

EASTERN MENNONITE UNIVERSITY
ED 375 Special Methods for Middle & Secondary Teaching: Mathematics
Syllabus FALL 2011

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Class Time: Mon, 8:00-9:50 pm

Location: CC 203

Semester Hours: 2

Websites:

<http://standards.nctm.org/> and <http://www.doe.virginia.gov/testing/index.shtml> and

http://doe.virginia.gov/testing/sol/standards_docs/mathematics/index.shtml and

http://harveyshomepage.com/Harveys_Homepage/Welcome.html and

<http://www.corestandards.org/the-standards/mathematics>

Required Text:

Posamentier, A.S., Smith, B.S., & Stepelman, J. (2010). *Teaching secondary mathematics: Teaching & enrichment units* (8th ed.). Boston: Allyn & Bacon.

Course Description:

This course focuses on specific curriculum and pedagogical concepts relative to the teaching of Mathematics in middle and high school environments. While some of the time will be spent on the historical development of mathematics education as a field of study, most of class time will be spent exploring:

- (1) the domains of mathematics as utilized in actual classrooms,
- (2) differentiation of mathematics instruction for all middle and high school students,
- (3) evaluation, selection, and development of appropriate instructional materials, and
- (4) assessing instructional effectiveness and learning outcomes.

Teacher Candidate Performance Outcomes:

The successful teacher candidate is able to:

Scholarship (S): acquire knowledge through the liberal arts Global Village General Education Curriculum and specialty area studies, and organize and integrate that knowledge across disciplines and cultures.

Inquiry (I): generate questions and to use critical thinking to self-assess, view problems collaboratively and from multiple perspectives, and make informed, research-based decisions to enhance student learning.

Professional Knowledge (PK): demonstrate pedagogical and professional knowledge in order to create, manage, and assess diverse environments conducive to learning.

Communication (C): acquire and use knowledge of effective verbal, nonverbal, and technological communication strategies to support student learning, solve problems, and create peaceable climates.

Caring (Ca): develop a nurturing spirit that honors diversity, advocates for students, integrates Christian faith and ethics, and promotes peacebuilding in diverse settings.

Leadership (L): demonstrate high aspirations for themselves and their profession and to influence positive change in educational settings.

Course Objectives: *Note: Parenthetical lettering refers to teacher candidate performance outcomes.*

As a result of successfully completing this course, the prospective teacher candidate will be able to:

- identify and model effective instructional strategies used for mathematical problem solving and reasoning in grades 6-12 **(S, I)**
- implement a variety of resource materials, including manipulative and visual materials, software, professional journals and other print references in order to enhance the development of mathematical concepts and their interconnectedness between strands, including number systems & number theory; geometry & measurement; analytic geometry; statistics & probability; functions & algebra; calculus; & discrete mathematics. **(S, I, PK, C)**
- explain and model the connections and practical applications between mathematical strands, including number systems & number theory; geometry & measurement; analytic geometry; statistics & probability; functions & algebra; calculus; & discrete mathematics. **(S, I, PK, C)**
- incorporate the use of hand-held calculators, graphing calculators, computers and other technologies as tools for computation and exploration of mathematical problems. **(PK, C)**
- acquire knowledge & appreciation of the historical development of mathematics including the contributions of diverse individuals, groups and cultures, and how this development relates to current curriculum studies and trends in the mathematical profession. **(S, C, L)**
- select appropriate mathematical tasks to stimulate students of all abilities and backgrounds to develop mathematical concepts and skills, including effective implementation of mathematical representations. **(PK, I, Ca)**
- incorporate a variety of instructional strategies such as the use of collaborative groups and cooperative learning and the application of national, state and local standards and guidelines relating to mathematics instruction to accommodate all learners. **(PK)**
- use both oral and written communication strategies between students and teacher, and among students, in order to develop and extend students' mathematical understanding. **(C)**
- design and implement a variety of appropriate formative, summative, and authentic assessment methods for diagnosing, managing, assessing, & monitoring student learning. **(PK)**

ACADEMIC INTEGRITY POLICY (AIP):

EMU faculty and staff care about the integrity of their own work and the work of their students. They create assignments that promote interpretative thinking and work intentionally with students during the learning process. Honesty, trust, fairness, respect, and responsibility are characteristics of a community that is active in loving mercy, doing justice, and walking humbly before God. EMU defines plagiarism as occurring when a person presents as one's own someone else's language, ideas, or other original (not common-knowledge) material without acknowledging its source. (Adapted from the Council of Writing Program Administrators). [Taken from "Academic Integrity," 2011-12 Undergraduate Catalog.] This course will apply EMU's AIP (see catalog, pp. 16-19) to any events of academic dishonesty.

Students at Eastern Mennonite University are accountable for the integrity of the work they submit. Thus, you should be familiar with EMU's Academic Integrity Policy in order to meet the academic expectations concerning appropriate documentation of sources. In addition, EMU is using Turnitin, a learning tool and plagiarism prevention system. For this class, you will submit your papers to Turnitin from Moodle. When grading your work, I will interpret the originality report accordingly, and I will follow the Academic Integrity Policy as appropriate. For more information about and a demo of Turnitin, please see this site: <http://turnitin.com/static/>. Note that submitted papers become part of the Turnitin.com database.

DISABILITY STATEMENT:

If you have received services in the past related to a learning disability or attention deficit disorder and/or feel you may have such a problem in this course, please make an appointment to speak with the instructor during office hours or with the Coordinator of Student Disability Support services in the Academic Support Center, 3rd floor of Sadie Hartzler Library, 432-4233.

WRITING TUTORS:

Please take advantage of the free individual tutoring from our writing tutors. Writing tutors are strong writers who hold scheduled one-on-one sessions with students and are an excellent resource for writers at any level or at any stage in the writing process. Please remember that writing tutors do not provide an editing or proofreading service. They will help you put what you learn into practice and will work with you to improve your own proofreading and editing skills. To make an appointment, please access WOnline through myEMU.

Course Requirements:**ED 375 Course Grading Scale:**

A	96 - 100%	C+	83 - 85%
A-	94 - 95%	C	79 - 82%
B+	92 - 93%	C-	75 - 78%
B	89 - 91%	D+	71 - 74%
B-	86 - 88%	D	67 - 70%

Professional Organization Membership In order to help you transition into the profession as a middle school/secondary teacher, you are required to join the National Council of Teachers of Mathematics (NCTM), as a student member as part of the requirements for this course. Join online at <http://www.nctm.org>. You should select either the journal entitled, *Teaching Math in the Middle Grades* or *Mathematics Teacher*. Once you have joined, you will receive a welcome e-mail from NCTM. ***Please forward this e-mail to me for my records of your having met this requirement.***

Attendance & Class Participation: (10%)

You are expected to attend all classes except in case of an emergency or departmentally approved activities. Please notify me **prior to** any absence as described. Please arrive on time, actively and enthusiastically participate in class, and complete all class and group work. If you do find it necessary to be absent, it is essential that you arrange for a classmate to take notes and collect any handouts for you. You are responsible for any class work or assignments that you missed.

Professional Journal Article Review & Presentation (10%)

The primary purpose of this assignment is to have you remain current and keep abreast with the research in the field of mathematics education. It is important as professional educators to examine the research and views of researchers and practitioners as you are developing your own views. You will write a 2-3 page review of an article having to do with an issue of interest in mathematics education, share it with your peers, and lead a discussion. This article must be found in a professional journal of education and must be related to mathematics. You will summarize the article, write a personal reflection on the author's position and/or research conclusions, and then compare and contrast his/her opinions with your own, providing justification for your opinion. You must also develop and at least 3 discussion questions and facilitate a "round table" discussion with your peers and professors. Your presentation, including the discussion, should last a minimum of 15 minutes.

Journal Article Review & Presentation Rubric:

0	1	2	x 1	Exhibits professional writing style with regard to grammar, mechanics, word choice, spelling, & APA format.
0	1	2	x 3	Summary of article clearly articulates main concepts and provides evidence of a thorough understanding of the research and/or opinions presented by the author(s).
0	1	2	x 2	Article review does a thorough job of presenting significant implications to the field of mathematics education that the research presents in the article.
0	1	2	x 3	Reflection is articulate, causing the reader to think beyond the mere summary of the article. You have interacted with the author's opinions & ideas & have demonstrated your own justified views
0	1	2	x 2	A discussion of questions raised by the research or summary, as well as thoughts you had as you pondered the article are presented
0	1	2	x 1	Presentation is well organized, easy to follow, and engaging
0	1	2	x 1	Round table discussion presents at least 3 solid reflection questions centered on the research or topic discussed in the article and engages peer discussion.

___ /26 Total

Mathematics Lesson Plan & Presentation (20%) The lesson plan itself is due one week before you will teach it in your practicum classroom. In order to receive valuable feedback from your peers and professors, you will also teach this same lesson and be videotaped during a scheduled class meeting. Consult with your field placement teacher about a mathematics topic, and then prepare a 90-minute lesson plan based on the NCTM Standards and Dispositions and the Virginia SOLs. This lesson plan and presentation must incorporate SmartBoard technology, will be videotaped and peer critiqued, and should follow the secondary lesson plan format. This lesson plan may NOT be the same lesson plan developed for ED 351 General Methods. Your lesson plan should include the following:

A narrative description that provides the following background to your lesson:

- Description of your field placement students and school (use pseudonyms): number in the class, age, cultural profile, academic profile.
- Description of the learning environment: the classroom design, time of class meeting, room decorations, available resources, etc.

After consulting with your field school teacher on the topic, date and time, develop the lesson using the attached template as a guide: *Middle/Secondary School Mathematics Lesson Design*.

- Review the lesson plan with your classroom field school teacher and Special Methods professor for any helpful feedback they may offer.
- Teach the 90-minute* lesson to your field placement class and receive feedback from your PFE Coordinator and your field placement teacher. (*Note: Your field placement teacher may or may not wish you to teach a full 90-minute lesson; however, plan your lesson for this block of time*)
- Write a 1-2 page reflection on how your lesson went. (What went well? What needs work? How will you improve your lesson when you teach it again?)

You will then have opportunity to teach your “condensed version” lesson (25-30 minutes) a second time to your peers and professors, who will provide you with additional constructive feedback.

- Write a 1-2 page reflection on how your lesson went the second time for your peers and professors. (What went well this time? What teaching skills still need work? How would you improve this lesson plan for future use in your own classroom? Do you feel your teaching has improved since you taught the first lesson in your field placement classroom? Why/why not?)

Your lesson plan and presentation will be assessed using the attached Lesson Plan Rubric.

NOTE: The goal of this assignment is mastery learning, therefore, all components of the lesson plan must receive a ‘Competent’ rating. If any one of more components of the lesson plan receives a “Does not meet expectations’ rating, you will be expected to re-submit the lesson plan until a ‘Competent’ rating is achieved in all categories. A re-submitted assignment can earn a maximum 2.0 rating in any category. **Re-submission should include: 1) the lesson plan rubric; and 2) the original lesson plan with revisions typed in bold text.**

Important Note: The lesson plan criteria, which include Lesson Outcome/Objectives, Aligned Assessment, Differentiation, and Planning for Instruction will be used for admission to student teaching decisions beginning July 2012.

Eastern Mennonite University: Middle/Secondary School Lesson Design

Pre-Service Teacher: _____ Date: _____

Course/Subject: _____ Grade: _____

Title of Unit: _____ Title of Lesson: _____

VA SOL(s): (write out) _____

SPA Standard(s): (write out) _____

Materials:

For Teacher: include resources & appropriate citations, technology support, etc.

For Students: include resources & appropriate citations, technology support, manipulative materials, handouts, etc.

Instructional Objectives: Write 3 observable/measurable instructional objectives (one for every 30 minutes of instruction) using the ABCD format (**a**udience, **b**ehavior, **c**onditions & **d**egree of expectation).

1.

2.

3.

Task Analysis:

Prerequisite	Essential	Desired/Enrichment

Assessment

1. Content and process skills to be assessed as identified in the instructional objectives.
2. Specific strategies or methods of assessment: (Describe & attach specific assessments)
3. Differentiation: How will you differentiate your assessment for the specific needs of diverse learners?

Lesson Body:

Anticipatory Set: Write out verbatim

Instruction:

(Step-by-step procedures include teacher notes on content, teaching strategies, questions written out verbatim, guided practice, independent practice activities, and time allotments for each procedure.)	Differentiation, Support Learning, & Adaptations What modifications, accommodations, and adaptations will you make to meet the needs of your students?

Closure: Write out verbatim.

Self-Reflection: To be written once the lesson has been presented in your practicum.

Eastern Mennonite University Middle/Secondary Lesson Plan Rubric

	Exemplary 3	Competent 2	Does Not Meet Expectations 1	Score (Weight)
Introductory Information/ Narrative Description	Information of course, grade level, lesson/unit, SOLs, SPAs, materials, is thorough and accurate	Information of course, grade level, lesson/unit, SOL's, SPAs, materials, is complete and accurate	Information is missing, inaccurate or inappropriate	(__X 1 = __)
Task Analysis	Thorough and accurate statement of Prerequisite, Essential, and Desired content knowledge	Complete and accurate statement of Prerequisite, Essential, and Desired content knowledge	Incomplete statement of Prerequisite, Essential, and Desired content knowledge or missing category	(__X 2 = __)
Instructional Objectives¹	Objectives are observable & measureable; ABCD format is thoroughly and accurately included in all objectives; aligned with SOLs and SPA standards	Objectives are observable & measureable; ABCD format is addressed in all objectives; linked to SOLs and SPA standards	Objectives are not observable & measureable; one or more components of the ABCD format is missing in one or more objective	(__X 2 = __)
Assessment¹	Clearly linked to learning outcomes and monitored throughout the lesson (formal and informal)	Assessment linked to learning outcomes or monitored somewhat throughout the lesson	Assessment not linked to learning outcomes or monitored throughout the lesson	(__X 2 = __)
Anticipatory Set/Closure	Compelling introduction draws students into the lesson and closure focuses on student summary of learning; procedure is written out verbatim	Introduction draws students into the lesson; Closure focuses on student summary of learning; written out verbatim	Introduction or closure not included in lesson; not written out verbatim	(__X 1 = __)
*Instruction: Instructional Strategies/Independent Practice¹	Detailed and purposeful teacher notes, instructional strategies, guided practice, independent practice. Reflects best practice; organized, sequential, varied strategies, timing optimizes student learning; practice extends student learning	Includes: teacher notes, instructional strategies, guided practice, independent practice. Reflects best practice; organized, sequential, varied strategies, timing optimizes student learning.	Does not include or is missing some required components. Does not reflect best practice; lacks one or more components: organized, sequential, varied strategies, timing; jeopardizes student learning	(__X 4 = __)
*Instruction: Support Learning/Differentiation of Instruction¹	Extends and adjusts instruction appropriately for all students	Extends and adjusts instruction appropriately for most students	Instruction designed without consideration for individual student learning	(__X 2 = __)
*Instruction: Questions	Types/levels of questions identified; extend and promote, and extrapolate higher level thinking from students	Types/levels of questions identified; extend or promote some higher level thinking	Questions do not extend or promote higher level thinking; types/levels not identified	(__X 1 = __)
Total				/45

***An interactive SmartBoard activity is required in one of these categories.**

¹Criteria will be used for admission to student teaching decisions beginning July 2012.

Assignment is completed when a competent "2" rating is achieved in every category. Comments:

Mathematics Portfolio (30%)

Drafts of individual sections are due throughout the course of the semester (see Tentative Course Schedule) and will receive feedback from the professor. The entire revised final draft portfolio is due Monday, December 12 at class time. You will then present your portfolio to your peers during the scheduled final exam time on December 15.

Developing creative and effective ideas on how to teach is as important as deciding what to teach. This assignment asks you to begin the development and compilation of useful secondary mathematics teaching strategies, lessons, activities, websites, assessments, etc. These will be ideas you develop based on your own teaching and tutoring experiences, observations, and research. **You are expected to provide full citation credit using the APA format for each activity, as well as provide a Reference list at the end of the portfolio.** Your portfolio must be aligned with the National Council of Teachers of Mathematics (NCTM) Standards and Principles relative to middle/high school students. Consider these standards and principles to be the framework upon which to build your portfolio project.

Each section of the portfolio will be due on separate due dates throughout the course of the semester, will receive feedback from your professor, and then the entire revised portfolio with all required components is due **Monday, 12/12, by 8:00 pm class time**. You will then present your portfolio to your peers and share ideas.

Each of the sections will include 3 separate instructional activities/ideas for a total of 48. These must be your own creations, but may be *adapted* from the ideas of others (with proper APA citation provided). You may NOT go on-line and copy/paste an idea or activity and call it yours – this is considered plagiarism. (Please refer to the Academic Integrity Policy referenced on p. 2 of this syllabus for more detail).

The rubric on the following page will be used to assess the final revised portfolio.

Name _____

Overall Grade _____

ED 375 Special Methods Mathematics Portfolio Grading Rubric

Criteria	3 Excellent	2 Competent	1 Unacceptable	Weighted Points
Table of Contents	- Clear list of 16 sections w/each sub-section listed - page numbers indicated	- 16 sections listed - page numbers indicated	- 16 sections not included or - page numbers not indicated	____ x 2 = ____
Introductory Page	- purpose & grade level or course discussed fully & related to developmental appropriateness - well written detailed rationale provided	- purpose & grade level or course discussed briefly - rationale provided	- purpose & grade level or course not discussed - rationale not provided	____ x 2 = ____
Section Introductory Pages	- NCTM standard or principle discussed thoroughly in 1 page	- NCTM standard or principle discussed in 1/2 page	-NCTM standard or principle incomplete or not included	____ x 5 = ____
Instructional Activities per NCTM Standard or Principle 10 Standards: 1. Numbers & Operations 2. Algebra 3. Geometry 4. Measurement 5. Data Analysis & Probability 6. Problem Solving 7. Reasoning & Proof 8. Connections 9. Communication 10. Representation 6 Principles: 11. Equity 12. Curriculum 13. Teaching 14. Learning 15. Assessment 16. Technology	- each of the 3 activities/ideas per section fully aligned with its NCTM standard or principle and/or VA SOL; - each activity/idea carefully created & includes clear teacher & student directions or specific discussion for use - a well-made example of each activity/idea is included with all pieces & parts	- most of the 3 activities/ideas per section fully aligned with its NCTM standard or principle and/or its VA SOL; - each activity/idea includes directions or discussion for use - an example of each activity/idea is included with most pieces/parts	- 3 activities/ideas per section not included or many of the 3 activities/ideas per section not fully aligned with its NCTM standard or principle or VA SOL; - many activities/ideas missing directions or discussion for use - examples of many activities/ideas missing or pieces/parts not included	<u>Sections:</u> 1. ____ x 2 = ____ 2. ____ x 2 = ____ 3. ____ x 2 = ____ 4. ____ x 2 = ____ 5. ____ x 2 = ____ 6. ____ x 2 = ____ 7. ____ x 2 = ____ 8. ____ x 2 = ____ 9. ____ x 2 = ____ 10. ____ x 2 = ____ 11. ____ x 2 = ____ 12. ____ x 2 = ____ 13. ____ x 2 = ____ 14. ____ x 2 = ____ 15. ____ x 2 = ____ 16. ____ x 2 = ____
References	- APA citation for each activity/idea (if applicable) included with the activity/idea - APA Reference Page of all sources used included at end of portfolio	- some mistakes in use of APA format but all necessary citations included - APA Reference Page of all sources used included at end of portfolio	- citations not found after each activity/idea - reference page not included or many citations missing & does not follow APA format	____ x 2 = ____

Overall Creativity, Design, Appearance & Organization	- shows exemplary creativity & careful construction; a great deal of obvious effort was put forth - neat, organized, sturdy & “user-friendly” with labeled dividers for sections & decorative title page - all required activities & essential parts of each activity included	- carefully constructed & organized but may be not sturdy or user-friendly; more effort/creativity could have been used	- lacks evidence of creativity, careful construction & sturdiness - unorganized or “thrown together” with no labeled dividers	____ x 7 = ____
Rubric	Included at the end of the portfolio			____ x 1 = ____
Total Points				____/153

Mathematics Unit (30%) Segments of the unit will be due throughout the semester (see Tentative Course Schedule for specific due dates of each segment) for feedback. The entire revised Mathematics Unit is due December 5.

Purpose of this Assignment:

In the midst of our current standards-based curriculum in the public school sector, it is important for both teacher candidates and in-service teachers to investigate the nature of the mathematics curriculum and reflect on research-based “best practices” as they define and sharpen their own personal teaching styles. This assignment allows teacher candidates to examine several important facets of teaching mathematics, including: the curriculum itself, effectively teaching and assessing mathematics, and meeting the needs of all students of mathematics. The expectation is that your unit will demonstrate your content preparation, your pedagogical knowledge, and your caring dispositions. In your unit you will provide for differentiation of instruction; you will ask students to think about other ways of knowing, and finally, you will model and ask that your students construct meaning from what they learn and not solely from what you deliver.

Structure of the Mathematics Unit:

The unit assignment is divided into seven parts as follows, with each part explained in detail as follows:

1. Unit Rationale, Framework & Goals

Unit Rationale: Is the topic of this unit significant? (Explain how). Why is this unit selected for this group of students at this time of year? How is the unit developmentally appropriate and relevant for this age group? How does this unit fit into the overall mathematics curriculum? How does this unit relate to other subjects? What is the central concept or focus of the unit? What is the relationship of this unit to the mission of mathematics education and the overall nature of mathematics? (The BIG PICTURE)

Unit Framework: This is a table that organizes the 5 days of your unit, briefly listing what is to be learned each day, including the activities and SOLs.

Unit Goals: Identify the over-arching NCTM and Virginia SOL content knowledge base. These goals should guide you, the teacher, in your choice of appropriate learning activities. How many goals you choose to incorporate depends on the age and abilities of your students, the content to be learned, the length of the unit, and the amount of time you choose to teach it.

2. Integration of National Council of Teachers of Mathematics (NCTM) Standards and Virginia Standards of Learning (SOLs)

NCTM Standards the Unit Addresses:

- Content Standards (your choice of which mathematical content & process skills)
- Principles (including: equity, curriculum, teaching, learning, assessment, & technology)

The NCTM Standards & Principles listed above should be incorporated into the goals of your unit, and should be evident throughout in a clear progression found in all learning and assessment activities found in your individual lesson plans. For a detailed description of the NCTM Standards & Principles, visit the following web site: <http://standards.nctm.org>

VA SOLs:

The Virginia Standards of Learning for mathematics at your grade level and/or mathematical subject should be incorporated into the goals of your unit, and should be evident throughout in

a clear progression found in all learning and assessment activities found in your individual lesson plans. For a complete description of the Virginia Standards of Learning for mathematics by grade level and/or subject, visit the following web site:
http://doe.virginia.gov/testing/sol/standards_docs/mathematics/index.shtml

3. Lesson Plans

Your unit should include 5 days of consecutive lesson plans for a 90-minute block. Each lesson plan should follow the attached EMU Middle/Secondary School Lesson Design. Each of the 5 lesson plans will be assessed with the EMU Middle/Secondary Lesson Plan Rubric, which will then be incorporated into the overall unit assessment.

4. Learning Activities

Your unit should include a variety of differentiated learning activities that motivate and lead all students toward achievement of the desired learning outcomes for each of your lessons. These learning activities should be geared toward a mathematics classroom that takes a constructivist, collaborative approach. All learning activities should be directly linked to your unit goals and the instructional objectives of your individual lesson plans.

5. Assessments

Assessments, both formative and summative, should be designed before the unit is taught. They should be directly aligned with your unit goals, the NCTM Standards & Principles listed, the VA SOLs, and the instructional objectives for your individual lesson plans. You must include each of the following types of assessments (in any amount) in your unit, **and the actual assessment tool must be attached:**

- performance based assessment using a checklist
- performance based assessment using a numerical analytical rubric
- any other authentic assessment using any type of rubric
- several formative assessment strategies
- quiz (formative or summative assessment)
- test (summative assessment)

6. Extensions

Your unit should include aspects of extended learning that exhibit ways in which interdisciplinary learning can take place across the curriculum, including aspects of literacy and connections to other content areas. Extended learning activities should also engage students in ways of using mathematics in authentic and relevant real-life situations.

7. Writing and Research Base

Your unit should include a variety of reference materials, and must include proper APA citations within each lesson, along with a Reference page at the end of the unit. For examples of APA format, visit the following web site: <http://www.emu.edu/education/apa>. In addition, your unit must include proper writing style, grammar, punctuation, and spelling, following the standard EMU writing guidelines.

Your Mathematics Unit will be assessed with the rubric on the following page:

ED 375 Mathematics Unit Rubric

Criteria	Exemplary 3	Competent 2	Does Not Meet Expectations 1	Weighted Points
Rationale & Framework	Thoroughly & clearly explains selection of unit in context to time & appropriateness within both mathematics & overall curriculum scope, developmental appropriateness, & relevancy to students' lives; focus thoroughly & clearly articulated in relationship to the overall nature & goals of mathematics education; exhibits connections to other disciplines; easy to follow succinct framework clearly outlines each day's lesson	Explains selection of unit in context to time & appropriateness within both mathematics &/or overall curriculum scope, developmental appropriateness, & relevancy to students' lives, may be brief or not clearly articulated; focus generally articulated in relationship to the overall nature & goals of mathematics education; exhibits some connections to other disciplines; succinct framework outlines each day's lesson	One or more key element of rationale missing or poorly explained: selection of unit in context to time & appropriateness within both mathematics & overall curriculum scope, developmental appropriateness, or relevancy to students' lives; focus not clearly articulated in relationship to the overall nature & goals of mathematics education; does not exhibit connections to other disciplines; framework incomplete or hard to follow	3 x ____ = ____
Goals	Content knowledge base clearly articulated & closely aligned with lesson instructional objectives & mathematical process skills	Content knowledge base articulated & aligned with lesson instructional objectives & mathematical process skills	Content knowledge base not clearly articulated or aligned with lesson instructional objectives & mathematical process skills	3 x ____ = ____
Integration of NCTM Standards & VA SOLs	NCTM Standards & VA SOLs clearly articulated throughout unit goals, lesson plans, learning activities, assessments, & extensions	NCTM Standards & VA SOLs articulated throughout unit goals, lesson plans & most learning activities, assessments, & extensions	NCTM Standards & VA SOLs not clearly articulated throughout unit goals, lesson plans, learning activities, assessments, or extensions	3 x ____ = ____
Lesson Plans	All 5 lesson plans meet the requirements for the EMU secondary lesson plan rubric in an exemplary manner	All 5 lesson plans meet the requirements for the EMU secondary lesson plan rubric in at least a competent manner	One or more lesson plans do not meet the requirements for the EMU secondary lesson plan rubric in a competent manner	20 x ____ = ____
Learning	Greatly enhance	Enhance student	Do not generally	

Activities	student learning & inquiry; promote critical thinking & collaboration & are relevant to students' lives	learning & inquiry; generally promote critical thinking & collaboration & are mostly relevant to students' lives	enhance student learning or inquiry, promote critical thinking or collaboration; not relevant to students' lives	10 x ____ = ____
Assessments	All assessments closely aligned with instructional objectives, NCTM standards, & VA SOLs; multiple examples of all required types of assessments provided	Most assessments aligned with instructional objectives, NCTM standards, & VA SOLs; examples of all required types of assessments provided	Several assessments not aligned with instructional objectives, NCTM standards, or VA SOLs; not all required types of assessments provided	10 x ____ = ____
Extensions	All extensions engage students in the linking of mathematical content with the critical analysis of related authentic & relevant problems that require higher order thinking; most linked to other content areas	Several extensions engage students in the linking of mathematical content with the critical analysis of related problems that require some higher order thinking; some linked to other content areas	Extensions do not engage students in the linking of mathematical content with the critical analysis of related problems that require higher order thinking; not linked to other content areas	5 x ____ = ____
Writing & Research Base	5 or more scholarly references cited & exhibit wide range of thought & perspective; APA format properly used throughout; EMU writing standards closely followed with virtually no errors of convention	3-4 scholarly references cited; APA format used throughout with minimal errors; EMU writing standards followed with a few errors of convention	< 3 scholarly references cited; APA format not used or incorrectly used; EMU writing standards not followed; several errors of convention	5 x ____ = ____
Overall Appearance	Unit is organized into appropriate sections with dividers; table of contents is included; unit is user friendly & visually appealing	Unit is organized into appropriate sections; table of contents is included	Unit is not organized into appropriate sections and/ or table of contents is not included; overall messy appearance	5 x ____ = ____
Total Weighted Points				____/192

Tentative ED 375 Class Schedule, Fall 2011

Special Methods math classes will meet from 8:00-9:50 pm on Monday nights in CC 203 unless otherwise noted.

Note: All reading assignments are to be read prior to class in order for meaningful dialogue to take place. Refer to the assignment descriptions and/or rubrics for descriptions of individual sections due.

Class Date:	Topic & Text Reading Assignment
September 5	<i>The Challenge of Teaching</i> Posamentier, Smith & Stepelman, 8 th Ed., Ch. 1
September 12	<i>Long Range Planning: Scope & Sequence, Curriculum Guides, Standards, SOLs, Benchmarks & Units</i> Ch. 2, pp. 13-19 Portfolio & Unit 3-Ring Binders w/labeled sections DUE Portfolio Section 1 Intro & 3 activities DUE Unit Framework DUE
September 19	<i>Short Range Planning: Creating the Effective Math Lesson</i> Ch. 2, pp. 19-43 Portfolio Section 2 Intro & 3 activities DUE Unit Rationale & Goals DUE Journal Article Presentations
September 26	<i>Differentiation of Instruction: Meeting the Needs of All Students</i> Ch. 2, pp. 44-47 <i>Cooperative Learning in the Math Classroom</i> Ch. 2, pp. 47-51 Portfolio Section 3 & 4 Intro & 3 (total of 6) activities DUE Journal Article Presentations
October 3	<i>Motivating your Students to Learn: Effective Questioning</i> Ch. 3, pp. 61-80 Portfolio Sections 5 & 6 Intro & 3 (total of 6) activities DUE Journal Article Presentations
October 10	<i>Motivating your Students to Learn: Hands-On Learning</i> Ch. 3, pp. 81-103 Portfolio Section 7 & 8 Intro & 3 (total of 6) activities DUE Journal Article Presentations
October 17	<i>Using Technology to Enhance Math Instruction</i> , Ch. 5 Portfolio Section 9 & 10 Intro & 3 (6 total) activities DUE
October 24	Fall Break ☺
October 31	Lesson Plan Peer Presentations Portfolio Section 11 Intro & 3 activities DUE Unit Lesson 1 DUE
November 7	Lesson Plan Peer Presentations Portfolio Section 12 Intro & 3 activities DUE Unit Lesson 2 DUE

November 14	<i>Lesson Plan Peer Presentations</i> <i>Portfolio Section 13 Intro & 3 activities DUE</i> <i>Unit Lesson 3 DUE</i>
November 21	<i>Lesson Plan Peer Presentations</i> <i>Portfolio Section 14 Intro & 3 activities DUE</i> <i>Unit Lesson 4 DUE</i>
November 28	The Role of <i>Problem Solving in the Math Classroom</i> Ch. 4 Assessment, Ch. 6 <i>Portfolio Section 15 Intro & 3 activities DUE</i> <i>Unit Lesson 5 DUE</i>
December 5	<i>Enriching Mathematics Instruction</i> , Ch. 7 <i>Extracurricular Activities</i> , Ch. 8 <i>Portfolio Section 16 Intro & 3 activities DUE</i> <i>Entire (revised) Unit DUE (including reference page)</i>
December 12	<i>Entire (revised) Portfolio DUE (including reference page)</i> <i>Journal Article Presentations</i>
December 15	<i>Final Exam Presentations (Units & Portfolios) 7:00 pm</i>