Course Syllabus

BMAT 0201 – BASE Mathematics Skills

Revision Date: December 8, 2015

Catalog Description: Topics in mathematics such as arithmetic operations, basic algebraic concepts and notation, geometry, and real and complex number systems. This Intervention is designed specifically for students assessed at BASE levels 3-4 and must be part of a student's co-enrollment (co-requisite) enrollment: •as a mainstreamed intensifier providing contact hours for additional, just-in-time instructional support for the student's success in the developmental math course. Will not meet graduation requirements. Co-enrollment in MATH 0301 required. (0-2-2).

Lecture hours = 0, **Lab hours** = **2**

Prerequisites: None

Semester Credit Hours: 2
Lecture Hours per Week: 0
Lab Hours per Week: 2
Contact Hours per Semester: 32
State Approval Code: 32.0104.55 19

Core Components and Related College Student Learning Outcomes: This course counts as part of the academic requirements of the Panola College Core Curriculum and an Associate of Arts or Associate of Science degree. ☐ Yes X No: If no, skip to Instructional Goals.

The items below marked with an X reflect the state-mandated outcomes for this course **IF this is a CORE course**:

☐ Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and syntheses of information

- ☐ CT1: Generate and communicate ideas by combining, changing, or reapplying existing information
- ☐ CT2: Gather and assess information relevant to a question
- ☐ CT3: Analyze, evaluate, and synthesize information

☐ Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication

- ☐ CS1: Develop, interpret, and express ideas through written communication
- ☐ CS2: Develop, interpret, and express ideas through oral communication
- ☐ CS3: Develop, interpret, and express ideas through visual communication

☐ Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

- ☐ EQS1: Manipulate and analyze numerical data and arrive at an informed conclusion

☐ EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion

☐ Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

☐ TW1: Integrate different viewpoints as a member of a team

☐ TW2: Work with others to support and accomplish a shared goal

☐ Personal Responsibility – to include the ability to connect choices, actions, and consequences to ethical decision-making

☐ PR1: Evaluate choices and actions and relate consequences to decision-making

☐ Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

☐ SR1: Demonstrate intercultural competence

☐ SR2: Identify civic responsibility

☐ SR3: Engage in regional, national, and global communities

Instructional Goals and Purposes: The goal of this course is to increase academic proficiency in expression of mathematical solutions, mathematical reasoning, and mathematical understanding.

Learning Outcomes: After studying the material presented in lectures and labs, the student should be able to complete all learning and performance objectives with an average of 70% competency in all assignments, tests, and assessments. Upon completion of this course, the students will be able to:

- ***Integers*** – Demonstrate basic skills in computations, estimations, order of operations, and applications involving Integers.
- ***Inequalities***- Use inequality symbols < and > to compare rational numbers.
- ***Linear Expressions*** – Perform operations and simplify expressions using the Commutative, Associative, Distributive, and Identity Properties of Addition and Multiplication (Properties of Real Numbers).
- ***Linear Equations*** – Use the properties of equality to solve linear equations in one unknown.
- ***Ratios and Proportions –*** Solve ratio, proportion, and percent problems including applications such as rates, scale drawings, interest, discount, sales tax, and commission.
- ***Calculate Quantities –*** Calculate perimeter, area, and volume of basic geometric figures, use the Pythagorean Theorem to calculate measurements in right triangles, and measure quantities related to basic geometric figures using both the U.S. and Metric systems. Convert basic units of measurement from the U.S. system to the Metric system and convert between basic units of measurement within each system.
- ***Geometric Figures –*** Recognize simple geometric figures, angle relationships, and triangle relationships using their defining properties.
- ***Statistics*** – Collect, organize, interpret, and display data using measures of central tendency, graphs, charts, tables, and words.
- ***Problem Solving –*** Convert given information into an appropriate mathematical model to solve real-world problems that are modeled by linear relationships

Course Content: The content for this course are aligned with the Texas College Readiness Standards as adopted by the Texas Higher Education Coordinating Board.

I. Numeric Reasoning

1.) To perform computations with and to compare real numbers.

2.) To use estimation to check for errors and reasonableness of solutions.

II. Algebraic Reasoning

3.) To explain and differentiate between expressions and equations using words such as “solve”, “evaluate”, and “simplify”.
4.) To recognize and use algebraic field properties, concepts, procedures, and algorithms to combine, transform, and evaluate expressions.
5.) To recognize and use algebraic field properties, concepts, procedures, and algorithms to solve equations.
6.) To interpret multiple representations of equations and relationships.
7.) To translate among multiple representations of equations and relationships.

III. Geometric Reasoning

8.) To identify and represent the features of plane and space figures.
9.) To make, test, and use conjectures about one-, two-, and three-dimensional figures and their properties.
10.) To recognize and apply right triangle relationships.
11.) To make connections between geometry and measurement.

IV. Measurement Reasoning

12.) To select or use the appropriate type of unit for the attribute being measured.
13.) To convert from one measurement system to another
14.) To convert within a single measurement system.
15.) To find the perimeter and area of two-dimensional figures.
16.) To determine surface area and volume of three-dimensional figures.
17.) To determine indirect measurements of figures using scale drawings, similar figures, and Pythagorean Theorem.
18.) To compute and use measures of center to describe data.

V. Statistical Reasoning

19.) To select and apply appropriate visual representations of data.
20.) To compute and describe summary statistics of data.
21.) To make predictions and draw inferences using summary statistics.

VI. Problem Solving and Reasoning

22.) To analyze given information, formulate a plan or strategy, determine a solution, justify the solution, and evaluate the problem-solving process.
23.) To formulate a solution to a real-world situation based on the solution to a mathematical problem.
24.) To use a function to model a real-world situation.

VII. Communication and Representation

25.) To use mathematical symbols, terminology, and notation to represent given and unknown information in a problem.
26.) To use mathematical language to represent and communicate the mathematical concepts in a problem.
27.) To use mathematics as a language for reasoning, problem solving, making connections, and generalizing.
28.) To model and interpret mathematical ideas and concepts using multiple representations.
29.) To summarize and interpret mathematical information provided orally, visually, or in written form within the given context.
30.) To communicate mathematical ideas, reasoning, and their implications using symbols, diagrams, graphs, and words.
31.) To create and use representations to organize, record, and communicate mathematical ideas.
32.) To explain, display, or justify mathematical ideas and arguments using precise mathematical language in written or oral communications.

VIII. Connections

33.) To connect and use multiple strands of mathematics in situations and problems.

34.) To connect mathematics to the study of other disciplines.
35.) To use multiple representations to demonstrate links between mathematical and real-world situations.
36.) To know and understand the use of mathematics in a variety of careers and professions.

Methods of Instruction/Course Format/Delivery:

Co-Enrollment Requirement*:* Students are required to enroll in MATH 0301.

Technical Skill Requirements*:* To be successful in this course, students should be able to

1) Use a web browser
2) Access and use Canvas
3) Access and use Microsoft Office or appropriate word processor
4) Use email for communication
5) Attach and send documents as email attachments
6) Download and install appropriate plug-ins as determined by system needs.

Course Format

This is a special lab based course in which you will work on improving math skills necessary to successfully complete Developmental Mathematics courses. The instructor will be present during the class to provide individual, small group, or whole class instruction.

Class Attendance

This course requires spending the equivalent of 2 lecture hours (100 minutes) per week (for 14 weeks) in the math lab (MAR 102) and participation in the math lab will be included in calculating the semester average for this course. Students must sign in and attendance will be monitored. This time is designed to be utilized studying/practicing skills taught in the developmental mathematics classes and reinforcing basic skills needed to succeed in mathematics classes. An instructor or tutor will be present in the lab at scheduled times to provide assistance and individual instruction. **NOTE: IF YOU DO NOT ATTEND LAB 70% OF THE REQUIRED TIME, YOU WILL FAIL THE COURSE.**

Attendance Policy – Student Handbook

Regular and punctual attendance of classes and laboratories is required of all students. When a student has been ill or absent from class for approved extracurricular activities, he or she should be allowed, as far as possible, to make up the work missed. When an instructor feels that a student has been absent to such a degree as to invalidate the learning experience, the instructor may recommend to the Vice President of Instruction that the student be withdrawn from the course. Instructors may seek to withdraw students for nonattendance after they have accumulated the following number of absences:

The student is responsible for seeing that he or she has been officially withdrawn from a class. A student who stops attending a class without officially withdrawing from that class will be given a failing grade; the student must follow official withdrawal procedures in the Student Success Center. See the Pathfinder Student Handbook. https://www.panola.edu/student-success/documents/pathfinder.pdf

Classroom Etiquette:

Students are expected to be respectful of the beliefs of others. This includes sensitivity to cultural, familial, language, and manifestations of dress indicative of a global community. Further, students are expected to maintain standard classroom decorum which includes taking turns in speaking, not talking out, attacking other students or faculty either physically, verbally, or emotionally. All language and comments should be appropriate for a community college classroom. Virtual etiquette will not deviate

from that required in face to face instruction. Distractions to the concentration of fellow students should be avoided. This includes arriving late or leaving early. Cell phones and other electronic devices should not be in use during class or lab. These items should not be visible during class and should be turned off or placed on vibrate. Food or drinks (with the exception of water) are distractions and should not be brought to class or lab.

Academic Dishonesty:

Academic Dishonesty will not be tolerated at any level. Academic Dishonesty is defined as the act of or an attempt to pass off someone's work as your own. It also includes resubmitting work that you submitted in a previous course. Likewise, sharing answers with others, or bringing in unapproved outside resources into an exam is considered a breach of academic honesty. Additionally, the use of cell phones to send, receive, or retrieve any material related to assignments or assessments in the course during the class is also considered a breach.

Should a professor find a student in the act of being dishonest, the student will be subject to an automatic zero for the assignment. Repeated attempts or acts of dishonesty may result in the dismissal from the course with a grade of F attributed.

Withdrawing from a course:

It is the responsibility of the student to withdraw from or drop a course. A student interested in doing so should consult the Academic Calendar to determine the last day to drop. The student must follow official withdrawal procedures in the Student Success Center. Be advised that according to legislation, students in the state of Texas will only be allowed to drop 6 courses over the tenure of their academic endeavors. Think carefully and meet with the instructor before withdrawing from any course. However, if you do not drop the course and you stop attending, you will likely receive an "F" for the course.

Methods of Evaluation

**Note that your grade in BMAT will be based on your grade in MATH 0301. Grades for MATH 0301 are determined by the following rubric.

Major Exams**	50%
Notebooks/Assignments	20%
Attendance	5%
Cumulative Final Exam	**25%**

Course Grade:

Letter Grades for the Course will be assigned as follows:

Grade = (Test Average × 0.5) + (Notebook/Assignment Average × 0.20) + (Attendance Class & Lab × 0.05) + (Final Exam × 0.25)

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = below 60%
Q = below 60% (and meets guidelines below)

TSI Complete

TSI Incomplete

TEXAS SUCCESS INITIATIVE (TSI): *You must have a C or better to enroll in MATH 0302 or pass the MATH Section of the New TSI Assessment to be considered TSI complete.* Students who pass the MATH Section of the New TSI Assessment can choose to withdraw from the course immediately and receive either their current grade or a W or they may choose to finish the semester and receive the grade earned based on the grading schedule.

You must have a C or better to move on from this course!!!

Q Grade: Students who fail to master the educational objectives of the course but complete the semester showing progress in the discipline will be assigned a Q grade. This grade will prevent a student from receiving a grade of F. To receive a Q grade, a student:

1. Must have no more than 5 absences to a MWF class or no more than 3 absences to a TR class.
2. Must have attended at least 90% of the required math lab time.
3. Must have no more than 5 unresolved tardy marks.
4. Must have completed at least 90% of assigned work.
5. Must not have violated the Academic Dishonesty policy published in each Developmental Education Syllabi.

If a student is awarded a "Q" he/she must repeat the same course the next long semester or retake and pass a TSI assessment before the next long semester begins. The repeated class will receive the grade earned, but the "Q" from the previous semester will not be amended. Students who are TSI deficient in two or more areas may not skip a semester if a grade of "Q" is attributed. Receiving a "Q" can only occur once per developmental course.

Texts, Materials, and Supplies:

Note that these materials are the same as required for MATH 0301.

- Martin-Gay, Elayn. *Developmental Mathematics, Custom Edition for Panola College.* Pearson. 2015.
- My Math Lab Pearson Prentice Hall. (Online Computer Access Code)

Other materials:

- My Math Lab Access Code (Included in the purchase of a new book, it can also be purchased separately)
- Consistent access to computer
- Canvas (Provided by Panola College)
- Notebook – Three Ring Binder and Notebook Paper
- Scientific Calculator
- Other materials as assigned by the instructor.

Other:

- For current texts and materials, use the following link to access bookstore listings: http://www.panolacollegestore.com
- For testing services, use the following link: http://www.panola.edu/elearning/testing.html
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Administration Building or go to http://www.panola.edu/student-success/disability-support-services/ for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.

- Student Handbook, *The Pathfinder:* http://www.panola.edu/student-success/documents/pathfinder.pdf