

**BERGEN COMMUNITY COLLEGE  
SCHOOL OF MATHEMATICS, SCIENCE AND TECHNOLOGY  
DEPARTMENT OF DEVELOPMENTAL MATHEMATICS**

**COURSE SYLLABUS**

**MAT-011AL Linked BASIC MATHEMATICS**

**INSTRUCTOR:** \_\_\_\_\_ **OFFICE** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_ **PHONE:** \_\_\_\_\_

**COURSE DESCRIPTION:** Basic Mathematics is a study of the fundamental operations of arithmetic, intended for students whose placement examination indicates a need for a review of arithmetic skills. Modules include computation with and applications using whole numbers, fractions, decimals, ratios, percents, and integers.

The course goal is to facilitate the students' insight into the structure of the number system, acquisition of the computational skills needed in working with various types of numbers, and proficiency in solving verbal problems and real life applications.

**Calculators will not be used in this course until Module 5.**

**CREDITS/HOURS:** 3 credits (non-degree) 3 hours

**GEN'L ED COURSE:** No

**CO-REQUISITE:** All students taking MAT-011 LINKED must be registered for an MAT-010 LINKED Computer Assisted Support section.

**STUDENT LEARNING OBJECTIVES:** Upon successful completion of this course, the student will be able to:

1. Compute with whole numbers, fractions, decimals, and integers;
2. Apply the rules of order of operations to simplify numerical expressions;
3. Demonstrate the use of ratios, proportions, and percents;
4. Calculate the perimeter and area of rectangular figures;
5. Calculate the mean of a set of numbers;
6. Demonstrate the use of estimation skills to judge the reasonableness of a result;
7. Solve application problems.

**ASSESSMENT MEASURES:** Each of the above listed student learning objectives will be assessed by:

1. Written assignments and/or quizzes
2. Written examinations
3. Other, as announced by the instructor.

**TEXT:** MyMathLab Code with Basic Mathematics Workbook, BCC Custom Copy, Martin-Gay Pearson

**ELECTRONIC DEVICES:** The Department of Mathematics prohibits the use of cell-phones, PDA's, laptops, headphones, IPODs and other such devices in mathematics classes unless otherwise specified by the grading policy provided by the instructor at the beginning of the semester.

<b>COURSE OF STUDY:</b>	<b><u>Modules</u></b>	<b><u>Sections</u></b>
	1 Whole Numbers	Chapter 1
	Square Roots	Chapter 1
	2 Fractions	Chapters 2 and 3
	3 Decimals	Chapter 4
	4 Ratio and Proportion	Chapter 5
	Percents	Chapter 5
	Applications	Chapters 1 through 5

**GRADING POLICY:** Refer to instructor’s grading policy on the course outline distributed during the first class.

- ❖ All students must take the departmental final. The final will count for 25% of the overall grade, but a student who fails to attain a grade of 55% or better on the Final Exam will be unable to receive a passing grade for the course.
- ❖ Tests and Quizzes will account for no less than 60% of the overall grade.
- ❖ Grades in the developmental courses will be assigned as follows:
  - **A** = 90-100 %
  - **B+** = 86-89 %
  - **B** = 80-85 %
  - **C+** = 76-79 %
  - **C** = 70-75 %
  - **F** = Below 70 %

**BCC Attendance Policy:**

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

**Developmental Mathematics Department Attendance Policy:**

A student who exceeds the allowable maximum number of absences (see chart below) will be given an “E” grade.

Courses which meet:	Maximum absences:
15- weeks	6 absences allowed
12-weeks	7 absences allowed
7-weeks	3 absences allowed

**EXTRA HELP:**

**The Henry and Edith Cerullo Learning Assistance Center (CLAC), L-125**, is a source of tutorial assistance in understanding operations of basic mathematics and in problem solving. For an exact schedule, call 201-447-7489.

**Math Walk-In Center, A-113**, offers tutorial support in a collaborative setting.

**The CLAC at the Meadowlands, Room 202.** Tutors are available to aid in the understanding and reinforcement of the course material learned in class. Practice worksheets are available. Hours will be posted on the door. For an exact schedule, call (201) 493-4096 or visit <http://www.bergen.edu/current-students/tutoring/testing-and-tutoring-at-the-meadowlands>

**FACULTY ABSENCE PROCEDURE:**

“CLASS CANCELLATIONS” may be found by clicking on “Current Student” followed by “Class Cancellations” on the Bergen Community College website, [www.bergen.edu](http://www.bergen.edu). A list is also posted in a glass case near A-129, the main corridor on the

first floor, in Ender Hall or in the lobby of the Meadowlands Campus. Students may consult these listings before going to class. If a cancelled class is not listed, it should be reported to the Dean's Office (A-325) or the Adjunct Office (C-100).

Students who require accommodations in accordance with the Americans with Disabilities Act can request these services from the Office of Specialized Services. To learn more about how to apply for services, please visit them at <http://www.bergen.edu/oss>

The BCC food pantry is available to meet the urgent needs of members of our campus community. The Food Pantry provides non-perishable food items, toiletries, and additional support services in an environment that emphasizes discretion and confidentiality. Anyone needing assistance is encouraged to visit HS-100 (Office of Health Services) Monday through Thursday 9am-9pm. Donations will also be accepted in HS-100.

## **MAT-011 BASIC MATHEMATICS: CONTENT**

### **MODULE 1**

1. Add, subtract, multiply, and divide whole numbers (Sections 1.3, 1.4, 1.6, 1.7)
2. Round and estimate operations with whole numbers (Section 1.5)
3. Order of operations, including square roots and exponents (Section 1.9)

### **MODULE 2**

1. Rewrite mixed numbers to improper fractions and improper fractions to mixed numbers (Section 2.1)
2. Prime, composite numbers, factoring whole numbers and prime factorization (Section 2.2)
3. Simplify, multiply and divide proper & mixed numbers (Sections 2.3, 2.4, 2.5)
4. Find the LCM as well as add and subtract proper fractions and mixed numbers (Sections 3.1 – 3.4)
5. Basic order of operations with fractions and mixed numbers (Section 3.5)

### **MODULE 3**

1. Identify place values, round and estimate decimals (Sections 4.1, 4.2)
2. Add, subtract, multiply, and divide decimals, (Sections 4.3, 4.4, 4.5)
3. Rewrite fractions as decimals and decimals as fractions (Sections 4.1 and 4.6)
4. Basic order of operations with decimals (Section 4.5)
5. Solving numeric expressions with both decimals and fractions (Section 4.6)

### **MODULE 4**

1. Ratios, rates, unit rates (Section 5.1)
2. Proportions (Section 5.1)
3. Proportion applications (Section 5.1)
4. Percent notation; convert among fractions, decimals, and percents (Sections 5.2, 5.3)
5. Solve percent problems using the proportion method or percent equations (Sections 5.4, 5.5)
6. Percent applications (Sections 5.6, 5.7)
7. Calculating Simple Interest (Section 5.8)

### **MODULE 5**

1. Application problems including whole numbers, decimals, fractions, proportions and percents (Sections within chapters 1 through 6)

**MAT-011AL**  
**TENTATIVE SCHEDULE**  
**Basic Mathematics - Martin-Gay**

Week 1	Place values, Add, Subtract, Round, & Estimate Whole Numbers Sections: 1.2 - 1.5	Multiply and Divide Whole Numbers Sections 1.6 - 1.7
Week 2	Exponents, Square Roots and Basic Order of Operations Section 1.9	Review
Week 3	<b>MODULE 1 EXAM</b>	Intro to Fractions, Factors and Prime Factorization Sections 2.1 - 2.2
Week 4	Reduce, Multiply and Divide Proper Fractions Sections 2.3- 2.5	Rewrite Mixed Numbers and Improper Fractions, Multiply and Divide Mixed Numbers Sections 2.1, 2.4 - 2.5
Week 5	Add and Subtract Fractions with Like Denominators and LCM Sections 3.1 - 3.2	Equivalent Fractions, Add and Subtract Fractions w/Unlike Denominators Sections 3.2 - 3.3
Week 6	Add, Subtract and Order of Operations with Mixed Numbers Sections 3.4 - 3.5	<b>Review</b>
Week 7	<b>MODULE 2 EXAM</b>	Rewriting Decimals as Fractions, Fractions w/Base 10 Den as Decimals, Ordering & Rounding Sections 4.1 - 4.2
Week 8	Add, Subtract and Multiply Decimals Sections 4.3 - 4.4	Divide Decimals, Rewrite Fractions as Decimals and Order of Operations Sections 4.5 - 4.6
Week 9	<b>Review</b>	<b>MODULE 3 EXAM</b>
Week 10	Ratio, Rates and Proportions Section 5.1	Rewrite Fractions, Decimals and Percent Sections 5.2 - 5.3
Week 11	Solve Percent Problems with Equations and/or Proportions Sections 5.4 - 5.5	Percent Applications Sections 5.6 - 5.8
Week 12	<b>Review</b>	<b>MODULE 4 EXAM</b>
Week 13	General Applications	General Applications
Week 14	General Applications	<b>MODULE 5 EXAM</b>
Week 15	Review	Final Exam

MAT 011AL  
**TENTATIVE SCHEDULE SPRING 2014**

Textbook: Martin-Gay  
 12-WEEK SCHEDULE (Meadowlands Campus)

Week 1	Place Values, Add and Subtract Whole Numbers and MML demo <b>Sections 1.2 - 1.4</b>	Round, Estimate and Multiply Whole Numbers <b>Sections 1.5 - 1.6</b>	Divide Whole Numbers <b>Section 1.7</b>
Week 2	Exponents, Square Roots and Basic Order of Operations <b>Section 1.9</b>	Order of Operations Cont. with Grouping symbols <b>Section 1.9</b>	<b>Review</b>
Week 3	<b>MODULE 1 EXAM</b>	Intro to Fractions, Rewrite Mixed Numbers & Improper Fractions <b>Section 2.1</b>	Factoring, Prime Factorization, Divisibility Rules <b>Section 2.2</b>
Week 4	Reduce, Multiply and Divide Proper Fractions <b>Sections 2.3, 2.4, 2.5</b>	Multiply and Divide Mixed Numbers <b>Sections 2.4, 2.5</b>	Add and Subtract Fractions with Like Denominators and LCM <b>Sections 3.1, 3.2</b>
Week 5	Equivalent Fractions, +/- Proper Fractions w/Unlike Denominators <b>Sections 3.2, 3.3</b>	Add and subtract mixed numbers with Unlike Denominators <b>Section 3.4</b>	Order of Operations with Fractions <b>Section 3.5</b>
Week 6	<b>Review</b>	<b>MODULE 2 EXAM</b>	Rewrite Decimals to and from Fractions, Order & Round Decimals <b>Section 4.1 - 4.2</b>
Week 7	Add, Subtract and Multiply Decimals <b>Sections 4.3, 4.4</b>	Order of Operations with Decimals <b>Section 4.5</b>	Divide Decimals and Rewrite Fractions as Decimals <b>Section 4.6</b>
Week 8	<b>Review</b>	<b>MODULE 3 EXAM</b>	Ratio, Rates and Proportions <b>Section 5.1</b>
Week 9	Rewrite Fractions, Decimals and Percent <b>Sections 5.2, 5.3</b>	Solve Percent Problems with Equations and/or Proportions <b>Sections 5.4, 5.5</b>	Percent Applications <b>Sections 5.6, 5.7</b>
Week 10	Percent Applications Continued <b>Sections 5.6, 5.7</b>	<b>Review</b>	<b>MODULE 4 EXAM</b>
Week 11	General Applications	General Applications	General Applications
Week 12	<b>MODULE 5 EXAM</b>	Review for the Final	<b>FINAL EXAM</b>