MTE 661: Research on Mathematics Teacher Education, Part I

Course Overview
Fall 2011

Professor: Dr. Chandra H. Orrill
Meeting: Mondays 4:00-6:30pm, Fairhaven
Contact: corrill@umassd.edu
774-929-3052
Office Hours: Monday & Tuesday 3:00-4:00
Thursday 3:00-5:00

Abstract: This course introduces students to research on pre-service and in-service teacher learning and teacher education. We will critically examine the research base concerning contemporary learning theories and their application to teacher learning. We will also consider effective forms of teacher professional development and pre-service education through the research focused on these approaches. This course is designed to provide a broad introduction to the field of teacher learning. The assignments are designed to allow students to develop some depth of understanding of a single issue within this field that is of interest to them.

Learning Objectives:

• To become familiar with key ideas in mathematics teacher education and professional development through examination of research and policy documents
• To develop an understanding of effective approaches to mathematics teacher education through examination of research on preservice and inservice teacher learning
• To develop research design skills for studying questions related to teacher learning, teacher preparation, and teacher attributes
• To critically examine literature on mathematics teacher preparation, development, and attributes in light of current learning theories
• To develop a research-based position on what mathematics teachers need to know and be able to do

Textbooks
There are no required textbooks for this course. A full listing of the readings is available in myCourses as well as in the Course Calendar.

Evaluation
Participation: 10%
Reactions to Readings: 10%
Annotated Bibliography: 10%
Research question & study design: 20%
Position paper: 25%
Design of teacher preparation program: 25%
General Information:

- All written work must conform to APA 6th edition format.
- Attendance is expected. Failure to attend will impact your participation score, but will also impair your ability to complete other course assignments in a satisfactory way. If you need to be absent for any reason, please notify me in advance.
- You are expected to abide by the Academic Integrity policy of UMass Dartmouth. It can be read in its entirety here: http://www.umassd.edu/studenthandbook/academicregs/ethicalstandards.cfm. It includes discussion of the university’s policy on academic dishonesty, including plagiarism.
- Please see Center for Access and Success regarding information about available academic support services, including services for learning and physically disabled students.
- Incompletes will only be issued only for extenuating circumstances. If you feel that you are unable to complete work on time, please discuss that with me in advance so we can negotiate an appropriate alternative.
- All assignments should be emailed to me unless otherwise specified in class. This will allow me to provide you with faster, easier to read, and more complete feedback than paper documents allow.

Course Calendar

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<td>9/12/11</td>
<td>Introduction &amp; Overview</td>
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<td>9/19/11</td>
<td>Perspectives from Inside the Field</td>
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<td>9/26/11</td>
<td>Online Class</td>
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<td>Perspectives from Outside the Field</td>
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<td>10/3/11</td>
<td>Knowledge for Teaching</td>
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<td>*10/11/11</td>
<td>TUESDAY MEETING PER UMD CALENDAR</td>
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<td>10/17/11</td>
<td>Measuring Teacher Knowledge</td>
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<td>10/31/11</td>
<td>International Perspectives on Teacher Preparation</td>
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<td>11/7/11</td>
<td>No Class – Work Day!</td>
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<td>11/14/11</td>
<td>Alternative Certification</td>
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<td>Professional Development Frameworks</td>
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<td>11/28/11</td>
<td>Large Scale Studies of Professional Development</td>
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<td>12/5/11</td>
<td>Examples of Professional Practice in the Literature</td>
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<td>12/12/11</td>
<td>Teacher Beliefs &amp; Identity</td>
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<td>*Design of Preservice Program Due</td>
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<td>12/21/10</td>
<td>*Research Question &amp; Design Due</td>
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Course Calendar

What Should Teachers Know and Be Able to Do?
9/12/11 Overview & Introduction

9/19/11 Perspectives from Inside the Field


9/26/11 Perspectives from Outside the Field

- Executive Summary pp. xi – xxvii


Recommended


Classifying, Measuring, & Understanding Teacher Knowledge
10/3/11 Knowledge for Teaching


**Recommended**


*=10/11/11*

**Teacher Understanding of Mathematics (Initial Research Question due)**


- Introduction, pp. xvii-xxv
- Chapter 2 Multidigit Number Multiplication, pp. 28-54
- Chapter 5 Teachers’ Subject Matter Knowledge: Profound Understanding of Fundamental Mathematics, pp 107-124

10/17/11

**Measuring Teacher Knowledge**


**Recommended**

Teacher Preparation Programs


- Chapter 4: What are the components of teacher education? What opportunities are offered, and what do future teachers take? (pp. 76-122)

International Perspectives on Teacher Preparation

*(Position Paper Due)*


Recommended


No Class – Work Day!!

Alternative Certification


**Recommended**


11/21/11

**Professional Development Frameworks**

(Annotated Bibliography Due)


11/28/11

**Large Scale Studies of Professional Development**


*• Executive Summary (pp. xv-xxviii)*


12/5/11

**Examples of Professional Practice in the Literature**


**Beliefs & Identity**

**12/12/11** Teacher Beliefs & Identity

*(Design of Teacher Preparation Program Due)*


**Recommended**


**12/21/11** Research Question & Design due