MONTGOMERY COUNTY COMMUNITY COLLEGE
MAT 010 Fundamentals of Arithmetic (Supplemental Instruction)
2-week session

Course description: This is a fundamental course in basic mathematical skills. This course does not offer degree credit. Topics include: operations on signed numbers, fractions, decimals, percents, and other arithmetic topics.

Prerequisite: none

Course Goals and Objectives:
This course is designed to bring the student's background up to proficiency sufficient to enter more advanced math courses. Upon successfully completing this course, students should be able to demonstrate the knowledge and skills of

1. computing addition, subtraction, multiplications and division of whole numbers;
2. simplifying expressions involving exponents and order of operations of whole numbers;
3. estimating arithmetic problems involving whole numbers;
4. solving applications involving whole numbers;
5. simplifying fractions including improper fractions and mixed numbers;
6. computing addition, subtraction, multiplication and division of fractions;
7. simplifying expressions involving order of operations of fractions;
8. solving applications;
9. ordering decimals and convert decimals to fractions;
10. computing addition, subtraction, multiplication and division of decimals;
11. simplifying expressions involving order of operations of decimals;
12. solving applications involving decimals;
13. understanding ratios and decimals;
14. solving applications of ratio and proportion problems;
15. understanding percentages and convert percentages to fractions and decimals;
16. solving percentage problems by using an equation and proportions;
17. using percentages to solve real world applications;
18. understanding American units of measurement;
19. understanding the basic concepts of angles, rectangles, squares, and circles;
20. computing the volume of regular solids and cylinders;
21. computing addition, subtraction, multiplication and division of signed numbers;
22. simplifying expressions involving order of operations of signed numbers;
23. understanding scientific notation;
24. simplifying linear algebraic expressions including the distributive property;
25. solving basic linear equations.

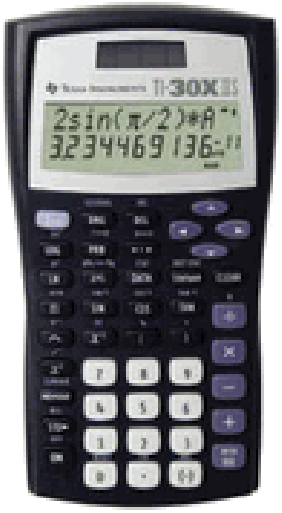
The main objective of this course is to build up the underlying knowledge and skills needed to succeed in future college mathematics courses.

Course Policy and Class Structure:
Your class will meet four evenings per week with your instructor, Monday through Thursday, for 1 hour 45 minutes each night. Class time will be spent actively participating in the instructor's lectures, working on small group or textbook activities, and chapter review assessments. At the end of each class, a practice chapter "test" will be given to you with an answer key. Attendance is mandatory and will be taken each evening at the beginning of class.

Testing and Assignments/Grade Breakdown:
Unlike the regular semester MAT 010 course that requires passing grades on all of the chapter tests, and other assessments, the only determination of your passing or failing this Supplemental Instruction course will be based on your performance on the Final Exam. The Final Exam will be cumulative and will take place during the last day of the course. a **70%** or higher is required to place into MAT 011, Beginning Algebra. The Final Exam will be a multiple-choice exam on all topics from MAT 010.

Academic Integrity and Discipline:
Please see the Montgomery County Community College policy and College Catalogue (page 21) for more information.

Calculator Requirements:
A calculator is recommended for this class. The recommended calculator is a Texas Instruments TI-30X IIS. You can also use this calculator in MAT 011. The TI-30X IIS looks like this:



TENTATIVE CLASS SCHEDULE

Text: *Basic College Mathematics*, Custom MCCC Edition. (by Jeffrey Slater & John Tobey), Pearson Custom Publishing, 5th edition

Class #/	Chapter/Section/Topic	Homework Problems
1	Start of class Review Chapter 1 – Whole Numbers *Emphasis on:* • Long division with zero-replacement in the quotient • Algebraic order-of-operation problems	• MCCC Chapter 1 Test • Textbook: Chapter 1 Test – pg. 107-108 #1-30
2	Review Chapter 2 – Fractions *Emphasis on:* • Algebraic method for determining the Lowest Common Denominator • Borrowing procedures when subtracting fractions • Review all arithmetic operations with mixed number fractions	• MCCC Chapter 2 Test • Textbook: Chapter 2 Test – pg. 199-200 #1-29
3	Review Chapter 3 – Decimals *Emphasis on:* • Long division with zero-replacement in the quotient • Writing fractions as equivalent decimals	• MCCC Chapter 3 Test • Textbook: Chapter 3 Test – pg. 267-277 #1-26
4	Review Chapter 4 – Ratio and Proportion *Emphasis on:* • Definition differences between ratio, rate, and unit rate • Solving proportion equations **Self-Assessed Cumulative Test on Chapters 1, 2, 3**	• MCCC Chapter 4 Test • Textbook: Chapter 4 Test – pg. 308-309 #1-32

Class #	Chapter/Section/Topic	Homework Problems
5	Review Chapter 5 – Percent *Emphasis on:* • Fraction, decimal, and percentage conversions • Application problems with five specific types of percentage applications	• MCCC Chapter 5 Test • Textbook: Chapter 5 Test – pg. 369-370 #1-29
6	Review Section 6.1 – Measurement and Review Sections 7.2, 7.4, 7.5, 7.7, 7.8 – Geometry *Emphasis on:* • Shaded area problems	• MCCC Chapter 6/7 Test • Textbook: pg. 417 #1-16; pg. 520-521 #2-18, 27, 30, 34
7	Review Chapter 9 – Signed Numbers and Review Sections 10.1 and 10.2 – Introduction to Algebra *Emphasis on:* • Algebraic order-of-operation problems	• MCCC Chapter 9 & 10 Tests • Textbook: Chapter 9 Test – pg. 617-618 #1-35; Chapter 10 Test – pg. 672 #1-16
8	*Day 8 will run for 2 hours, 30 minutes* Review Sections 10.3, 10.4, 10.5 – Introduction to Algebra (There will only be one question from these sections on the Final Exam) **Multiple Choice Final Exam**	

Accommodations:
Students with disabilities may be eligible for accommodations in this course. Please contact the Director of Services for Students in College Hall, rm 131 at 215-641-6575 or ext. 6577 for more information.

***PLATO* Learning Software:**
PLATO Learning Software is a web-based tool that offers extra outside instruction and refreshers for all topics in MAT 010. The last page in this syllabus describes how to get into the system and access all of the different lessons available.

Extra Help:
The Learning Assistance Lab in rm. 320 College Hall, has free tutoring available as well as videotapes and computer programs. If you have any questions and concerns, PLEASE do not hesitate to ask questions in class or in my office.

School Cancellation Code:
For inclement weather listen to radio, KYW 1060 AM. The codes for Montgomery County Community College are **320** for day classes and **2320** for evening classes.

A few word about your responsibilities:
As teachers our job is not only to teach you the subject matter, but to prepare you for your entry into the working world. As a student in this class, it is your job to be responsible for yourself. Just as in the working world, if you do not show up to work, you do not get paid. As in the working world, you have deadlines and due dates, and so you will in this and all other courses.

Please do not hesitate to contact me if you feel you are struggling with the course material. Use the Learning Assistance Lab in College Hall 320, my office hours, or your fellow classmates as resources to help facilitate your learning in this class.

Mathematics is best learned by DOING. Keep up with the work on a consistent basis and that should help translate into having a successful term in this class.

Getting Started with the PLATO Learning Software

Access the Internet:
Double-click on the Internet Explorer icon (or whatever Internet browser you happen to use) to launch the Internet.

How to Log into the *PLATO* Learning Software:

1. Type www.platoweb01.com in the address bar of the browser window. Hit the <Enter> key.

2. A page appears that requests an account number before you log in. Type in the number **01-1001471** (with the ─ sign) and click on the "Submit" button. Occasionally, this page reappears on future visits to the *PLATO* website.

3. Enter the following information on the *PLATO* log-in page:

   a. ***PLATO* Name:** Your entire last name, initial of your first name (no commas or spaces)
   b. **Group Name**: summer review (with a space)
   c. **Password**: 12345

Additional *PLATO* Information:
Occasionally, a page appears that states "The required Flash plug-in is not installed."

- Click on the download link.
- Another web page appears. Click "Yes."
- A pop-up box appears. Click "Yes."
- When the graphics appear and "Installation Complete" appears on the page, go to the upper-left-hand corner of the window and click on the "Click here to login" link.
- **Note: Do not** download the Yahoo toolbar and make sure pop-up blockers are **disabled** in order to access the *PLATO* software.

Once Logged into *PLATO*:
Click on "Assignments" to view all of the available chapter reviews and chapter application reviews in the course. Click on the chapter review or chapter application review you need help in and then click on the specific topic you want to view.

Once you have started a lesson, you can move through it with either the green arrow key or by clicking on the bottom-middle shapes to advance to the next problem. Make sure to allow pop-ups from the website.

***PLATO* Help Information**
If you are having difficulty with the *PLATO* system, you can contact Mary Ellen Ryan (mryan@mc3.edu or 215-641-6693) or call the tech help line at 1-800-869-2200 from 8 a.m. to 6 p.m. Monday-Friday.