**COURSE TITLE:** Math 103 – The Development of Mathematics  
**COURSE DESCRIPTION:** A survey of traditional and contemporary mathematical topics developed within a historical framework and designed to develop an appreciation for the role and universality of mathematics as a cultural force in our society. Meets Gen Ed 2002 - Mathematics. Not for majors in College of Science and Mathematics.

**COURSE MATERIALS:**  
1. **MyLabsPlus Access Code (required).** Access can be purchased in the bookstore or online  
   Note: Pearson Tech Support number is: 1-800-677-6337  
   Log in with user name: your NetID; password: mmdyy (your birthday)–you will change this  
   TO ACCESS COURSE from outside the lab, go to montclair.mylabsplus.com
2. **Course Book:** Mathematical Ideas, by Charles D. Miller
3. **Calculator** scientific or graphing (TI-86 or lower and equivalent–NO Inspire or TI89) (recommended)  
4. **Headphones** (required) for use in the Red Hawk Mathematics Learning Center.  
5. **Notebook devoted to the course and pencil/pen (required)** –PAPER IS NOT PROVIDED TO STUDENTS EXCEPT FOR EXAMS.

**GRADING STANDARD:** In this course you will be evaluated based on your performance on homework, quizzes, tests and comprehensive final exam, and attendance.  
A. **Homework - 15% of your grade (150 points)** Homework is completed online during class time and at home. Assignments are untimed and you have unlimited attempts at each problem. For each problem there are many learning aides You WILL need to spend additional time outside of scheduled class time to meet weekly objectives (approx. 3-6 hours per week).

B. **Quizzes - 10% of your grade (100 points)** Quizzes are completed online during class time. You will be able to retake any quiz up to 3 times, in its entirety (at most twice during class time, one during drop-in time). Quizzes are timed assignments. There are no learning aides available while taking a quiz. You must show ID for quizzes. *If caught cheating, a 0 will be entered for the grade, with NO opportunity to retake it.*

C. **Attendance - 5% of your grade (50 points for attendance in the Center)** Attendance grade is based on attendance during your scheduled weekly class times. Credit will be added for each class check-in and check-out assignment.

D. **Focus Group – 5% of your grade (50 points)** You will be graded on attendance and participation during each focus group session.

E. **Project/Paper – 15% of your grade (150 points)** There is one main project in this course, with project check points. More information about the project will be included in the course material.

F. **Unit Tests – 30 % of your grade (150 points each, 300 total)** There are 2 Unit Tests in this course, which are timed and proctored in the Mathematics Learning Center. You will are allowed one (1) attempt at each test during schedule test dates. ID is required to take any test or quiz.

G. **Final Exam – 20% of your grade (200 points)**  
   The final exam is administered in the Red Hawk Mathematics Learning Center during your section’ scheduled time. Date and time can be found on the course site. It is a timed (120 minutes) and only one attempt is allowed.

H. **Study Plan – Course Bonus (20 points)** Bonus points will be awarded based on completion of the study plan and mastery quiz after each section PRIOR TO THE FINAL. You must achieve 80% of TOTAL number of mastery points to earn the bonus.

To pass the course you must score at least 300 out of the 500 points available in parts F & G AND at least 700 total points for a C- (600 for a D-) of the 1000 total points.
REMINDER: The Red Hawk Mathematics Learning Center is a classroom. As a courtesy to all students, cell phones must be turned off or silenced and put away. No visiting with other students. Food and drinks are not allowed. See website for full list of policies.

MATHEMATICS LEARNING CENTER POLICIES

A. Testing
- All testing is performed in the Red Hawk Mathematics Learning Center (RHMLC) under the supervision of a center proctor. Tests are scheduled at the end of each unit, however if you are ahead of schedule, see your instructor to make arrangement for testing.
- You must provide a picture ID to be permitted to take a test.
- Cellular phones, additional resources, notes or papers of any kind are NOT permitted in the testing area. Paper for use while testing will be given to you by the test proctor. All paper must be turned into the proctor before leaving the testing area. Calculator use is at the discretion of your instructor. You may NOT use a cell phone as a calculator!
- Cheating will result in a 0 on the assignment.

B. Use of the Computers in the Center
- The computers in the Red Hawk Mathematics Learning Center are exclusively for math coursework. You may not work on assignments or papers for ANY other classes.
- Your time at the RHMLC is devoted to your math course work. If caught playing games, sending or reading email, or attending to social media sites, you will be asked to leave and will not receive attendance credit for your time that day.
- You are required to attend the RHMLC during your scheduled time; attendance is part of your grade. There may be additional computers available for drop-in use, on a first come first serve basis. If you would like to spend additional time or get additional help at the RHMLC, see a Center assistant to use a drop-in computer. Scheduled drop-in hours are posted on the RHMLC’s website.
- Note: MyMathLab is both PC and Mac compatible and works with any browser and home computer. The Computer Labs around campus are available for your use outside of class time.

GETTING HELP - Help is ALWAYS available! Just ask! As you work in the Math Learning Center, several math graduate assistants and tutors will be circulating to give assistance when you need it most. In addition, there will always be a full-time instructor in the lab. Simply place the red cup on your computer monitor to get the attention of the qualified help. Tutoring times are scheduled daily at the RHMLC.

ADDITIONAL TUTORING SERVICES:
1. Drop-in hours for RHMLC are posted on the Center's website. Help is available when the Center is open.
3. On-line tutoring through the RHMLC (see website schedule) OR through Pearson (24 hour support) www.pearsonontutorservices.com or tutor@pearson.com.
4. Phone tutoring (1-800-877-3016) is available through the Pearson Tutor Center. They are open Sunday through Thursday, 5:00p – midnight.

ACADEMIC INTEGRITY - You are responsible for your own work. Any attempt to cheat will be a violation of the Code of Conduct and subject to academic penalties. See the school’s academic code for further information on penalties for such misconduct. (http://www.montclair.edu/deanstudents/studentconduct/codeofconduct.html#academicdishonesty)

DISABILITIES RESOURCES - Montclair State University is committed to the full inclusion of students with disabilities in all curricular and co-curricular activities as mandated by Section 504 of the Rehabilitation Act of 1973. The Disability Resource Center (DRC) will assist students in receiving the accommodations and services necessary to equalize access. The DRC provides assistance to students with physical, sensory, learning, psychological, neurological, and chronic medical disabilities. The mission of the DRC is to unite the Montclair State University community in an effort to provide students with disabilities the excellence and equity in education to which they are legally entitled. For further information and assistance Contact the Disability Resource Center in Webster Hall or by phone 973-655-5431.
Course Outline: In this course we will cover the following topics:

1. Introduction to Inductive and Deductive reasoning (1.1 and 1.2)
2. Problem Solving (1.3)
3. Set Theory
   a. Symbols and terminology of Set Theory (2.1)
   b. Venn Diagrams and Subsets (2.2)
   c. Set Operations and Cartesian Products (2.3)
   d. Surveys (2.4)
   e. Infinite Sets and Their Cardinality (Extension)
4. Logic
   a. Statements and Quantifiers (3.1)
   b. Truth Tables and Equivalent Statements (3.2)
   c. Conditional Statements (3.3 and 3.4)
   d. Analyzing Arguments with Euler Diagrams (3.5)
5. Historic Numeration Systems (4.1 and 4.2)
6. Geometry
   a. Definition of terms (9.1)
   b. Geometric Shapes (9.2)
   c. Congruent Triangles and Proofs (9.3)
   d. Perimeter, Surface area, and Volume (9.4 & 9.5)
   e. Transformational Geometry (9.6)
7. Counting Methods
   a. Listing Methods (10.1)
   b. Fundamental Counting Principle (10.2)
   c. Combination and Permutations (10.3 & 10.4)
   d. Counting using Set Compliments (10.5)
8. Probability
   a. Definitions (9.1)
   b. Properties of probabilities (9.2)
   c. Conditional Probability (9.4)
   d. Expected Value (9.5)
9. Graph Theory
   a. Definitions (9.1)
   b. Euler and Hamilton Circuits (15.2 & 15.3)