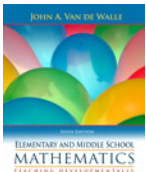


<p><i>EDUC 325</i> is designed to help you help children learn important mathematical concepts, skills and problem-solving techniques. In the process, it is hoped that your thinking will be challenged and your interest in mathematics stimulated.</p>	<p>Students in <i>EDUC 325</i> must have:</p> <ol style="list-style-type: none"> 1. A minimum grade point average of 2.7 2. Completed <i>EDUC 150</i> and <i>155</i> 3. Completed <i>Math 125</i> with a C or better 4. Passed the PPST in mathematics
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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, types of mathematical learning, and ways to differentiate instruction.
- ⇒ 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.

REQUIRED TEXT:



Van de Walle, John. *Elementary and Middle School Mathematics: Teaching Developmentally, 6th Edition*. New York, NY: Allyn & Bacon; Pearson Education, Inc., 2007.

SUPPLEMENTAL:

Companion Website, 6E URL: <http://www.ablongman.com/vandewalle6e>

MyLabSchool URL: <http://www.mylabschool.com>

NCTM Principles and Standards URL: <http://standards.nctm.org>

PA Mathematics Standards URL: <http://www.pde.state.pa.us>

PA Assessment Anchors and Eligible Content URL: <http://www.pde.state.pa.us>

COURSE SCHEDULE:



Jan 16	Course Introduction Directions in mathematics education: the Standards and influences of testing	Chp 1 & 2
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<i>Jan 19: Meeting: pre-ST questionnaire: Section A @ 9:00; B @ 1:00. If you cannot make the day session, you will have to meet with Camie Modjadidi in the evening.</i>
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Jan 23	Developing understanding in mathematics Group project work session	Chp 3
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Jan 30	Teaching mathematics with a problem-based approach Book reviews due Group project work session	Chp 4
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Feb 6	Planning in the problem-based classroom Building assessment into instruction Group project work session	Chp 5 & 6
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Feb 13	Test on chapters 1 - 6 Equity in the mathematics classroom Use of technology	Chp 7 & 8
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Feb 20	Number sense	Chp 9
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Feb 27	Developing meanings for the operations Basic fact strategies	Chp 10 & 11
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<i>Mar 2: Meeting: Prep for pre-ST: Section A @ 9:00; B @ 1:00.</i>

Mar 6	No Class – Spring Break	
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Mar 13	Place value development Group 1 Presentation	Chp 12
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<i>Mar 16: Science Olympiad – all day</i>

<i>PRE-STUDENT TEACHING EXPERIENCE: MARCH 19TH THRU APRIL 26TH</i>

Mar 20	Strategies for whole-number computation / estimation Group 2 Presentation	Chp 13 & 14
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<i>Mar 21: JOB FAIR – attendance in AM is mandatory (8:30 – 12:00)</i>

Mar 27	Strategies for whole-number computation / estimation Group 3 Presentation	Chp 13 & 14
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Apr 3	Test on chapters 7 - 14 Algebraic thinking	Chp 15
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Apr 10	Developing fraction concepts Research paper due	Chp 16 & 17
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Apr 17	Decimal and percent concepts Developing measurement concepts	Chp 18 & 20
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Apr 24	Geometric thinking Concepts of data analysis	Chp 21 & 22
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<i>Apr 27: Meeting: Prep for Fall 2007 ST – 9:00 or 1:00</i>
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May 1	Final Exam (chapters 15 – 22)	
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COURSE ACTIVITIES:

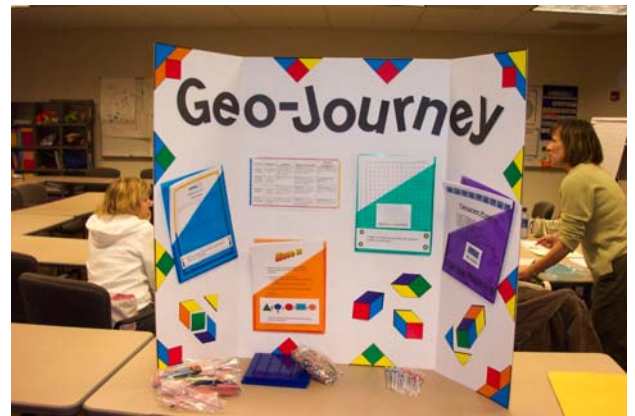
1. **Participation in class.** There is a difference between active participation and passive participation. Passive participation is showing up for class, taking notes, and even looking interested in what's going on in class. Active participation is the expectation – that is, you are expected to contribute 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 have prepared for the class by completing and participating in discussions pertaining to your assignments.
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 electronically, when questions are assigned.
3. **Study for tests.** You will have **three** tests on the content of the textbook and related class discussions. (1 is considered the final exam)
4. **Submit electronic homework responses via e-mail.** You will be told in class of the assignments (ie. web activities, review questions, video cases) to which you need to respond. The responses will be emailed to me at melgo01@moravian.edu no later than 10:00pm on the Monday before class.
5. **Demonstrate the ability to use a word processing program and the Internet.** 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 and 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 for formal papers. If you are at all concerned about your writing ability, visit the Writing Center.
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 **content standard**. Include complete reference material. Scan a picture of the book to include in the reference material. Each review should be 1 -2 pages in length. The summary of the book should be less than 1 page. The discussion on how to use the book should be 1 to 1 1/2 pages. Include activity description and any activity sheets you would use in the classroom. You will be graded on content, style and creativity. **Due date: Jan 30th**
7. **Research.** Research a topic in mathematics related to **special needs learners**. Use at least three different resources. *Teaching Children Mathematics* is a good journal to use to get ideas. Write a 3 to 5 page summary of what you learned from your research. Reference authors' ideas appropriately. Include a complete bibliography. You will be graded on content and style. **Due date: April 10th**
8. **Group Project.** Plan, prepare, and present to the class the mathematics curriculum for a given grade level. The presentation must include a brief overview of the curriculum at the grade level, **two** hands-on whole group learning activities (each addressing a different content standard), and a learning center designed by each member of the group.
 - The overview and the whole group activities are a group project and will be awarded a group grade. The overview should be in the form of a **powerpoint** presentation. The group must submit a **spreadsheet** containing a list of the learning activities, the objective for each activity, and the alignment to the PA Math Standards. (If you intend to teach in New Jersey or another state, you may also include those standards.) The group will present the whole-group learning activities to the class. A hard-copy of the powerpoint, the spreadsheet, and the activities must be submitted to instructor for grading.

Group Project (continued):

- The learning centers will be graded individually. Each learning center must have a **minimum of three** activities based on the same content standard. All necessary materials,

including manipulatives, recording sheets, answer keys must be included at the learning center. In addition, there must be a related website activity and a related literature activity featured pertaining to the content standard. Each learning center must be based on a specific NCTM content standards. Each person in the group should pick a different content standard. Each individual must submit a spreadsheet containing a list of the learning center activities, the objective for each activity and alignment to the PA Math Standards.

- The whole group activities and the activities in the learning centers should all be different. See the rubric for further details on grading. Each group will have 1.5 hours to present. The 45 minutes will be devoted to the brief overview and the whole group activities. The remaining time will be used to explore the activities at the learning centers. You will need to have enough handouts for each class member, plus a complete packet for the instructor for grading purposes. A student worker in the education department will do the copying for you free of charge if you request it 2 days in advance. Students should all expect to do the activities at the centers. Participation is important to your learning. Students will critique each presentation and learning center.



9. **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. 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.

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 (ie: A to 1- or B+ to B) for every cut class.

EXPECTED WORK LOAD:

You should expect to work between 4 and 10 hours per week preparing for this class. This includes reading the text, reading other professional journals and books, doing research online, studying, responding to homework assignments, 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 in addition to class assignments.

SPECIAL NEEDS:

Any 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.)

ACADEMIC HONESTY POLICY:

The Moravian College policy on academic honesty will be followed. A copy of the policy can be found in the Student Handbook.

COURSE EVALUATION:

Your performance will be assessed in the following areas:

Curriculum Project: Overview & Whole Group Activities	10 %
Curriculum Project: Learning Center	15 %
Book Reviews	10 %
Research Paper	12 %
Homework Responses	15 %
Tests 1 and 2 (8 % each)	16 %
Test 3 (Final Exam)	10 %
Pre-Student Teaching Experience	12 %

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.

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