

COMMUNITY COLLEGE OF BALTIMORE COUNTY-CATONSVILLE CAMPUS  
SCHOOL OF MATHEMATICS & SCIENCE  
Fall 2008  
Math 083  
Sections: CMA 92721 & CTA 91059

**Course :** MATH 083 : Intermediate Algebra - The topics include factoring, functions and relations, functional notation, operations of functions, linear and quadratic functions, solutions of quadratic and radical equations, complex numbers, rational expressions and equations, exponential and logarithmic functions, and conic sections. There are Lecture and lab components in this class.

Note : A calculator is required for this course. Knowledge of basic key functions is needed in order to be successful in this course. Headphones are required if you work in the D102 lab or any lab on campus.

**Text :** Intermediate Algebra, Charles McKeague 8th Edition

**Instructor :** Debra Loeffler

**Email :** dloeffler@cCBCmd.edu

**Phone :** 410-455-4255

**Days ,Time , & Room :** TR 11:10-12:30 (G200), 5:45-7:05 (E208)

**Office Hours :** TR 10:30-11:00 E204F, TR 5:15-5:45 E208

**Grading Procedures :**

Quizzes:10%  
Chapter Tests: 20%  
1<sup>st</sup> Quarter Test: 10%  
Midterm: 25%  
3<sup>rd</sup> Quarter Test: 10%  
Final Exam: 25%

A=90-100%  
B=80-89 %  
C=70-79 %  
F=Below 70%

Quizzes & chapter tests will be completed in the online system WebCT. Your ID and password will be given to you on the first day of class. If you have been in a WebCT course before, then your ID and password are the same for this course. Quizzes and chapter tests are only given during a certain time period so make sure that you check the Calendar often so that you do not miss them. NOTE: There are practice quizzes in each objective, but do not count in your grade. They are only for practice!

You will only be able to take the tests once, but quizzes twice (average of the two). There are no make-up quizzes, but during makeup week (See Calendar in WebCT), you will be able to take any chapter test again. The highest grade will be saved. Once you start a quiz/test, if you logout, you have used your one chance. Make sure that after answering the question, you hit the "save answer" button, or your answer will be lost, and then "submit" when you have completed the Quiz/Test or the Quiz/Test will be lost.

Quizzes and chapter tests are done online using WebCT at home or in a lab. The 1<sup>st</sup> & 3<sup>rd</sup> quarter tests, midterm and final will be paper/pencil tests in class (There are no make-ups for these).

If you do not have a computer at home or Internet service, then the Computer Lab in D102 or the library are available during the week. See their schedules for times they are open.

If you are not comfortable with a computer, then this is not the class for you to take and should transfer to a regular class ASAP.

## **Major Topics**

### I. Functions and Relations

- A. Introduce function notation
- B. Identify the domain and range of a function
- C. Perform operations on functions

### II. Quadratic Functions

- A. Graph quadratic functions, identifying domain and range and using function notation
- B. Solve quadratic equations using the square root method, factoring, completing the square and the quadratic formula
- C. Perform operations on complex numbers
- D. Solve quadratic equations (including equations with complex number roots)
- E. Use optimization and simulation methods
- F. Solve radical equations

### III. Polynomial, Radical, and Rational Functions and Equations

- A. Perform operations on polynomial expressions and factor
- B. Graph power and polynomial functions, identifying domain and range and using function notation
- C. Simplify radicals and expressions with rational exponents
- D. Perform operations on rational expressions
- E. Solve rational equations

### IV. Exponential and Logarithmic Functions and Equations

- A. Graph exponential functions, identifying domain and range and using function notation
- B. Graph logarithmic functions, identifying domain and range and using function notation
- C. Evaluate exponential and logarithmic functions

### V. Conic Sections

- A. Graphs parabolas and circles
- B. Write equation of parabolas and circles

### Optional Topics

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

Topics may include: simplifying complex fractions, graphing functions (absolute value, cube, square root), finding the composition of two functions.

## Topics, Sections, &amp; Problems: McKeague Book

Topics		Sections	Problems	Week
Factoring	5.4a	To factor out the Greatest Common Factor	1-20	2.0
	5.5a	To factor a trinomial of the form $x^2 + bx + c$	1-22	
	5.5b	To factor $ax^2 + bx + c$	29-52	
	5.6b	To factor the difference of two squares	29-46	
	5.6c	To factor the sum or difference of two cubes	79-98	
	5.7a	To factor a variety of polynomials	1-4, 6, 8-11, 13-17, 19-24	
	5.8a	To solve an equation by factoring	1-8, 15-16, 19-30	
Functions	3.5b	Identify the domain and range of functions	1-10, 21-24	1.5
	3.5c	Determine if a relation is a function	11-20	
	3.6a	Evaluate functions using functional notation	1-26, 33-40	
	3.7a	To perform operations on functions	1-30	
	3.7b	To find the composition of two functions	31-36	
		1 <sup>st</sup> Quarter Test #1-10% Chapters 5 & 3		
Rationals	6.1a	Reducing rational expressions to lowest terms	1, 2, 5-32	2.5
	6.1b	Find function values for rational expressions	3, 4, 57-64	
	6.3a	To multiply and divide rational expressions	1-36, 61-64	
	6.4a	To add or subtract expressions with a common denominator	11-18	
	6.4b	To add or subtract rational expressions	25-64	
	6.5a	To simplify a complex fraction	7-22, 27-34, 43-52	
	6.6a	To solve a fractional equation	1-16	
***** *		<b>MIDTERM</b> --- 25% of course grade	*****	0.5
Radicals	7.1b	To simplify expressions with rational exponents	33-56	2.0
	7.3a	To simplify radical expressions	1-34	
	7.4a	To add or subtract radical expressions	1-26	
	7.5a	To multiply radical expressions	1-30	
	7.5b	To divide radical expressions	49-86	
	7.6a	To solve a radical equation	1-18	
Complex Numbers	7.7a	Simplify complex numbers	1-8	1.0
	7.7b	Simplify powers of $i$	9-14	
	7.7d	To add or subtract a complex number	25-40	
	7.7e	To multiply complex numbers	41-66	
	7.7f	To divide complex numbers	67-78	
		3 <sup>rd</sup> Quarter Test - 10% Chapter 7		
Quadratic Equations	8.1a	To solve a quadratic equation by taking square roots	1-16	2.0
	8.1b	To solve a quadratic equation by completing the square	17-26, 31-44	
	8.2a	To solve a quadratic equation by using the quadratic formula	1-14, 17-18, 23-26	
	8.5a	Graph parabolas	1-28	
Circles	10.1 c	To find the equation of a circle and then graph the circle	13-30	1.0
	10.1 b	To write the equation of a circle in standard form	31-36	
Exponential and Logarithmic Functions	9.1a	To evaluate an exponential function	1-8	1.0
	9.1b	To graph an exponential function	9-16	
	9.3a	Convert between logarithmic and exponential forms	1-24	
	9.3c	To graph a logarithmic function	37-44	
***** *		<b>FINAL EXAM</b> --- 25% of course grade		**** *

For a more detailed schedule, see the WebCT calendar.

**Food & Drink :** Food and Drink will not be allowed in the D102 Lab.

**Electronic Devices:** All cell phones and pagers are to be turned off before class. If your phone or pager goes off during class, then a point will be deducted from your total points.

**Behavior:** I expect that everyone knows the rules of etiquette. Therefore, when someone is talking, whether it is another student or the instructor, then no one else should be talking. There are times when you will be working on a problem together, and then normal "math" talk is permitted. I am responsible for a good learning environment free of distractions for all students, so therefore, if you are creating a distraction to learning, I will ask you to leave the room. If I have to ask again, you will leave and not return to class for the rest of the semester. No Exceptions, No Excuses!

**Important Dates :**

August 25 Classes Begin  
Sept 1 Labor Day-CCBC Closed  
Sept 12 50% Drop day with 50% Refund  
Oct 31 Last Day to Drop with a "W"  
Nov 26 No classes, CCBC open  
Nov 27-30 Thanksgiving Holiday  
Dec 6 Last Day of Classes

Dec 9 Final exam for CMA, 11:00-12:00  
Dec 9 Final exam for CTA, 5:30-6:30

**"W" :** I will not sign drop slips after Oct 31 for any reason. If you are not able to come in by that date to drop, then have someone do it for you.

**Attendance Policy:**

Students are expected to come to every class. Children or other visitors are not allowed in class since it creates too much of a distraction in the learning process. NOTE: The deadline for withdrawing from a course is Oct 31 . Failure to officially withdraw from a class you have stopped attending may result in an "F" grade. There are no Audits for Developmental Mathematic Courses.

**Course Repeat Policy**

Students who have already received two grades (including W, AU, I, and R) in any course are prohibited from registering for the course for the third or subsequent time without the written permission of an academic dean or his/her designee. (Note: If the course is developmental, the recommendation of a support team [including at least one individual selected by the Senior Director of Developmental Education and at least one individual selected by the academic unit] must be included in the decision making process of the academic dean or his/her designee.)

**Disabled Students**

In accordance with the Americans with Disabilities Act, CCBC is committed to providing an environment that is conducive to learning for all students. Any student who is disabled and requires special accommodation should contact the appropriate campus as follows:

Campus:	Office:	Room:	Phone:
Catonsville	Office of Disabilities Support Services :	K-200	410-455- 6946
Dundalk	Office of Career and Life Planning	A-100	410-285- 9808
Essex	Office of Special Services	A-210	410-780-6741

**Code of Academic Integrity**

For the College to make its maximum contribution as an institution of high learning, the entire college community must uphold high standards of integrity, honesty, and ethical behavior. In seeking the truth, in

learning to think critically, and in preparing for a life of constructive service, honesty is imperative. Each student has a responsibility to submit work that is uniquely his or her own, or to provide clear and complete acknowledgement of the use of work attributable to others. To these ends, the following actions are expected of students:

- Complete all work on exams without assistance.
- Follow the professor's instructions when completing all class assignments.
- Ask for clarification when instructions are not clear.
- Report to the instructor any unauthorized information related to an exam.
- Provide proper credit when quoting or paraphrasing.
- Submit only one's own work.

Students who do not accept responsibility for the integrity of their own work will experience sanctions, including a written reprimand, failure of the assignment, failure of the course, and/or dismissal from the program. For repeat and extreme offenses, the College reserves the right to suspend or expel students.

### **Writing Policy**

The College recognizes that clear, correct, and concise use of language is characteristic of an educated person. Therefore, whenever possible, faculty members in all disciplines should require written assignments in their courses in order to encourage effective writing by their students. Also, instructors should consider the quality of writing in determining a grade for a written assignment. Poor writing can be a sufficient cause for a failing grade on a paper and, in extreme cases, a failing grade in a course.

### **Inclement Weather/Emergency Closing Policy**

In the event that the college (or a specific campus) opens late due to weather-related or other emergency conditions, classes will commence at the announced opening time and resume the normal schedule thereafter for the remainder of the day. Faculty, students, and classified staff should report to wherever they would normally have been at the announced opening time. \*\*

Students and faculty engaged in field placement programs (such as internships, clinical placements, etc.) should discuss the handling of emergency situations at the beginning of the placement period. Both the requirements of the program and the safety of persons involved should be considered in planning a course of action in those cases where students are expected to report to off-campus locations.

\*\* For example, if you had a class that began at 9:35 and the college opened at 10:00 because of snow, you would report to your 9:35 class at 10:00 .

When the college closes because of severe weather or emergency conditions, announcements of class cancellations are made on local radio and television stations and the college website ( [www.ccbcmd.edu](http://www.ccbcmd.edu) ). Closings and delays will also be recorded on the campus weather lines:

Catonsville 410-455-4567  
Dundalk 410-282-6700  
Essex 410-780-6711

### **TUTORING SERVICES**

Students are encouraged to seek help from their instructors whenever they encounter academic difficulty (either during scheduled office hours or by appointment). In addition, each campus offers free academic support services. For more information, contact:

Campus:	Office:	Room:	Phone:
Catonsville	Tutoring Services	F304 (Library)	410-455-6959
Dundalk	Tutoring Services	CAR-530	410-285-9877
Essex	Student Success Center	A-307	410-780-6820

## **CIVILITY AND COMMUNITY BUILDING EXPECTATIONS**

Creating a Culture of CARE©

(Compassion, Appreciation, Respect, Empowerment)

As members of the CCBC community of learners, we are expected to act with respect, honesty, responsibility and accountability. Each of us is expected to be aware of the impact our behavior has on the community. CCBC wishes for each learner to commit to the following actions:

- Become an active and engaged learner
- Celebrate the richness of our diversity
- Respect the campus and its code of conduct
- Practice empathy and compassion
- Promote the empowerment of others

## **MAJOR RELIGIOUS HOLIDAY POLICY**

Students not attending class because they are observing major religious holidays shall be given the opportunity, to the maximum extent possible, to make up, within a reasonable amount of time, any academic work or tests they miss. Arrangements between the student and the faculty member(s) for the student to make up missed assignments or tests must be made in advance of the religious holiday, at the initiation of the student.

## **STUDENT E-MAIL ACCOUNTS**

CCBC has joined the ranks of the very few community colleges in Maryland who provide email accounts to all credit students. Each student who is registered in credit classes now has an email account and up to 5 Mb of storage in their mail box. This account will not be deleted even if the student graduates or leaves CCBC for any reason.

For information about the system and how students can determine their email address, go to the CCBC Home Page and click on "Student Email". From here students can find their email address, get to an on-line user manual and access instructions on how to forward the CCBC email to the system of choice (AOL, Comcast, Hot Mail, etc.)