Midland College Syllabus
2018 - 2019
MATH 0481
4 Semester Credit Hours
(4 Lecture/0 Lab)

Instructor Information:
Instructor: Click here to enter text.  Office: Click here to enter text.
Phone: Click here to enter text.  Email: Click here to enter text.
Office Hours: Click here to enter text.

Notice: Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity may be reported as never attended and dropped from the course.

Course Description:
Math 0481 is a one semester course for non-STEM majors designed to prepare students for pathway courses such as college level Statistics or Contemporary Math courses. The focus of this course is on developing mathematical maturity through problem solving, critical thinking, writing and communicating mathematics by integrating numeracy, proportional reasoning, algebraic reasoning, and functions.

Co-requisite: Math 0180 (Must pass to progress in sequence)

Text, References and Supplies:
Required: Use of a functional computer with Internet access on a daily basis
Required: Scientific calculator for some lessons (No graphing calculators allowed at any time), 2 - 2 ½ inch 3-ring binder, pencil and notebook paper

Student Learning Outcomes:
After successfully completing this course the student should be able to:

Numeracy:
1. Demonstrate operation sense and the effects of common operations on numbers in words and symbols.
2. Demonstrate competency in the use of magnitude in the contexts of place values, fractions, and numbers written in scientific notation.
3. Use estimation skills.
4. Apply quantitative reasoning to solve problems involving quantities or rates.
5. Demonstrate measurement sense.
6. Demonstrate an understanding of the mathematical properties and uses of different types of mathematical summaries of data.
7. Read, interpret and make decisions based upon data from line graphs, bar graphs, and charts.

Proportional Reasoning:
1. Recognize proportional relationships from verbal and numeric representations.
2. Compare proportional relationships represented in different ways.
3. Apply quantitative reasoning strategies to solve real-world problems with proportional relationships.

Algebraic Reasoning:
1. Understand various uses of variables to represent quantities or attributes.
2. Describe the effect that changes in variable values have in an algebraic relationship.
3. Construct and solve equation or inequalities to represent relationships involving one or more unknown or variable quantities to solve problems.

Functions:
1. Translate problems from a variety of contexts into a mathematical representation and vice versa.
2. Describe the behavior of common types of functions using words, algebraic symbols, graphs and tables.
3. Identify the reasonableness of a linear model for given data and consider alternative models.
4. Identify important characteristics of functions in various representations.
5. Use appropriate terms and units to describe rates of change.
6. Understand that abstract mathematical models used to characterize real-world scenarios or physical relationships are not always exact and may be subject to error from many sources.

Student Success:
1. Develop written and verbal skills in relation to course content.
2. Evaluate personal learning style, strengths, weaknesses, and success strategies that address each.
3. Research using print and online resources.
4. Apply time management and goal setting techniques.

Mathematical Success
1. Develop the ability to use mathematical skills in diverse scenarios and contexts.
2. Use technology appropriately including calculators and computers.
3. Demonstrate critical thinking by analyzing ideas, patterns, and principles.
4. Demonstrate flexibility with mathematics through various contexts, modes of technology, and presentations of information (tables, graphs, words, equations).
5. Demonstrate and explain skills needed in studying for and taking tests.

Student Contributions, Responsibilities and Class Policies:
Students will be expected to comply with the policies outlined in the Midland College Student Handbook. Instructor policies concerning attendance and academic behavior are consistent with the policies in the student handbook. Regular attendance is required to do well in this class. Students are expected to arrive punctually and participate in class. Students should behave in an appropriate manner so as not to interfere with learning. What is inappropriate will be determined by the instructor. For example, please turn off all cell phones.

A grade of C or better in Math 0481 and a P in Math 0180 is required to progress to Statistics or Contemporary Math.

Attendance Policy:
It is the responsibility of the students to know the policies and procedures associated with absences. These policies are set by instructors. Excused absences may include, but are not limited to, illness, severe weather, and death in the family. Instructors will determine whether or not an absence is excused. Please visit the Midland College Catalog.

Withdrawal Policy:
Students who have enrolled in a Texas public institution of higher education as a first-time freshman in fall 2007 or later are permitted to drop no more than six courses during the entire undergraduate career. This limit includes all transfer work taken at a Texas institution of higher education and to second baccalaureate degrees. This statute was enacted by the State of Texas in spring 2007 (Texas Education Code 51.907). Any course that a student drops after Census Day is counted toward the six-course limit if “(1) the student was able to drop the course without receiving a grade or incurring an academic penalty; (2) the student’s transcript indicates or will indicate that the student was enrolled in the course; and (3) the student is not dropping the course in order to withdraw from the institution.” Please visit the Midland College Catalog.

Scholastic Dishonesty:
Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the MC Student Handbook on this subject. Please visit the Midland College Catalog.
**Evaluation of Students:**
Students will be evaluated using a variety of methods including examinations and written assignments, group work, web based assignments, and quizzes.

The normal grading scale is:

- **Homework:** 0% to 20%, 90-100 for an A
- **Quizzes:** 0% to 20%, 80-89 for a B
- **Exams:** 40% to 80%, 70-79 for a C
- **Final:** 20% to 30%, 60-69 for a D, 0-59 for a F

**Course Schedule:**

**Numeracy**
- Arithmetic operations of whole numbers, integers, fractions, decimals, and percentages
- Magnitude and scientific notation
- Estimation – knowing how and when to estimate results, to solve problems and to detect errors
- Problems involving quantities or rates.
- Measurement
- Data interpretation and measures of central tendency
- Line graphs, bar graphs and charts
- Measure of central tendency
- Calculators (hand-held and online) skills

**Proportional Reasoning:**
- Proportional relationships from verbal and numeric representations
- Comparing proportional relationships
- Applying quantitative reasoning strategies to solve real world problems involving proportionality
- Using similarity to solve applications
- Using dimensional analysis to convert units of measure
- Writing and solving proportions

**Algebraic Reasoning:**
- Uses of variables
- Effects of variables on other variables in the algebraic relationship
- Constructing and using equations or inequalities
- Writing and interpreting compound inequalities in one variable
- Writing and simplifying algebraic expressions by using the distributive property, combining like terms, and/or factoring the GCF
- The Pythagorean Theorem.

**Functions:**
- Translating problems into a mathematical representation and vice versa including linear, exponential, and quadratic functions
Behavior of common types of functions using expressions, graphs and tables
Identifying linear models
Characteristics of functions including slope, points, intercepts, inputs, and outputs
Using appropriate terms and units to describe rate of change
Understand mathematical models
Applying formulas to solve problems related to perimeter, area, and volume
Order of operations
Solving a formula for one of its variables
Interpreting slope as a rate of change
Writing and solving systems of linear equations in two variables
Determining solutions for linear inequalities
Use of Excel

**Intellectual Competencies:**

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.

**ADA Statement:**
Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must place documentation on file with the Counselor/Disability Specialist. Students with disabilities should notify Midland College prior to the beginning of each semester. Student Services will provide each student with a letter outlining any reasonable accommodations. The student must present the letter to the instructor at the beginning of the semester.

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individuals have been designated to handle inquiries regarding the non-discrimination policies:

**Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu.** For further information on notice of non-discrimination, visit
Spanish

Midland College no discrimina por motivos de raza, color, nacionalidad, sexo, discapacidad, o edad en sus programas o actividades. Las siguientes personas han sido designadas para responder a cualquier pregunta o duda sobre estas políticas no discriminatorias: Tana Baker, Title IX Coordinator/Compliance Officer, 3600 N. Garfield, SSC 242, Midland, TX 79705, (432) 685-4781, tbaker@midland.edu; Natasha Morgan, Director Human Resources/Payroll, 3600 N. Garfield, PAD 104, Midland, TX 79705, (432) 685-4534, nmorgan@midland.edu. Para más información sobre estas políticas no discriminatorias, visite http://wdcrobpcolp01.ed.gov/CFAPPS/OCR/contactus.cfm o llame al 1 (800) 421-3481.

Math/Science Division Information:
Division Dean: Dr. Margaret Wade 125 AHSF 432-685-4615
Dept. Chair: Mrs. Gena Nicholson 119 MHAB 432-685-6803
Division Secretary: Ms. Sarah Anderson 124 AHSF 432-685-6896
Division Clerk:

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