

MIDSTATE COLLEGE
411 W. NORTHMOOR RD. PEORIA, IL 61614
(309) 692-4092 (800) 251-4299

Spring 2010

Course: MAT 135 General Education Mathematics (IAI M1 904)

Credit: 6 Quarter Hours **Method of Delivery:** Classroom

Course Description: This course is designed to fulfill general education requirements, and not designed as a prerequisite for any other college mathematics course. It focuses on mathematical reasoning and the solving of real-life problems, rather than routine skills. Topics include counting techniques and probability, logic and set theory, the mathematics of finance, and statistics. Some of the topics may be substituted with geometry, graph theory, mathematical modeling, game theory, or linear programming.

Prerequisite: MAT 130 Introduction to Algebra, a qualifying score on the mathematics placement test, or consent of the Dean.

Text(s) & Manual(s): *Nature of Mathematics, 11 ed.*

Author(s): Karl Smith

Publisher: Brooks/Cole **ISBN-13:** 978-0-495-01272-6

Materials needed for this course:

Additional Supplies:

Hardware/Software and Equipment: a graphing or scientific calculator

Topics:

1. Problem solving
2. Sets
3. Logic
4. Algebra
5. Geometry
6. Networks and graph theory
7. Sequences, series and financial management
8. Probability
9. Graphs and functions
10. Measurement
11. Statistics

Learning Objectives: Upon completion of this course, the student will be able to:

1. interpret mathematical models such as formulas, graphs, tables, and schematics, and draw inferences from them.
2. develop and apply mathematical insights in the areas of logic, probability, statistics, the metric system, or geometry to problems and situations which the student has not likely encountered before.
3. use mathematics as a systematic approach to problem solving, with particular emphasis on Polya's problem solving techniques.
4. represent mathematical information symbolically, visually, numerically, and verbally.

Midstate Grading scale:

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

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Midstate Plagiarism Policy:

Plagiarism is using another person's words without giving credit to the author. Original speeches, publications, and artistic creations are sources for research. If students use the author's words in a paper or assignment, they must acknowledge the source. Plagiarism is strictly against the academic policy of the college and is grounds for failing the course. If repeated, plagiarism may result in suspension from the college. (See the Midstate College catalog and/or Student Handbook for additional information.)

In courses containing writing assignments, the college promotes the use of an electronic resource which compares the student's writing against previously submitted papers, journals, periodicals, books, and web pages. Students and instructors can use this service to reduce the incidence of plagiarism. This electronic resource has been found to conform to legal requirements for fair use and student confidentiality. It is able to provide a report to the student indicating the parts of the assignment that match.

Instructor Information:

Matt Padilla
 Office hours: M-F 7³⁰pm-9³⁰pm
 mapadilla@midstate.edu

Policies and Procedures:

Make-up Policy: Students may make-up missed quizzes/exams within one week of the missed class.

Homework: I will assign homework in almost every class, which will be due by the next class. If a class is missed, students are still expected to complete the missed assignment and be prepared at the next meeting. I will accept an assignment up to one week later.

Your Grade: You will have a weighted grade for this course. The weighting is as follows:

Attendance	20%
Homework	40%
Quizzes	20%
Final Exam	20%

Course Outline (Subject to Change)			
<i>Week #1</i>	Pretest, Chapter 1: 1.1 Inductive and Deductive Reasoning, 1.3 Problem Solving	<i>Week #7</i>	Chapter 6: 6.3 Applications of Linear Equations and 6.4 Ratio, Proportion and Variation
<i>Week #2</i>	Chapter 5: 5.1 Number Theory, 5.2 Integers and Order of Operations	<i>Week #8</i>	Chapter 7: 7.2 Linear Functions and Their Graphs and 7.3 Systems of Linear Equations in Two Variables
<i>Week #3</i>	5.4 Irrational Numbers, and 5.6 Exponents and Scientific Notation	<i>Week #9</i>	Chapter 8: 8.2 Simple Interest and 8.3 Compound Interest
<i>Week #4</i>	Chapter 6: 6.1 Algebraic Expressions and Formulas	<i>Week #10</i>	Chapter 10: 10.1 Points, Lines, Planes and Angles, 10.2 Triangles
<i>Week #5</i>	6.2 Linear Equations in One Variable	<i>Week #11</i>	10.3 Polygons and Perimeter (OMIT Tessellations) and 10.4 Area and Circumference.
<i>Week #6</i>	Mid-Term Exam	..	Final Exam Review
		<i>Week #12</i>	Final Exam

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MATH PROBLEM-SOLVING RUBRIC

Given a story problem, the student will use appropriate strategy to find the solution and use graphs and/or tables to illustrate and explain.

	MINIMAL(1)	BASIC(2)	PROFICIENT(3)	ADVANCED(4)
Understands The Problem	Student can't read problem- not sure what to do.	Student can read problem-can pull out numbers, not sure what to do.	Student can read problem, pulls out numbers and operation may or may not be correct.	Student reads problem, pulls out numbers and uses correct operation.
Computation	Pulls out numbers which may or may not be correct.	Pulls out numbers, operation and answer may or may not be correct.	Pulls out numbers operation correct, answer may or may not be correct.	Pulls out numbers, operation and answer are correct.
Use of Tables/Graphs	Unsure of numbers involved, can't demonstrate how to use in table/graph.	Knows numbers involved, unsure of table /graph to use.	Knows numbers involved and table/graph to use, may or may not be completed correctly.	Knows numbers involved and put into table/graph correctly.
Explanation	Cannot explain why he/she did what they did.	Unclear, not concise, or incomplete.	Clear with some appropriate math language, not concise.	Clear, concise, and uses appropriate math language.
Satisfies All Requirements	Does not satisfy requirements of the problem.	Satisfies all requirements of problem, answer may or may not be correct.	Satisfies all requirements of the problem, answer partially correct.	Satisfies all requirements of the problem with correct answer.

SCORE TOTAL _____

Scoring Process
Advanced: 19 -20
Proficient: 15 -18
 No score of 2 in any area.

Basic: 10-14,
 no more than one area with a score of 1.
Minimal: score <10