

Montgomery County Community College  
MAT 010  
Fundamentals of Arithmetic  
0-3-0

**COURSE DESCRIPTION:**

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. This precollege level course cannot be used to fulfill a degree requirement nor is it calculated in a student's Grade Point Average (GPA); however, the credits billed will be applied towards a student's financial aid enrollment status and enrollment status reported to the National Student Clearinghouse.

**REQUISITES:**

*Previous Course Requirements*

None

*Concurrent Course Requirements*

None

**COURSE COMMENTS**

- \* Course requires Math placement test
- \* Accepted Math placement test scores include an Arithmetic Accuplacer Test Score of 0 to 275.

| LEARNING OUTCOMES<br>Upon successfully completing this course, the student will be able to   | LEARNING ACTIVITIES                | EVALUATION METHODS  |
|----------------------------------------------------------------------------------------------|------------------------------------|---------------------|
| 1. Discuss the contributions of ancient civilizations to our present system of numbers.      | Lecture<br>Group Work              | Assignments<br>Test |
| 2. Classify and locate real numbers.                                                         | Discovery Activities<br>Group Work | Assignments<br>Test |
| 3. Compare numbers.                                                                          | Discovery Activities<br>Group Work | Assignments<br>Test |
| 4. Combine real numbers and solve addition applications.                                     | Discovery Activities<br>Group Work | Assignments<br>Test |
| 5. Find the differences of real numbers and solve subtraction applications; solve equations. | Discovery Activities<br>Group Work | Assignments<br>Test |
| 6. Compute the product of real numbers and solve multiplication applications.                | Discovery Activities<br>Group Work | Assignments<br>Test |

| LEARNING OUTCOMES                                                                                  | LEARNING ACTIVITIES                                                                         | EVALUATION METHODS                       |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------|
| 7. Compute the quotient of real numbers; solve division applications; solve equations.             | Discovery Activities<br>Group Work                                                          | Assignments<br>Test                      |
| 8. Solve multiple step problems.                                                                   | Discovery Activities<br>Group Work                                                          | Assignments<br>Test                      |
| 9. Demonstrate an ability to perform higher level mathematics reasoning beyond computation skills. | Discovery Activities<br>Group Work                                                          | Assignments<br>Tests (units 4, 5, 6 & 7) |
| 10. Gain confidence in performing math skills.                                                     | Continuous Positive Reinforcement<br>Focused Test Preparation<br>Self-Reflection Activities | Pre and Post Math Anxiety Test           |

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

#### SEQUENCE OF TOPICS:

1. History of Numbers
2. The Real Number System
3. Comparing Numbers
4. Addition
5. Subtraction
6. Multiplication
7. Division
8. Combinations

#### LEARNING MATERIALS:

##### Textbook:

Lontz, Barbara (2017). *Concepts of Numbers for Arithmetic and Prealgebra* 6th ed.  
Pearson Learning Solutions.

#### COURSE APPROVAL:

|                                                              |                  |
|--------------------------------------------------------------|------------------|
| Prepared by: Martin Johnson                                  | Date: June, 1998 |
| Revised by: Fay Sewell                                       | Date: 4/1998     |
| Revised by: Thomas Moyer                                     | Date: 1/2000     |
| Revised by: Paul Winterbottom                                | Date: 1/2004     |
| Revised by: Marion Graziano, Assistant Professor Mathematics | Date: 6/2007     |
| VPAA/Provost Compliance Verification:                        | Date: 8/4/2011   |
| Victoria L. Bastecki-Perez, Ed.D.                            | Date: 8/5/2011   |
| Revised by: Barbara Lontz                                    | Date: 12/17/12   |
| VPAA/Provost or designee Compliance Verification:            | Date: 5/23/2013  |
| Victoria L. Bastecki-Perez, Ed.D.                            |                  |

Revised by: Marion Graziano/Debbie Dalrymple  
VPAA/Provost or designee Compliance Verification:

Date: 8/2/2017  
Date: 8/24/2017



*This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.*