A syllabus is:

A contract between students and instructors

Written communication on what the course is about, its purpose and content, and requirements for success

Written documentation of course policies

Course Information

Course ID: MAC1105
Reference Number: 607728
Credits: 3
Term: 2010-1

Instructor Information

Name: Marta Brito-Villani
   ANGEL's internal email required

Email: mbritovi@mdc.edu only if you are experiencing technical difficulties and cannot access the course

Phone: (305)237-1007

Virtual Office Hours: T-TH 5:00 pm to 6:50 pm/MF 6:50 AM to 7:30 PM

Campus Office Hours: T-TH 12:40 PM to 1:50 PM

Response Policy: Within 24 hours when the College is in session

Course Description

Topics include: Linear, quadratic, rational, exponential, logarithmic, radical, and absolute value functions and their graphs; operations on functions; inverse functions; properties of logarithms; systems of equations and inequalities; non-linear inequalities; applications and modeling

There will be an emphasis on understanding mathematical concepts and applying the concepts to problem solving.

This version of MAC 1105 uses the textbook, assignments and course materials that reside in the course to help students learn and apply theoretical concepts about algebra. Students should purchase and read the
textbook, College Algebra by Coburn, 2nd edition, McGraw-Hill. Other course materials are available as resources in the course.

Students are required to read assigned chapters from the required textbook, complete homework exercise sets, and take and successfully pass four examinations. Students are also required to communicate with the Professor and other students in the class using the discussion board and/or private e-mail.

The course management system used during this course (Angel) will be made available to Miami-Dade College (MDC) students: it can be accessed online using any Web browser (Microsoft Internet Explorer and Netscape Navigator) from your home, office, computer labs, library, or any other location within the campus which provides networked computers for student use.

Prerequisites

Acceptable score on the Algebra Placement test or equivalent.

Miami Dade College Learning Outcomes

This course addresses the following MDC learning outcomes:

Learning Outcome #1: Communicate effectively using reading and writing skills.

In this course, the communication outcome will be enforced by requiring postings and discussions related to the current content.

Learning Outcome #2: Use quantitative analytical skills to evaluate and process numerical data.

In this course, you will be required to read and identify pertinent information given in word problems, solve a variety of types of equations, and analyze results to determine their validity.

Learning Outcome #3: Solve problems using critical and creative thinking and scientific reasoning.

In this course, you will be required to determine the solution to problems following logical steps and determine if the solution is possible. Critical thinking is of the utmost importance in mathematics.

Learning Outcome #4: Formulate strategies to locate, evaluate, and apply information.

In modeling, you will be required to evaluate a variety of situations that can be applied to the real world.

Learning Outcome #6: Create strategies that can be used to fulfill personal, civic, and social responsibilities.

In taking an online course, you will be required to manage your studying time, to complete assignments and exams on a timely basis, and help your classmates whenever possible. In taking a mathematics course, you will be that much closer to the completion of your goals for graduation and professional growth.
Learning Outcome #7: Demonstrate knowledge of ethical thinking and its application to issues in society.

In taking an online course, you will be taking exams online. Ethical behavior is expected from all students.

Learning Outcome #8: Use computers and emerging technologies effectively.

In this course, homework and tests are to be completed online, as well as chats, postings and reading of the pertinent material. It is expected that you are proficient in the use of computers.

Course Competencies

**Competency 1:** The Student will demonstrate knowledge of complex numbers by:

- Writing the square root of a negative number in terms of i.
- Simplifying powers of i.
- Adding, subtracting, multiplying and dividing complex numbers.

**Competency 2:** The Student will demonstrate knowledge of functions, from a numerical, graphical, verbal and analytic perspective by:

- Finding the domain and range.
- Distinguishing a function from a relation.
- Using functional notation.
- Performing operations with functions: adding, subtracting, multiplying, dividing and forming compositions.
- Finding the inverse of a function.

**Competency 3:** The Student will demonstrate knowledge of quadratic equations and functions by:

- Solving quadratic equations by the square root method.
- Solving quadratic equations by completing the square.
- Solving quadratic equations by using the quadratic formula.
- Using quadratic equations and their solutions to answer modeling questions.
- Using the discriminant to identify the types of solutions for quadratic equations.
Graphing quadratic functions, and identifying the vertex, the y-intercept and the axis of symmetry of the graph.

Finding the maximum or minimum value of a quadratic function in quadratic models.

Solving quadratic inequalities and using a similar procedure in solving inequalities involving quotients.

**Competency 4:** The Student will demonstrate knowledge of absolute value, square root and rational functions by:

- Finding the domain and the range of these functions.
- Graphing these functions.
- Graphing these functions with translations.

**Competency 5:** The Student will demonstrate knowledge of solving systems of linear equations and inequalities by:

- Problem solving and modeling using systems of equations.
- Solving linear systems of equations in three variables.
- Solving linear systems of equations using determinants.
- Solving problems involving linear inequalities.

**Competency 6:** The student will demonstrate knowledge of exponential and logarithmic functions by:

- Graphing exponential and logarithmic functions.
- Identifying the domain and range of exponential and logarithmic functions.
- Applying properties of logarithms to expand and condense logarithmic expressions.
- Solving exponential and logarithmic equations.
- Applying modeling techniques to solve problems of exponential growth and decay.

**Required Textbook and Materials**
If you purchase a textbook without the Mathzone code, you can buy it online by visiting www.Mathzone.com. You will need a credit card to buy it. If you have problems while registering in Mathzone, call Mathzone help: 1-800-330-5094.

- MATHZONE Access
- Scientific Calculator, not a graphing calculator. Examples: TI30x, TI30xa

Please verify the correct textbook information on the Virtual College website: http://vcollege.mdc.edu/portal/courseinformation.aspx

Technology Requirements

Microsoft Office applications such as Word, Excel and PowerPoint are standard for Virtual College courses. Internet Explorer is the recommended browser. You may use AOL or other Internet Service Provider browsers to access the internet, then minimize the window and open Internet Explorer to access your courses.

Due to the necessity of technology in Virtual College Courses, you must have a backup plan for using an alternative computer with internet access in case of problems with your personal computer. If you live in the South Florida area, you may use the computer courtyards located on MDC campuses. If you have a technology problem that affects your ability to access your online course, please notify your instructor immediately. If you can access other internet sites but cannot access your online course, you need to contact the Virtual College Help Desk at 305.237.3800 to seek assistance.

If you have no internet access at all, it is not a Virtual College / online course issue. Please be aware that the Virtual College’s Help Desk does not cover problems that you may be experiencing with your computer hardware, installation of software, internet connection, or other technical problems that may require a technician or intervention from your Internet Service Provider.

Mathzone help: 1-800-331-5094
Course Content

The course is organized as follows:

Unit 1: Linear Equations and Problem Solving
Unit 2: Quadratic Equations and Functions
Unit 3: Polynomial Functions
Unit 4: Exponential and logarithmic Functions

Course Work Requirements

To successfully complete this course, you need to spend at least an average of 5 hours per week on the course, which includes readings, postings, quizzes, exams, etc. Set up a weekly time schedule that allows you sufficient time to complete the assigned course work by the required due dates. Plan to check-in and complete assignments at least three times a week. Do not procrastinate! Turn your work in early or by the due date.

Assignments: Online Homework and class participation assignments.

Practice Tests

Practice tests will be available for each unit prior to the graded test. You can take the practice exam as many times as you wish. The practice tests do not count toward your overall class grade.

Tests: (Not proctored)

- Test 1
- Test 3

Note: An optional comprehensive final (Test 5) will be offered online at the end of the course during finals week. If the optional exam is taken your grade on this exam will replace the lowest grade of either test 1 or test 3.

Tests: (Proctored)

- Test 2 (Must pass with at least 60%)
- Test 4 (Must pass with at least 60%)

These tests will be multiple choice, online tests and must be taken at a testing center near you.

For Miami Dade College testing center information please go to: http://vcollege.mdc.edu/portal/testing.aspx

Late and Make-up Policy:

No make-ups are allowed for proctored tests, homework or online tests.

Extra Credit

There is no extra credit given in this course.
Grading

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Tests 1 and 3</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Tests 2 and 4 (proctored)</td>
<td>60%</td>
</tr>
</tbody>
</table>

**You must score at least 60% on each of these tests to pass the course.**

Total Percentage 100%

<table>
<thead>
<tr>
<th>Range</th>
<th>Letter Grade</th>
</tr>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
</tr>
<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 70</td>
<td>D</td>
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<tr>
<td>59 and below</td>
<td>F</td>
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Miami Dade College Policies

Virtual College students have the same rights and responsibilities as all students at Miami Dade College, and shall abide by all applicable policies and procedures.

- **Students' Rights and Responsibility Handbook**

This handbook provides you with the basic information you need to know as a student at Miami Dade College. Please review the [Student's Rights and Responsibilities Handbook](#) to learn about policies addressing code of conduct, grade appeals, religious observations, services for students with special needs, and many other areas. Due to the nature of the online environment, the information below supplements the Handbook for Virtual College students.
• Academic Dishonesty

Please carefully review the Academic Dishonesty policies in the Student's Rights and Responsibilities Handbook.

The Handbook identifies "cheating on an examination" as one of the actions included under academic dishonesty. In this course, you are expected to complete quizzes and exams independently and without access to the course's online content or your own study notes. Having multiple browser windows open, accessing previous quizzes or course readings, and using your course notes while taking a quiz or exam constitute cheating. All your course activity is recorded by the ANGEL system; activity logs during the times when you are taking quizzes / exams that demonstrate access to other course components constitute evidence of cheating, and may result in a failing grade for the corresponding quiz or exam.

Plagiarism is another action identified as academic dishonesty in the Handbook. Presenting the work or ideas of someone else as one's own constitutes plagiarism, which is why students are always expected to cite their sources. Through the use of Turnitin, unoriginal work can be easily identified; if not sourced; this constitutes evidence of plagiarism, and may result in a failing grade for the corresponding assignment.

• Course Withdrawal

After registering, students may change their schedules during the drop / add period. The dates for this period are listed on the Academic Calendar that may be found as a link on the Miami Dade College homepage.

If you decide to drop this course and you desire a full refund, you must do so before the last day to withdraw with a full refund (see College Academic Calendar for date). If you stop logging on to class without officially withdrawing through the Registrar's Office, the instructor may withdraw you for nonattendance. If you continue to log on but do not participate in the class and complete assignments, the instructor may withdraw you for inactivity.

All your log on and course activity are recorded by the ANGEL system. The instructor notifies absent / inactive students of his / her intent to withdraw them via e-mail and / or phone; if the student does not respond in the amount of time allotted, the instructor may withdraw the student. Once a student is withdrawn, course access will be denied.

• Incomplete Grades

An Incomplete is given only where extenuating circumstances exist, such as documented medical problems or a death in the family, and is issued solely at the discretion of the instructor. If the instructor agrees to grant an Incomplete, a written agreement must be completed between the instructor and the student, specifying the coursework to be completed, in what manner, and by when. Failure to fulfill the terms of the contract by the end of the next major term will result in an "F" for the course. A student may not remove an Incomplete by registering in a subsequent term to re-take the course.

For more information on Incomplete grades, please refer to the Student's Rights and Responsibilities Handbook.
Hurricanes and Other Natural Disasters

In the event of a hurricane or other disaster, the Virtual College follows the schedule established by the College for campus-based courses. Please visit the MDC website (http://www.mdc.edu) or call the MDC hotline (305.237.7500) for situation updates. Assignments and due dates will be adjusted based upon the impact of the storm on our community. However, if the College reopens and you are still without power or internet access, it is up to you to have a backup plan (MDC computer courtyards, labs and libraries; Miami-Dade County public libraries; or similar facilities). Please keep in touch with your instructor if at all possible.