MORAVIAN COLLEGE
A SMALL NATIONAL TREASURE
1742

EDUC 325 Z, *Mathematics in the Elementary School*
Ms. Lisa Onkotz • Spring 2008
Home: 610-349-4171 • melgo01@moravian.edu
Hours: Tuesday 6:00 – 6:30 pm (and by appointment)

EDUC 325 is designed to help you help children learn important mathematical concepts, skills, and problem solving techniques. In the process it is hoped that your thinking will be challenged and your interest in mathematics stimulated.	Students in EDUC 325 must have: 1. A minimum grade point average of 2.7 2. Completed EDUC 150 and 155 3. Completed MATH 125 with a C or better 4. Passed the PPST in mathematics

COURSE OBJECTIVES:

⇒ You will review the content underlying and included in elementary school mathematics programs.

⇒ You will develop an understanding of the NCTM *Principles and Standards for School Mathematics.*

⇒ You will develop an understanding of the PA Mathematics Standards and Assessment Anchors.

⇒ You will demonstrate competency of basic elementary mathematical operations and procedures.

⇒ You will acquire an understanding of basic elementary mathematical concepts.

⇒ You will develop a comprehensive view of an appropriate mathematics curriculum, goals of instruction, and types of mathematical learning.

⇒ You will learn specific strategies to teach selected content to specific children as well as general teaching strategies appropriate for differentiating instruction for all learners.

⇒ You will develop pedagogical skills: planning, selection of appropriate materials and lessons, managing a mathematics class, diagnosing, and evaluating.

⇒ You will become familiar with a variety of manipulatives.

⇒ You will develop an understanding of how to integrate the use of technology into the study of and the teaching of mathematics.

⇒ You will become conscience of equity issues in the study of mathematics.

⇒ You will develop a positive attitude toward teaching mathematics.

YOUR PERSONAL GOALS: List 3 to 5 goals of your own.

1. _____

2. _____

3. _____

4. _____

5. _____

REQUIRED TEXT:

Martinez, Joseph G.A. and Martinez, Nancy C., *Teaching Mathematics in Elementary and Middle School: Developing Mathematical Thinking*. Upper Saddle River, NJ: Pearson Education, Inc., 2007.

Companion Website URL:
www.prenhall.com/martinez

Sherman, Helene J., Richardson, Lloyd I., and Yard, George J., *Teaching Children Who Struggle with Mathematics: A Systemic Approach to Analysis and Correction*. Upper Saddle River, NJ: Pearson Education, Inc., 2005.

Additional invaluable resources for you to use all semester:

Principles and Standards for School Mathematics — http://standards.nctm.org/
sign up for free 120 day access to document

Pennsylvania Department of Education — inspiring productive, fulfilled, lifelong learners

Academic Standards for Mathematics
Assessment Anchors
http://www.pde.state.pa.us

COURSE SCHEDULE:

Jan 15	Course Introduction and Standards	M 1
Jan 18	*Pre-Student Teaching Questionnaire* *Section A 9:00 to 10:00; Section B 1:00 to 2:00*	
Jan 22	Learning Mathematics Review basals and *Investigations*	M 2; S 1
Jan 29	Thinking Mathematically; Problem Solving	M 3; S 9
Feb 5	Test #1 Instruction and Assessment	M 4
Feb 12	Early Number Concepts	M 5; S 2
Feb 19	Whole Number Operations – Addition & Subtraction Book Reviews due	M 6; S 3 & 4
Feb 26	Test #2 Whole Number Operations – Multiplication & Division	M 7; S 5 & 6
Feb 29	*Preparation for Pre-Student Teaching Field Experience* *Section A 9:00 to 10:00; Section B 1:00 to 2:00*	
Mar 11	Geometry & Measurement	M 8 & 9
Mar 14	*Science Olympiad* *Pi Day*	
Mar 18	Test #3 Algebra	M 10

Mar 25	Data Analysis & Probability	M 11

Pre-Student Teaching Field Experience - March 25 through April 24

Apr 1	Fractions	M 12 & 13; S 7 & 8

Apr 3	*Job Fair – attendance required in the morning (these hours count towards your 90)*
April 25	*Preparation for Student Teaching in Fall 2007 (9:00 or 1:00)*

Apr 8	Test #4 Bridging Elementary & Middle School	M 14
Apr 15	Class Presentations	
Apr 22	Class Presentations	

COURSE ACTIVITIES:

1. **Participation in class.** There is a difference between active participation and passive participation. Passive participation is showing up for class, taking notes, and even looking interested in what's going on in class. Active participation is the expectation – that is you are expected to contribute in class by being alert, interested, engaged, and cooperative. Expect to both answer and ask questions. Be anxious to share your thoughts on problem solving and your readings. Show that you are prepared. Talk about what you have read.

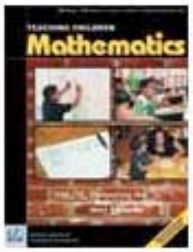
2. **Read and be prepared to discuss all reading assignments**. You will need to show that you are reading assignments through your discussions in class and through your tests. Often times, a written assignment or task will accompany the reading assignment. It is expected that you will complete all assignments on time.

3. **Study for tests.** You will have four tests on the content of the textbooks and related class discussions and presentations. We will go over **some** of the material in your texts, but you are responsible for knowing **all** of it. It is always beneficial to utilize the text companion website and to form study groups to discuss the content of the texts to help prepare for the tests.

4. **Demonstrate the ability to use a word processing program, the Internet, the SmartBoard, and the Student Response System.** All written work that is turned in must be done via word processing. Use a 12-point, easy to read font. Do not use all caps. Use 1 1/2 " line spacing and 1" margins all around. All written assignments will be graded for proper grammar and composition. Use the APA Style Format. If you are at all concerned about your writing ability, visit the Writing Center.

5. **Course Project**. You will compile a collection of mathematics lessons, activities and games, children's literature-based math activities, and websites/web-based activities at all grade levels, K-6, and spanning all math content strands. Your collection will be organized by

grade level and content strand. Each activity will be aligned to the PA Mathematics Standards. A separate document will be distributed which outlines the specific requirements and grading rubric for this project. You will present two activities /lessons of your choice to the class, and will also be graded based on your presentation. You are expected to integrate available technology into your presentation.



6. **Book reviews**. Summarize and discuss how two different children's books can be used to teach mathematics. Each book must focus on a different NCTM **content standard**. Include complete reference material. Scan a picture of the book to include in the reference material. Each review should be 2 to 4 pages in length. The summary of the book should be less than 1 page. The discussion on how to use the book should be 2 to 3 pages. You must include a discussion of how the book and your activities align with the standards – be very specific and cite the standards you are using correctly using APA style. Use the internet to search for teaching ideas and site your references using APA. You may also find ideas in *Teaching Children Mathematics*. You must find your activity ideas in print or on the internet. Do not make them up on your own or use things you have seen in your field experiences. You will be graded on content, style, and research. **Due date: Feb 19**.

7. **Complete Pre-Student Teaching Field Experience requirements**. A separate syllabus will be distributed in class prior to the beginning of the field experience. You will be expected to fulfill all the requirements and submit evidence of your performance in a portfolio. In addition your cooperating teacher will complete an evaluation of your competency in accordance with the Pennsylvania School Code Chapter 354. Your College instructors will visit you weekly to monitor your progress. You will keep a daily attendance sheet - ***you are required to complete a minimum of 90 hours during this experience*** - and submit that as evidence of your attendance at the conclusion of the experience. Due to holidays in the public schools, you will need to find additional hours to make sure you meet the minimum hours requirement. This experience is expected to totally prepare you for student teaching. You should expect to go beyond the requirements and prove your dedication and work ethic. **Students who fall short of the expectations will not be approved for student teaching without completing further successful fieldwork.**

COURSE EVALUATION:

Your performance in the following areas will determine your final grade:

Curriculum Project: Activity Collection	20%
Curriculum Project: Presentation	10%
Book Reviews	10%
Homework Assignments	10%
Test 1	10%
Test 2	10%
Test 3	10%
Test 4	10%
Pre-Student Teaching Experience	10%

Your performance in all areas will be graded in accordance with Moravian College's standards of academic achievement as stated in the Student Handbook.

"Fulfilling" any given requirement does not automatically guarantee an A or full points for an assignment. A's (full points) are given to those students who go beyond the requirements and expectations. Assignments must show evidence of time, effort, originality, and dedication to the research process. Assignments will be graded by the instructor. It is within the instructor's purview to apply qualitative judgment in determining grades for an assignment or for the entire course. **You will not be permitted to redo your work for a better grade. There are no additional assignments for extra credit.**

The following grade conversions will be used in determining your recorded letter grade for the course:

94-100 %	A	90-93 %	A-
87-89 %	B+	84-86 %	B
80-83 %	B-	77-79 %	C+
74-76 %	C	70-73 %	C-
67-69 %	D+	64-66 %	D
60-63 %	D-	0-59 %	F

ATTENDANCE POLICY: You are expected to attend every class. Absence for illness will be excused with written verification from a healing practitioner. You need to email the instructor prior to any class that you will be missing. Your final grade in the course will be lowered by one partial letter grade (i.e.: A to A- or B+ to B) for **every cut** class. Lateness will be noted and count towards cuts – two latenesses equals one absence. Anyone missing more than three classes should seriously consider dropping the class.

EXPECTED WORK LOAD: You should expect to work between 4 and10 hours per week preparing for this class. This includes reading the text, reading other professional journals and books, doing research online, studying, working on projects, and preparing for class presentations. When you begin your pre-student teaching field experience you will spend your time researching and preparing lessons and activities for your students, journaling, and completing your portfolio.

EXTRA CREDIT: Make sure you know the requirements for all assignments and have fulfilled them prior to submitting your assignments. You may not redo assignments for better grades. There are no extra assignments for extra credit.

WRITING CENTER: You are encouraged to submit your assignments to someone at the Writing Center for proofing prior to submitting them for grades.

STUDY GROUPS: You are encouraged to form a study group to discuss the material in your textbooks and to help you prepare for tests.

SPECIAL NEEDS: Any day student who wishes to disclose a disability and request accommodations under the Americans with Disabilities Act (ADA) for this course first MUST meet with either Mrs. Laurie Roth in the Office of Learning Services (for learning disabilities and/or ADD/ADHD) or Dr. Ronald Kline in the Counseling Center (for all other disabilities). Comenius Center students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Dean of the Comenius Center as soon as possible to enhance the likelihood that such accommodations are implemented in a timely fashion.

ACADEMIC HONESTY POLICY: The Moravian College policy on academic honesty will be followed. A copy of the policy is included on the Blackboard site and in the Student Handbook. A copy of the College guidelines concerning plagiarism is also included on the Blackboard site.

CELL PHONES: Make sure all cell phones, pagers, etc. are turned off / silenced prior to the beginning of class.

ATTIRE: Although you do not have to dress for class as if you were attending your field experience, you are expected to be presentable. Dress professionally when presenting in front of the class.

This syllabus is subject to change.