- The Biography of a Mathematician
- Mathematics and Personal Finances
- The Number Zero
- Scuba Diving and Dive Tables
- Probability and Gambling

Discussion Posts

Each student will be required to post at least one response to the weekly discussion topics on MyMathLab in the "Discussions" section.

Makeup/Extra Credit Assignments

There will be no makeup assignments without prior approval and coordination with the instructor. There will be no extra credit assignments.

Academic Integrity Policy

As members of the Chaminade University community, we are all commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Chaminade degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

ADA Accommodations

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions to the Dean of Students and review the procedures at http://www.chaminade.edu/student_life/sss/counseling_services.php

Schedule and Calendar

Week 1: 6-12 April	Inductive and Deductive Reasoning Estimation, Graphs and Mathematical Models Problem Solving **Discussion Post 1**	1.1 1.2 1.3
Week 2: 13-19 April	Basic Set Concepts Subsets Venn Diagrams and Set Operations Set operations and Venn Diagrams with Three Sets Survey Problems **Homework 1 Due, Quiz 1 Due** **Discussion Post 2**	2.1 2.2 2.3 2.4 2.5
Week 3: 20 - 26 April	Statements, Negations, and Quantified Statements Compound Statements and Connectives Truth Tables for Negation, Conjunction and Disjunction Truth Tables for the Conditional and the Biconditional Equivalent Statements and Variations of Conditional Statements Arguments and Truth Tables **Homework 2 Due, Quiz 2 Due** **Discussion Post 3**	3.1 3.2 3.3 3.4 3.5 3.7

Week 4: 27 April – 3 May	Our Hindu-Arabic System and Early Positional Systems Number Bases in Positional Systems **Homework 3 Due, Quiz 3 Due** **Discussion Post 4**	4.1 4.2
Week 5: **4 – 10 May**	**MID-TERM EXAM** **Homework 4 Due, Discussion Post 5**	
Week 6: 11 – 17 May	Number Theory: Prime and Composite Numbers The Integers: Order of Operations Exponents and Scientific Notations Percent, Sales Tax, and Discounts Simple Interest Compound Interest **Discussion Post 6**	5.1 5.2 5.6 8.1 8.3 8.4
Week 7: 18 – 24 May	Points, Lines, Planes, and Angles Triangles Right Triangle Trigonometry Beyond Euclidean Geometry Graphs, Paths and Circuits Euler Paths and Euler Circuits Hamilton Paths and Hamilton Circuits **Homework 5 Due, Quiz 4 Due** **Discussion Post 7**	10.1 10.2 10.6 10.7 14.1 14.2 14.3
Week 8: 25 – 31 May	The Fundamental Counting Principle Permutations Combinations Fundamentals of Probability Probability with the Fundamental Counting Principle, Permutations and Combinations **Homework 6 Due, Quiz 5 Due** **Discussion Post 8**	11.1 11.2 11.3 11.4 11.5
Week 9: 1 – 7 June	**Project Due** **Homework 7 Due, Quiz 6 Due** **Discussion Post 9**	
Week 10: 8 – 13 June	**FINAL EXAM** **Discussion Post 10**	