FE99

Chaminade University of Honolulu
Mathematics Methods
RISE Fall 1999
ED 445R and ED 645R

Syllabus

Meeting Dates: **Thursdays:** **October 7, 14, 21, 28**
November 4, 18
December 2, 9, 16

Meeting Times: **4:30 to 7:30 pm October and November**
4:30 to 8:30 pm December

Instructor: **Linda Laine** Phone: **395-2653**

Office Hours: **Thursdays: 3:30 to 4:30 pm and by appointment**
Outer Island students can call at 1-808-377-2408

Texts: **Teaching Mathematics to Students with Learning Disabilities, Third Edition, Bley and Thornton, Pro Ed 1995**
Portions of Principles and Standards for School Mathematics (Draft), NCTM October 1998

Purpose

This class is intended to:

- **review a variety of mathematics topics**
- **explore "new" approaches to teaching mathematics as advocated in the *Standards* of the National Council of Teachers of Mathematics (NCTM)**
- **discuss adaptations and methods appropriate for teaching mathematics in Special Education settings**
- **practice applications of the above topics**

Beliefs

The instructor of the class concurs with the NCTM recommendations for changes. A very brief and simplified summary of some of these recommendations are:

- **content - decrease emphasis on rote and mechanical work; increase emphasis on reasoning, estimation, using technology, and problem solving**
- **assessment - use a variety of assessment and evaluation techniques, provide extended single problem opportunities, conduct continuous assessment- not just "end of unit" tests**
- **methodology - create a community of learners in which group work is a productive and positive mode; assist students in relying on their power to reason; be "the guide on the side, not the sage on the stage"**

In addition, the instructor believes that for mathematics to be remembered and be useful outside of school, it is helpful to connect the learning experiences in school to real life.

It is also believed that there is a large body of abstract mathematics that is interesting and beautiful to many people. Students should have an opportunity to explore at least a few of these ideas.

General Information about Assignments

The evaluation of students in Ed 445R and Ed 645R will be the same with one major exception. All students enrolled in Ed 645R will be required to write a research paper on a topic approved by the instructor and related to teaching mathematics to Special Education students. (The proposed topic must be submitted in writing to the instructor by October 21, and the student and teacher must agree on the topic by October 28.)

For Week 2 through Week 6, all students will be required to submit an assignment in writing. Each of those assignments will have three parts. In addition, for each of those weeks a group of students will asked to give an oral presentation on the text reading.

For Week 3 and Week 6 all students will be required to write a review of an journal article or a chapter from a book related to this course.

During weeks 7, 8, and 9, each student will be required to present a 10 minute lesson to the entire class. These presentations will be done during the last three class meetings. Instructions and evaluation information will be provided in a separate document. (Week 7 Research Papers are also due)

Week 9 With the last assignment required of all students will **M** due. It is a notebook which is to include all assignments for the semester. You should write responses to any comments or questions made by the instructor on the assignments. The notebook should include a copy of the written lesson plan for the 10 minute lesson even if you have not yet presented.

Outer Island students are to mail assignments to:

Linda Laine
211-1 Kawaihae Street
Honolulu, Hawaii 96825

Assignments must be postmarked on or before the due date.

WEEKLY ASSIGNMENTS

Part 1: **Describe one way in which you have used math since the last class. This is not what you taught, but** *what you actually used in your life.*

Part 2: **Prepare, implement, and reflect on a mini-lesson plan for students that you currently teach. The lesson should be based on the mathematics topic from the previous week's class meeting.**

Part 3: A **comment or question about the text chapter assigned for that week is to be submitted in writing.**

***** Note: All three parts are due each week. If you cannot attend class or cannot submit the assignment due, be sure to notify the instructor before the start of class on the date the assignment is due. Your score on the assignment may be lowered.

JOURNAL ARTICLE REVIEWS

You will be required to submit a one to two page review of two journal articles (or portions of books) related to this course. Review of sections of NCTM Standards may be substituted with prior instructor approval.

TEN MINUTE LESSON PRESENTATION

You will be asked to present a mathematics lesson of about 10 minutes. If possible, this lesson should be appropriate for the student(s) that you now teach. These lessons will be presented on the last three nights of class. You should consult with the instructor as soon as possible to be sure that your proposed project agrees with the instructor's expectations. A form on which you will describe the proposed lesson will be provided. When you have completed it, return the form to the instructor for approval of your topic. It is strongly recommended that this be at least three weeks prior to presentation, and it is required that it be submitted at least one week prior to presentation.

NOTEBOOK

***** Be sure to keep all assignments that are returned, and modify them as recommended. You will be asked to resubmit all work in a notebook the eighth week of the class. You are to write a summary of your reactions to the course to be included in the notebook. The notebooks will be returned to you the last week. Outer Island students may pick up their notebooks from the contact person

RESEARCH PAPER

Additional information will be provided to 645R students about the paper requirements and evaluation. The paper is to be written in APA form.

Evaluation and Grading

Like it or not, grades are an important fact of life for students at almost all levels. To make grading meaningful and as stress free as possible for both students and instructors, it is wise to " know the rules" in advance. The following charts detail how work will be evaluated.

Ed 445R Students

Punctual attendance and appropriate participation:	5 points per week (45 points)
Part 1	6 points per week (30 points)
Part 2	6 points per week (30 points)
Part 3	6 points per week (30 points)
Journal reviews (10 each)	20 points
10 minute lesson	40 points
Summary paper (10) and notebook (10)	20 points
Total	215 points

*** Late work will be lowered the equivalent of one letter grade for each day late.

Ed 645R Students

Punctuality and appropriate participation:	**5 points per week (45 points)**
Part 1	**6 points per week (30 points)**
Part 2	**6 points per week (30 points)**
Part 3	**6 points per week(30 points)**
Journal reviews (10 each)	**20 points**
10 minute lesson	**40 points**
Summary paper (10) and notebook (10)	**20 points**
Research paper:	**20 points**
Total	**235 points**

ED 445 and 645 Students

Late work will be lowered the equivalent of one letter grade for each day late.

The activities, discussion, and exchange of ideas that occur during the class are essential parts of the course. Hence, it is vital that you be present for all classes. Your grade may be lowered, regardless of points, if you miss more than one class. (The instructor may take doctor's notes and other extreme emergencies into consideration.)

You may earn extra credit by sharing with the class articles, materials, and/or lessons that are of interest. Please clear with instructor concerning the details of these extra credit activities. Extra credit points may vary from 1 to 20 points.

Minimum Points Ed 445R	Minimum Points Ed 645R	Grade
195	**210**	**A**
175	185	
150	**165**	**C**
130	**140**	**D**

INCOMPLETE GRADE

****** Prior to the date of last class meeting, a request for an "Incomplete" must be requested in writing, and the student must sign a contract with the instructor regarding how work will be made up. All dates on the contract must be met. All work for incomplete grades must be made up within 90 days of the end of the course.******

*******Please note that December classes will be four hours in length .******

Communication Challenges

As all teachers know, communication among the students and the instructor is crucial for optimal learning. And as you know, having class at four or five sites presents special challenges. By this time in your program, you have learned special ways of meeting this challenge. Please share your insights with the instructor.

Note: **Text should be brought to all classes. Modifications may be made to this schedule, so please be sure to contact your "buddy" if you are absent from class. Please leave a message for the instructor if you are to be absent.**

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A Few Suggested References

Periodicals

Journal for Research in Mathematics Education
National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593

Phi Delta Kappan
Phi Delta Kappa International Inc., 408 North Union, P.O. Box 789, Bloomington, Indiana 47402

Mathematics Teaching in the Middle School
National Council of TWhM of Mathematics, 1906 Association Drive, Reston, **Virginia 20191-1593**

The Mathematics Teacher
National Council of Teaches of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593

The Arithmetic Teacher
National Council of Teaches of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593

Books and Pamphlets

Mathematics Education for Students with Learning Disabilities, Theory to Practice,
Rivera (Editors), PRO-ED, Inc. 8700 Shoal Creek Boulevard, Austin, Texas 78757-6897 ISBN 0-89079-710-2

Curriculum and Evaluation Standards for School Mathematics
National Council of Teaches of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593

Professional Standards for Teaching Mathematics
National Council of Teaches of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593

Portfolio Assessment, Applications of Portfolio Analysis
Knight and Gallaro (Editors), University Press of America l Lanham, Maryland 20706 ISBN 0-8191-9415-8

Developing Mathematical Reasoning in Grades K-12, 1999 Yearbook
Stiff and Curcio (Editors), National Council of Teaches of Mathematics, 1906 Association Drive, Reston, Virginia 20191-1593 ISBN 0-87353-466-2

Issues of Curriculum Reform in Science, Mathematics and Higher Order Thinking Across the Disciplines
Office of Research, U. S. Department of Education, (U. S. Government Printing Office: Phone 202-783-3238)

Developing and Implementing Individualized Education Programs, Second Edition; Turnbull, Strickland and Brantley, Charles Merrill Publishing Co., Columbus, Ohio 43216 ISBN 0-675-09908-0 (There may be newer edition)

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Assignment and Lecture Schedule

Each of the dates state when the work is DUE. Outer Island work must be postmarked by the date stated or it will be considered late. You are asked to bring the text and standards to each class meeting.

October 7 (Week 1)

Lecture-Discussion Topic(s): Syllabus, class requirements, math and language, number sense, NCTM and DOE standards, good/bad teaching practices.

Written Assignment(s): Personal information form should have been returned by now. Outer island students may just receive their forms tonight. That is okay.

Reading assignment: None

October 14 (Week 2)

Lecture-Discussion Topic(s): Numbers and operations, assessment techniques.

Written Assignment(s): Math use description, mini lesson on number sense, comments on chapter 5 (and other chapters if you wish)

Reading assignment: Chapter 5 (Chapters 6, 7, 8, 9, and/or 10 as appropriate for level you teach)

October 21 (Week 3)

Lecture-Discussion Topic(s): Common fractions and calculator use

Written Assignment(s): Math use description, mini lesson on numbers and operations and/or calculator use, comments on chapter 4

Reading assignment: Chapter 4

*****RESEARCH PAPER PROPOSAL DUE***10 MINUTE LESSON PROPOSAL DUE*****

These proposals are due on October 21 or sooner. The **sooner they are submitted, the more time you will have to prepare "the final product".**

October 28 (Week 4)

Lecture-Discussion Topic(s): Geometry and spatial sense, hints for ways to address specific student needs and utilize strengths.

Written Assignment(s): Math use description, mini lesson on measurement, comments on chapter 3

Reading assignment: Chapter 3

November 4 (Week 5)

Lecture-Discussion Topic(s): Patterns, functions and algebra, "math adventure"

Written Assignment(s): Math use description, mini lesson on geometry and spatial sense, comments on chapter 2

Reading assignment: Chapter 2

November 18 (Week 6)

Lecture-Discussion Topic(s): Data analysis, statistics, and probability, responses to student questions that have been written to me

Written Assignment(s): Math use description, mini lesson - a math adventure of your very own, comments on one of the chapters 6-10 that you did not comment about about earlier.

Reading assignment: Choose one of the chapters from 6-10 that you did not read for week 2

Be sure that you have submitted your written 10 minute lesson plan to me before your presentation. This means that outer island students need to send their plans early. I will try to schedule them for the last two nights.

December 2 (Week 7)

RESEARCH PAPERS ARE DUE******

Student 10 minute lesson presentations

December 9 (Week 8)

*******All students notebooks due********

Student 10 minute presentations

December 16 (Week 9)

Student 10 minute presentations