Midland College
Syllabus
2008-09
MATH 1350
Fundamentals of Mathematics I
3 Semester Credit Hours
(3 Lecture/0 Lab)

Course Description: Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification. Prerequisite: Requires a “C” or greater in Math 1314 (College Algebra). Course Fee. (27.0101.5619)


Course Goals/Objectives: After successfully completing this course the students should be able to:

1. Use the language of mathematics.
2. Understand sets, set notation, and use sets for problem solving.
3. Work with functions.
4. Review other systems of numeration in connection with the development of current systems in use.
5. Use alternative systems of numeration, changing between systems and base 10.
6. Understand basic number theory, including properties of natural numbers, integers, rational, and real numbers.
7. Use problem solving strategies to generalize number patterns, solve problems without using algebraic equations/systems, and solve equations and systems of equations.
8. Create mathematical models.
9. See and understand connections in learning mathematics.

Student Contributions and Class Policies: Students are expected to attend class regularly; they may be dropped if they have more than six absences in a MWF class, or more than four absences in a TT class. Students are expected to behave in a manner that will not interfere with the learning process.
Students will be evaluated based, as follows:

- 10 - 20% class activities
- 40 - 60% exams
- 10 - 30% final exam
- 10 - 20% projects.

Grade ranges are:
- 90-100 for an A,
- 89 for a B,
- 79 for a C,
- 69 for a D, and
- 0- 59 for an F.

The normal grading scale is in accordance with the Midland College Faculty Handbook. Any grade ranges that differ from these should be noted in the individual instructor’s grade book.

From the text, chapters 1 - 5 will be covered. Additional topics from Chapters 6 and 7 may be included. Appropriate assignments from the text and computer assignments will be used to enhance concepts. In addition to the text material, students will participate in class activities designed to reinforce concepts, demonstrate potential classroom use, enhance critical thinking and use individual and collaborative learning to broaden mathematical foundation.

1. Reading - Understanding the material incorporated in the text used in this course will require the student to analyze and interpret various mathematical concepts.

2. Listening - The primary teaching methods used in this course are discussion and lecture. Understanding the oral presentation of material will require the student to analyze and interpret various mathematical concepts.

3. Critical Thinking - Critical thinking, as exemplified by problem solving, is inherent in the study of any scientific discipline. Mathematical problems will be considered, discussed, and analyzed in this course.

Any student who, because of a disabling condition, may require some special arrangements in order to meet course requirements should contact the instructor as soon as possible. These conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request them and secure the proper authorizations.
Exemplary Objectives:

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Competencies:

1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.

2. To represent and evaluate basic mathematical information verbally, numerically, graphically and symbolically.

3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.

4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.

5. To interpret mathematical models such as formulas, graphs, tables and schematics and draw inferences from them.

7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understanding its connections to the other disciplines.

Instructor Information:

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