MATH 213 Algebra Concepts - MCED

Shelia Doran

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MATH 213 – Algebra Concepts – MCED

Wednesday evening 7:00p.m. – 9:30 p.m.

190 Cohen

Syllabus – Fall 2014

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**Information**

Instructor: Mrs. Sheila Doran
Office: 107 Hinkle
Phone: 745-4244
e-mail: doran@xavier.edu

Office Hours: Monday & Friday 1:00-3:00 pm
Tuesday 9:00-11:00 am
Others by Appointment – contact me by phone, email, or in class

Textbook: None required – There will be readings on Canvas.

Calculator: TI-83 or TI-84 (Hopefully you still have one from your MATH 120, 150, or 116/156 classes.)

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**Course Description**

This course is designed as a mathematics course for middle childhood elementary education major with a concentration in mathematics. The goal of this course is to develop a deeper understanding of algebra and algebraic thinking through exploration with concrete and visual activities, peer and elementary student work, group discussion, routine exercises, and problem solving experiences. A deeper understanding requires a development of mathematical knowledge and skills along with mathematical reasoning. It is not just the ability to “do middle childhood mathematics” but to understand the topic well enough to analyze student work and to recognize how to assist and challenge a middle childhood student to grow in their understanding. It is being able to apply the knowledge, skills, and thought processes to real world applications and problem solving.

**This course is not a methods course although it is possible some activities with slight modification may be suitable for classes taught in the future.**
**Course Student Learning Outcomes**

As a result of this course, students will be able to:

1. Analyze and explain patterns using multiple methods.
2. Evaluate student work in order to understand student thought processes and to determine if the work is correct.
3. Distinguish between the multiple uses and meanings of the word “variable.”
4. Explain mathematical operations with polynomials using Algebra Tiles.
5. Explain solutions for equations, including the quadratic formula.
6. Solve 2 and 3 variable systems of equations.
7. Analyze the use of functions in middle school curriculum.

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**Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework/Quizzes/Projects</td>
<td>40%</td>
</tr>
<tr>
<td>Reflective Journal</td>
<td>10%</td>
</tr>
<tr>
<td>Mid-Term Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</tbody>
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**Reflective Journals**

It is generally acknowledged that reflective practice is important to the growth and development of beginning teachers. Reflective writing builds self-awareness of understanding, performance, and development in learning and teaching. Your journal is a daily writing (class days and any significant study days outside of class) of your personal reactions to your experiences during class (or study) times. It is not just a record of what was done in class. Think and reflect upon how your own understanding developed, how you felt about the work and why, problems, questions, and misunderstandings you had, how others (in group/class work) developed in their understandings, how you felt about your contribution to group work, etc. The journal writings should show evidence of thought and reflection. Access to the Daily Journal is under Campus Pack Collab Space. Post reflections there on a weekly basis.

**Homework assignments and projects must be turned in by the due date. Points will be taken off for lateness.**

**Attendance is important since we only meet one day a week.** If a class must be missed, please communicate with the instructor before that class. Coming late and leaving early count as days missed.

**Participation is also important.** Please prepare for class by reading and/or doing the assignment. Being prepared and engaged in class discussions and activities will provide a better learning experience for you.
Grading Scale:
93 - 100    A
90 - 92     A-
88 – 89     B+
83 – 87     B
80 – 82     B-
78 – 79     C+
73 – 77     C
70 – 72     C-
68 – 69     D+
63 – 67     D
60 – 62     D-
0-59        F

Semester Schedule

August 27    Patterns
September 3  Patterns
September 10 Patterns
September 17 Patterns
September 24 Variables
October 1    Variables
October 8    Algebraic Expressions
October 15   Algebraic Expressions: Polynomials
October 22   Equations         Midterm Exam
October 29   Equations
November 5   Equations
November 12  Patterns to Graphs, Quadratic Equations
November 19  Systems of Equations
November 26  Thanksgiving Break
December 3   Functions
December 10  Functions
December 17  Final Exam