

Northern Michigan University
Department of Mathematics & Computer Science
MAED 511 (50681): Effective Teaching of Mathematics
Web based (2 credit hours)
June 22 – July 17, 2009

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Course Description:

Methods, materials, curriculum development, and evaluation in K-12 mathematics. Includes principles of learning applied to mathematics and strategies for teaching concepts, generalizations, skills, problem solving. Also includes experiences with hands-on learning activities (manipulatives), cooperative learning, classroom discourse, and meeting the needs of all students.

Text and Other Course Requirements:

Implementing Standards-Based Mathematics Instruction: A Casebook for Professional Development, second edition, by Mary Kay Stein, Margaret Schwann Smith, Marjorie A. Henningsen, and Edward A. Silver, National Council of Teachers of Mathematics and co-published with Teachers College Press (2008). ISBN 978-0-80774-957-9

[If you are a member of NCTM, you can purchase this text at a discounted membership rate directly from the NCTM catalog at

<http://my.nctm.org/ebusiness/ProductCatalog/product.aspx?ID=13498.>]

This course uses WebCT (Web Course Tools) so you must have Internet access in order to complete assignments and receive course information. To get to the WebCT log-on screen, go to <http://webct.nmu.edu/webct/entryPageIns.dowebct>. Your user id and password should be the same as your NMU campus email user id and password.

Assessment Format: Specific information on each assessment measure is provided below.

- **Class Participation (25%):** You will be required to participate in online discussions posted via WebCT on various topics related to teaching mathematics. Included in your participation grade is that each of you critiques other students' work that is posted on the discussion board in WebCT.
- **Written Assignments (25%):** Written assignments on the readings from the text or journal articles will be given throughout the course. Each written assignment will consist of at least two pages (double-spaced, size 12 font). One page should be a summary of the reading or discussion, and the other page should be devoted to your reaction to what you have read or what we discussed online and the possible implications for you as a teacher. Please cite the article in your write up.

- Problems/Concepts (25%):** You will receive several mathematical problems to solve throughout the course or be asked to think more about how specific mathematical concepts can be taught to help students better understand them. The purpose of the problems is to help you gain a deeper understanding of different mathematical concepts and to get you to begin thinking about mathematics in a problem solving context. The solutions to the problems should be neat and organized, just as you would write solutions to problems for your own students. The purpose of having you think about mathematical concepts is to help you understand how specific concepts could be better taught to aid students in their understanding of those concepts. As part of each assignment you are required to respond to the following question: What did I learn about teaching mathematics more effectively?
- Final Project (25%):** For the final project, you will be required to implement the ideas learned from the course into a unit plan (five daily lessons). As part of the final project, you will be required to include a summary of how the lessons are different from what you had before (assuming they are not new). The final project will be presented to the class using the discussion board in WebCT. You will be required to critique two students' final projects.

Grading Scale (%): Your course grade will be based on your total number of points as a percentage of the total possible points for the semester. Percents and corresponding grades are listed below.

100 – 95.0: A	86.4 – 82.5: B	76.4 – 72.5: C	66.4 – 62.5: D
94.9 – 89.5: A-	82.4 – 79.5: B-	72.4 – 69.5: C-	62.4 – 59.5: D-
89.4 – 86.5: B+	79.4 – 76.5: C+	69.4 – 66.5: D+	59.4 – 0: F

NMU's Non-Discrimination Statement:

Northern Michigan University does not unlawfully discriminate on the basis of race, color, religion, sex, national origin, age, height, weight, marital status, familial status, handicap/disability, sexual orientation, or veteran status in employment or the provision of services, and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities.

Anyone having civil rights inquiries may contact the Equal Opportunity Office, 502 Cohodas Hall, telephone number 906-227-2420.

ADA Statement:

If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office by: coming into the office at 2001 C. B. Hedgcock; calling 227-1700; or e-mailing disserv@nmu.edu. Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.