Mathematics for Elementary Education II
MAT 216
Semester:

Credits 4

Class hours 4

Instructor Information:
Name:
Email:
Phone:
Office:

Course Description
This course covers the second half of mathematics recommended by the NCTM for prospective elementary school teachers, including geometry and spatial sense, measurement, statistics and probability. MAT 216 focuses on a learner-oriented approach to teaching mathematics. Emphasis is placed on mathematical concepts and skills, as well as techniques of inquiry and critical thinking. The course includes a survey of elementary mathematical concepts with appropriate materials to assist teachers in the classroom setting. MAT 216 meets the mathematics requirement for students who plan to teach on the elementary school level.

Prerequisites/Co-requisites
The student must have passed or been exempt from MAT 214, and all remedial reading, writing and ESL requirements.

Student Learning Outcomes
Upon successful completion of this course, students will be able to:

Mathematics Content

• develop knowledge of functions, graphs, equations, inequalities, geometry, counting methods, probability and statistics from the higher viewpoint needed to teach in elementary schools;
• develop the power to communicate mathematically through reading, writing, and discussing ideas which require the appropriate use of the language of mathematics.

Mathematics Pedagogy

• plan and use the most suitable approach (individualized instruction, cooperative learning, writing activities, etc.) for a required lesson;
• teach either small or large group lessons, develop challenging assignments, create an effective learning environment, allow children time to reflect, promote classroom discourse, make connections with other branches of mathematics or other subject areas, and improve children's attitudes toward mathematics;
• use alternative approaches in problem solving, appropriately use calculators and computers, and activities that promote children learning to value mathematics while developing confidence in their own mathematical ability;
• undertake the initial steps toward professional development through self evaluation and collegial interaction;
• use the most recent research and professional consensus about elementary mathematics education, and develop an inquiry-oriented and reflective attitude about the teaching process.

Required Texts
• *Mathematical Ideas* (Tenth Edition), Miller, Heeren and Hornsby; HarperCollins Publishers, New York, 2003. (The tutorial software for this text is available in the Math Computer Labs.)
• *Mathematics, A Good Beginning* (Sixth Edition), Troutman, Andria P. and Lichtenberg, Betty K, Brooks/Cole, California, 2003.

Other Resources
Weblinks For Mathematics Reference, Review And Practice
    http://hometown.aol.com/jlg1196
    http://themathpage.com/Index.html
    http://www.purplemath.com/modules/ordering.htm
    http://www2.guhsd.net/algebra2/#
    http://regentsprep.org/Regents/math/math-tips.cfm
    http://regentsprep.org/Regents/math/math-a.cfm
    http://regentsprep.org/Regents/mathb/mathb.cfm

Use of Technology
<u>Mathematical Ideas (Tenth Edition)</u>, Miller, Heeren and Hornsby; HarperCollins Publishers, New York, 2003. The tutorial software will be used during class sessions in the Math Computer Lab.

Evaluation & Requirements of Students
Grading
The instructor will advise the student of the determination of the final grade. Students are required to attend all scheduled classes.

Outline of Topics
Functions and Graphs
Geometry
Measurement
Counting Methods
Probability
Statistics

College Attendance Policy
At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 <u>hours</u> of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities
Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement
Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).