Department of Teaching and Learning, Policy and Leadership Course Syllabus  
University of Maryland, College Park

Spring 2012  
EDCI 654: Assessing Mathematical Understanding  
Wednesdays 5:00 – 8:00 pm  
High Point High School Room 114

Instructor  
Dr. Ann Ryu Edwards  
2226K Benjamin Building  
(w) 301-405-6343  
aedwards@umd.edu

Office Hours  
Wednesdays 4:30-5:00  
And by appointment

COURSE DESCRIPTION

EDCI 654: Assessing Mathematical Understanding (3 credit hours). Prerequisites: EDCI 650 or permission of department. Techniques of assessing K-14 students’ understanding of mathematics—including standardized tests but focusing on alternative forms such as individual interviews, writing tasks, performance tasks, portfolios. Assessment viewed as an ongoing part of mathematics instruction.

COURSE OVERVIEW

The goal of the Masters degree programs in Education at UMCP is to prepare reflective practitioners for classrooms of diverse learners, through research-based inquiry. This course is designed to enhance the pedagogical knowledge of upper elementary and middle level teachers. The course provides students exposure to changing views of assessment as the goals of mathematics education have changed, research about assessment, and resources for assessing learners’ understanding of mathematics. It views assessment as an integral part of instruction and also attends to the relationships between assessment practices and pedagogy, mathematics, learners, and the social context of education. Careful reflection on practice and interpretation of students’ work and classroom participation are important aspects of the course. Multiple lenses on students’ understanding of mathematics are emphasized—including standardized tests, but also focusing on alternative forms such as individual interviews, writing tasks, performance tasks, and portfolios.

REQUIRED TEXTBOOKS AND COURSE WEBSITE

Required Text: The text is an NCTM publication that can be purchased at:  


Course Blackboard Website  
We will be using our course Blackboard website to disseminate readings, announce information about assignments, and submit assignments (hosted on the UMD Enterprise Learning Management System—referred to as ELMS). To log onto the websites for your courses, go to http://elms.umd.edu. Type in your UMD Directory ID and password. Your Directory ID/Username and password are the same ID and password assigned to your ID@umd.edu email account. Your ELMS homepage should appear with a listing of the course Blackboard sites to which you have access. If you don’t see EDCI 654 in your courselist, please let me know ASAP. Click on the link for the EDCI 654 course website to enter our course website.
If you need help using the Blackboard site, see the Student Resources tab on your ELMS homepage. If you have technical problems, please contact the OIT helpdesk (elms@umd.edu or 301-405-1400).

**COURSE REQUIREMENTS**

In addition to the weekly readings of the text and outside sources, the following assignments are required. A more complete description of each assignment will be available in class and on the course website. Note that participation, which will involve a number of rounds of peer reviews and some in-class activities, is a portion of the grade.

1. **Analyses of Student Work:** Identify, analyze, and present a piece of student written work or an episode of student thinking in your class that is amazing, puzzling or otherwise surprising (4x).
2. **Assessment Adaptation:** Adapt a textbook homework assignment or quiz to reflect attention to higher order thinking, to be more open and to be more revealing of students’ understanding. Provide an analysis of and rationale for the changes.
3. **Alternative Assessment Portfolio:** Adapt, administer, and analyze a set of two alternative assessment activities. Include an analysis of the work of four students on each assessment. Include reflections on teaching and the assessment.
4. **Brief Assignments:** Brief assignments both in and out of class, including (but not limited to) My Assessment Schedule, Student Interview Memo, Student Test Data Analysis, and Alternative Assessment Reviews.
5. **Class participation:** Attend class, complete readings, and participate in peer reviews and in-class activities/discussions.

It is expected that all written work be typed in Microsoft Word or Pages. Specific page length and formatting requirements for each assignment will be provided in the assignment handouts. Punctuation, grammar, expression and proper citation of sources are the responsibility of the author and are part of the grade on an assignment. Citation formats should follow the APA 6th edition guidelines (see below). These mechanics are expected to reflect graduate level work, i.e., meet academic standards for professional papers.


It is not expected that you purchase this source (though it will also be useful for future courses). There are several websites that have compiled the citation formats from the APA 6th edition, including:

- [http://owl.english.purdue.edu/owl/resource/560/01/](http://owl.english.purdue.edu/owl/resource/560/01/)

**COURSE EVALUATION**

Evaluation will be based upon:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Analyses of student work (every other week)</td>
<td>20</td>
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<tr>
<td>2. Assessment Adaptation</td>
<td>10</td>
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<tr>
<td>3. Alternative Assessment Portfolio</td>
<td>30</td>
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<tr>
<td>4. Brief Assignments</td>
<td>20</td>
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<tr>
<td>5. Class preparation and participation</td>
<td>20</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
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Letter grades will be given for each assignment; a final letter grade will be determined based upon the percentages above.
COURSE POLICIES

Regular attendance and participation in this class is the best way to grasp the concepts and principles being discussed. However, in the event that a class must be missed due to an illness, a reasonable effort should be made to notify me in advance of the class (email is best). If that is not possible, the student is responsible for contacting me as soon as possible after the class and for obtaining notes and/or handouts from another student. If a student is absent on a day when a peer review is scheduled, the student is expected to arrange a peer review of his/her work and notify me of its completion in a timely manner. If a student is absent more than 2 times, I may require documentation signed by a health care professional.

All assignments must be turned in by the dates and times given. If circumstances (such as illness) make completing the assignment on time impossible, you must notify me at least 24 hours in advance and we will decide an appropriate deadline. No credit will be given for late assignments if prior notice has not been provided.

Extra credit work will NOT be accepted. Only in very exceptional cases is it possible to change a grade by repeating or correcting an assignment.

If you have a documented disability and wish to discuss academic accommodations, please contact the instructor as soon as possible.

UNIVERSITY OF MARYLAND HONOR PLEDGE

The University has a nationally recognized Honor Code, administered by the Student Honor Council. The Student Honor Council proposed and the University Senate approved an Honor Pledge. The University of Maryland Honor Pledge reads:

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.

This Pledge statement should be included in each email or online submission of all papers, projects, or other academic assignments submitted for evaluation in this course. Details about how to do so will be provided in class.

Plagiarism is, unfortunately, a common form of dishonesty. It is one I take very seriously. If you have any questions about the definition or seriousness of this, please read http://www.jpo.umd.edu/SHC/students.html.
COURSE READINGS


OTHER RESOURCES


of Teachers of Mathematics.


National Council of Teachers of Mathematics. (2004). *Figure this: Math Challenges for families*. http://www.figurethis.org/index.html


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<thead>
<tr>
<th>DATE</th>
<th>TOPICS</th>
<th>ASSIGNMENTS DUE</th>
<th>READINGS DUE</th>
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<tbody>
<tr>
<td>1/25/12</td>
<td>Introductions Course Overview Forms of Assessment Purposes of Assessment (Intro to Student Work Analysis Assignment)</td>
<td>- My Assessment Schedule DRAFT (Brief Assign)</td>
<td>- Handbook Intro and Chapter 1 (pp. 2-9)</td>
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<td>2/1/12</td>
<td>What Does Understanding Mathematics Mean? (Relating Learning Theory to Assessment) What is Mathematical Proficiency? (Intro to Assessment Adaptation Assignment)</td>
<td>- Student Work Analysis (Group A)</td>
<td>- Knowing what students know, Ch 2 excerpts</td>
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<td>- My Assessment Schedule FINAL (Brief Assign)</td>
<td>- Skemp</td>
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<td>2/8/12</td>
<td>Adapting Routine, Closed Tasks to More Challenging and Diagnostic, Perhaps More Open, Tasks (Intro to Alternative Assessment Portfolio Assignment)</td>
<td>- Student Work Analysis (Group B)</td>
<td>- Davis</td>
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<td></td>
<td>- Assessment Adaptation: Bring original assessment and ideas for adaptation (feedback)</td>
<td>- Stenmark on Performance Assessments</td>
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<td>2/15/12</td>
<td>Performance Assessments Diagrams to assess student learning</td>
<td>- Student Work Analysis (Group C)</td>
<td>- Diezmann &amp; English</td>
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<td>2/22/12</td>
<td>Concept Maps Analytic and Holistic Rubrics</td>
<td>- Student Work Analysis (Group A)</td>
<td>- Baroody &amp; Bartels</td>
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<td>- Alternative Assessment #1: Bring assessment draft (feedback)</td>
<td>- Novak &amp; Gowin (excerpts)</td>
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<td>2/29/12</td>
<td>Using Writing to Assess Student Understanding</td>
<td>- Student Work Analysis (Group B)</td>
<td>- Handbook Chapter 3</td>
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<td>3/7/12</td>
<td>Peer Review Alternative Assessment Portfolio #1 Drafts Using Interviews to Assess Student Understanding</td>
<td>- Student Work Analysis (Group C)</td>
<td>- Burns, Writing in math</td>
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<td>- Alternative Assessment #1: Bring draft of Portfolio #1 (peer review)</td>
<td>- DiPillo, et al</td>
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<td>3/14/12</td>
<td>Designing and Conducting Interviews Reviewing Items</td>
<td>- Student Work Analysis (Group A)</td>
<td>- Stenmark on Interviews</td>
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<td>- Alternative Assessment Portfolio #1 FINAL</td>
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<td>3/21/12</td>
<td>NO CLASS—UMD SPRING BREAK</td>
<td>- Conduct student interview (Brief Assign)</td>
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<td>3/28/12</td>
<td>Peer consultations on analysis of student interview Techniques for Self Assessment Using Observations to Assess Learning and Dispositions</td>
<td>- Student Work Analysis (Group B)</td>
<td>- Andrade &amp; Valtcheva</td>
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<td>- Alternative Assessment #2: Bring assessment draft (feedback)</td>
<td>- Tonack</td>
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<td>4/4/12</td>
<td>NO CLASS—PGCPS SPRING BREAK</td>
<td>- Student Interview Memo (Brief Assign)</td>
<td>- Fleener et al</td>
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<td>4/11/12</td>
<td>Peer Review Alternative Assessment Portfolio #2 Drafts Assessing Student Attitudes/Dispositions</td>
<td>- Student Work Analysis (Group C)</td>
<td>- Collison</td>
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<td>Activity</td>
<td>Assignments</td>
<td>Instructor</td>
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<td>4/18/12</td>
<td>Standardized Tests vs. Norm Referenced Tests</td>
<td>- Student Work Analysis (Group A)</td>
<td>Romagnano</td>
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<td>- Alternative Assessment #2: Bring draft of Portfolio #2 (peer review)</td>
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<tr>
<td>4/25/12</td>
<td>Standardized Test Analysis Work Session</td>
<td>- Student Work Analysis (Group B)</td>
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<td>- Student Test Data Analysis DRAFT (Brief Assign)</td>
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<td>- Alternative Assessment Portfolio #2 FINAL</td>
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<tr>
<td>5/2/12</td>
<td>NCTM Mathematics Assessment Standards Summing up assessment forms and purposes (Likely last class meeting)</td>
<td>- Student Work Analysis (Group C)</td>
<td>NCTM Assessment Standards: The Learning, Equity, Openness, Inferences, &amp; Coherence</td>
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<td></td>
<td>- Alternative Assessments Review (Brief Assign)</td>
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<td>5/9/12</td>
<td>(Last possible class. If there are no snow days during the semester, we will not meet—only upload final assignment)</td>
<td>- Student Test Data Analysis FINAL (Brief Assign)</td>
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