ECED 4251-03: Assessment and Correction in Mathematics Education

Semester/Year: Fall 2013

Time/Location: Tuesdays, 8:00 a.m.-10:30 a.m. Education Center 249

Instructor: Jennifer Edelman

Office Location: Coliseum 2032

Office Hours: Monday 9:00-12:00, Tuesday 10:30-12:30, Thursday 9:00-12:00

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Online Support:
D2L Home Page
https://westga.view.usg.edu/

D2L UWG Online help
http://uwgonline.westga.edu/students.php

D2L 24 hour Help
https://d2lhelp.view.usg.edu/

UWG Distance Learning
http://uwgonline.westga.edu/

Distance Learning Library Services
http://libguides.westga.edu/content.php?pid=194430

Resources for Distance & Off-Campus Students
http://libguides.westga.edu/content.php?pid=194459

Ingram Library Services
http://www.westga.edu/library/

University Bookstore
http://www.bookstore.westga.edu/

COURSE DESCRIPTION: Overviews development of acquisition of mathematical concepts. The assessment/correction process is examined. Teaching strategies appropriate to children with learning difficulties are described. Individual assessment and analysis of a particular child’s mathematical problems, including teaching to this analysis are developed in case study form. Current research on teaching mathematics to children with special needs is examined.
Knowledge of teaching strategies and the assessment/correction process will be applied during field experience.

**Prerequisite:** Admission to Teacher Education. All courses from Block II. Must be taken concurrently with ECED 4262, MATH 4713, READ 4251, READ 4253.

**CONCEPTUAL FRAMEWORK:** The conceptual framework of the College of Education at UWG forms the basis on which programs, courses, experiences, and outcomes are created. With the goal of *Preparing Exemplary Practitioners*, our programs incorporate ten descriptors (knowledgeable, reflective, inquisitive, decisive, adaptive, proactive, leading, collaborative, culturally sensitive, empathetic), clustered into three interrelated and overlapping themes, that demonstrate our commitment to (a) Professional Excellence; (b) Field-Based Inquiry; and (c) the Betterment of Society. These themes and descriptors are integral components of the conceptual framework and provide the basis for developing exemplary practitioners who are prepared to improve schools and communities. National and state standards (Georgia Professional Standards Commission [PSC] Standards, the National Council of Teachers of Mathematics [NCTM] Standards, and Council for Accreditation of Educator Program [CAEP] standards) also are incorporated as criteria against which candidates are measured.

The mission of the College of Education is to provide excellence in the initial and advanced preparation of professionals for a variety of settings, to foster an innovative learning community, and to empower a faculty committed to teaching and the dissemination of knowledge. This course’s objectives, activities, and assignments are related directly to the conceptual framework and national standards, as identified below.

**APPROACHES TO INSTRUCTION:** The instructor of this course will employ a variety of instructional strategies in teaching the content of this course. Those strategies include but are not limited to: lecture, student led demonstrations, cooperative learning activities, small group discussion, case studies, and the use of manipulatives and other interactive technologies.

**COURSE OBJECTIVES:**

Students will:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Standard(s)</th>
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<tr>
<td>1. Diagnose students’ error patterns and design appropriate remediation (Ashlock, 2009);</td>
<td>Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; INTASC 1, 2, 3, 4, 8; NCTM 2.5, 2.7; ACEI 4, 5, 10, 12</td>
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<td>2. Identify available resource materials for enhancing classroom instruction and use them effectively taking into consideration individual differences in learning (Ashlock, 2009);</td>
<td>Empathetic, Knowledgeable, Reflective; INTASC 1, 4; NCTM 2.2, 2.5, 2.6; ACEI 6, 9</td>
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<td>3. Acquire knowledge of informal and formal assessment tools, and prescriptive teaching techniques (Ashlock, 2009);</td>
<td>Empathetic, Knowledgeable, Reflective; INTASC 1, 4; NCTM 2.1, 2.2, 2.5, 2.6; ACEI 4, 5, 10, 12</td>
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<td>4. Gain knowledge of informal and formal assessment tools, and prescriptive teaching techniques (Ashlock, 2009);</td>
<td>Empathetic, Knowledgeable, Reflective; INTASC 1, 4; NCTM 2.1, 2.2, 2.3, 2.4, 2.5; ACEI 4, 5, 10, 12</td>
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<td>5. Gain knowledge of modifying the</td>
<td>Empathetic, Knowledgeable, Reflective;</td>
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mathematics program to meet the needs of students with special needs (Ashlock, 2009); and

| 6. Apply knowledge during field experience (Ashlock, 2009). | Decision Makers, Leaders, Lifelong Learners, Adaptive, Collaborative, Culturally Sensitive, Empathetic, Knowledgeable, Proactive, Reflective; INTASC 5, 6, 7, 8, 9, 10; NCTM 2.1, 2.9, 2.10, 3.1, 3.3; ACEI 1, 7, 8, 9 |

**TEXTS, READINGS, INSTRUCTIONAL RESOURCES, AND REFERENCES**

**Required Text:**


**Other Required Readings: These will be available on CourseDen:**


**Course References:**

NCTM Yearbooks:
- Assessment in the Mathematics Classroom, 1993
- The Teaching and Learning of Algorithms, 1998
- Developing Mathematical Reasoning Grades K-12, 1999
- Learning Mathematics for a New Century, 2000
- The Roles of Representation in School Mathematics, 2001
- Making Sense of Fractions, Ratios, and Proportions, 2002
- Learning and Teaching Measurement, 2003
- Thinking and Reasoning with Data and Chance, 2006
- Algebra and Algebraic Thinking in School Math, 2008
- Understanding Geometry for a Changing World, 2009

Other Books and Articles:
ASSIGNMENTS, EVALUATION PROCEDURES, AND GRADING POLICY

Link to Conceptual Framework: This course provides students an opportunity to gain knowledge about the assessment/correction process as it relates to the P-5 curriculum in mathematics. Students will also be provided the opportunity to apply this knowledge, using a case study approach, to an individual child who is demonstrating mathematical problems. As the students progress through the course, they are expected to demonstrate achievement in several areas related to the College of Education conceptual framework.

First, students must demonstrate that they are knowledgeable about how the diagnostic and remediation process: how to gather information about the student being studied, how to use formal and informal assessment tools, how to identify available resource materials to provide
remedial instruction, how to apply this knowledge, and how to evaluate whether process of diagnosing and correcting was effective (Assignments #1-9). Second, students must also demonstrate that they are reflective, decision makers who can appropriately apply this knowledge to students at their field placement (Assignments #1, #3, and #9). Third, students are expected to be leaders who are adaptive, collaborative, culturally sensitive, empathetic, proactive, and reflective as they consider their own educational setting and how they applied gained knowledge in their setting (Assignments #1, #3, #4, and #8). Lastly, as they gain and apply this knowledge to their experiences and then compare this knowledge to their previous knowledge in mathematics content and pedagogy, students gain an appreciation for appropriate mathematics instruction and consequently commit to lifelong learning (Assignments 1 - 8).

**Assignments and Course Requirements:** Written assignments are final products that will be graded on both what is written (clarity, depth, insight) and how it is written (the form of the written work). Therefore, it is crucial to realize that correct grammar and spelling, proper punctuation, neatness, and adherence to assignment guidelines will affect your grade. As an educator, you will be expected to demonstrate high levels of competence not only in verbal but also in written communication with parents, administrators, and other educators. Evaluation of written assignments will be accomplished through rubrics, which will be distributed as assignments are given.

All assignments must be completed in a typed, double space format, with Times/Times New Roman font, size 12 and 1-inch margins on all sides unless otherwise indicated. Reading notebook entries do not need to be double-spaced.

**Assignments are due by 11:59 p.m. on the designated date.** Due dates are listed on the course schedule; full instructions are posted on CourseDen. Assignments are to be typed and submitted to the appropriate dropbox on CourseDen. The dropboxes will close at 11:59 p.m. on the due date. No work will be accepted in person or via email. Please do not wait until the last minute to upload your assignments; technical/computer issues will not excuse the lateness of the assignment.

**Assignments**

1. Participation in class activities (*course objectives 1, 2, 3, 4, 5*):
   - Reading: It is expected that you will access and read all required readings before the day they appear on the course schedule. Each reading will have an activity designed to show that you have read and understood the assignment.
   - Of course, to participate in class activities you need to be present. You are allowed one absence; subsequent absences will affect your participation grade. If there are extenuating circumstances, please contact the instructor.

2. Math Diagnostic Case Study (*course objectives 1, 2, 3, 4, 5, 6*):
   - You will be asked to engage in the diagnostic process as spelled out in this course. Working with a partner, you will be assigned a student in the math clinic for this assignment. A grading rubric and an explanation of this assignment will be discussed in class.
3. Targeted Observations (course objectives 2, 4, 5, 6):
   - You will be assigned two targeted observations that will be done with your cooperating teacher. Each observation will have a focus and you will write a brief (2-3 page) paper about your experience as you focus on a different aspect of assessment and remediation in the classroom.

4. Reading Notebook (course objectives 1, 2, 3, 4, 5):
   - Completing the assigned reading is part of being prepared and able to participate in class discussions. Because the discussions will be centered on the analysis and application of the ideas we read, you will be keeping a reading notebook. Each entry will be about 1 page (bullet points and incomplete sentences are ok as long as I can understand what you are getting at) long and should include the following:
     - Bibliographic information (APA format)
     - Summary of major ideas presented
     - Your analysis, interpretation, critique, and questions of key ideas
     - “Bottom line” of one or two ideas that you will use in your teaching practice

5. Discussion Leader (course objectives 1, 2, 3, 4, 5, 6):
   - Working in small groups of 2-3 students, you will lead the class discussion/activity for an assigned reading. Detailed requirements and the grading rubric will be discussed in class.

6. Final Exam (course objectives 1, 2, 3, 4, 5, 6):
   - A final exam will be given and will be comprehensive. Keep all of your notes and readings to prepare for the test!

Evaluation Procedures

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<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Assessment Tools</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>1. Participation</td>
<td>10%</td>
<td>Rubric</td>
<td>Tuesdays 8:00-10:00</td>
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<tr>
<td>2. Math Diagnostic Case Study</td>
<td>25%</td>
<td>Rubric</td>
<td>December 2, 11:59 p.m.</td>
</tr>
<tr>
<td>4. Reading Notebook</td>
<td>15%</td>
<td>Rubric</td>
<td>Mondays, 11:59 p.m.</td>
</tr>
<tr>
<td>5. Discussion Leader</td>
<td>15%</td>
<td>Rubric</td>
<td>Sign-up date</td>
</tr>
<tr>
<td>6. Final Exam</td>
<td>25%</td>
<td>Exam</td>
<td>Tuesday, December 10 8:00-10:30</td>
</tr>
</tbody>
</table>

Grading

A = 90 - 100%, B = 80 - 89%, C = 70 - 79%, and F = Below 70%.

CLASS, DEPARTMENT, AND UNIVERSITY POLICIES

Academic Honesty: All work completed in this course must be original work developed this semester. Students are expected to adhere to the highest standards of academic honesty. Plagiarism
occurs when a student uses or purchases ghostwritten papers. It also occurs when a student utilizes ideas or information obtained from another person without giving credit to that person. If plagiarism or another act of academic dishonesty occurs, it will be dealt with in accordance with the academic misconduct policy as stated in the latest Student Handbook and the Graduate Catalog.

Americans with Disabilities Act: Students with a documented disability may work with UWG Accessibility Services to receive essential services specific to their disability. All entitlements to accommodations are based on documentation and USG Board of Regents standards. If a student needs course adaptations or accommodations because of a disability or chronic illness, or if he/she needs to make special arrangements in case the building must be evacuated, the student should notify his/her instructor in writing and provide a copy of his/her Student Accommodations Report (SAR), which is available only from Accessibility Services. Faculty cannot offer accommodations without timely receipt of the SAR; further, no retroactive accommodations will be given.

UWG Email Policy: University of West Georgia students are provided a MyUWG e-mail account. The University considers this account to be an official means of communication between the University and the student. The purpose of the official use of the student e-mail account is to provide an effective means of communicating important university related information to UWG students in a timely manner. It is the student’s responsibility to check his or her email.

Credit Hour Policy: The University of West Georgia grants one semester hour of credit for work equivalent to a minimum of one hour (50 minutes) of in-class or other direct faculty instruction AND two hours of student work outside of class per week for approximately fifteen weeks. For each course, the course syllabus will document the amount of in-class (or other direct faculty instruction) and out-of-class work required to earn the credit hour(s) assigned to the course. Out-of-class work will include all forms of credit-bearing activity, including but not limited to assignments, readings, observations, and musical practice. Where available, the university grants academic credit for students who verify via competency-based testing, that they have accomplished the learning outcomes associated with a course that would normally meet the requirements outlined above (e.g. AP credit, CLEP, and departmental exams).

University of West Georgia Honor Code: At the University of West Georgia, we believe that academic and personal integrity are based upon honesty, trust, fairness, respect, and responsibility. Students at West Georgia assume responsibility for upholding the honor code. West Georgia students pledge to refrain from engaging in acts that do not maintain academic and personal integrity. These include, but are not limited to, plagiarism, cheating, fabrication, aid of academic dishonesty, lying, bribery or threats, and stealing.

The University of West Georgia maintains and monitors a confidential Academic Dishonesty Tracking System. This database collects and reports patterns of repeated student violations across all the Colleges, the Ingram Library, and the School of Nursing. Each incidence of academic dishonesty is subject to review and consideration by the instructor, and is subject to a range of academic penalties including, but not limited to, failing the assignment and/or failing the course. Student conduct sanctions range from verbal warning to suspension or expulsion depending on the magnitude of the offense and/or number of offenses. The incident becomes part of the student’s conduct record at UWG.
Additionally, the student is responsible for safeguarding his/her computer account. The student’s account and network connection are for his/her individual use. A computer account is to be used only by the person to whom it has been issued. The student is responsible for all actions originating through his/her account or network connection. Students must not impersonate others or misrepresent or conceal their identities in electronic messages and actions.

**Extra Credit:** Extra credit will not be available in this course. Please do your best work on the assigned activities.

**Professional Conduct:** As novice teachers you have made a commitment to, and have now entered, the education profession. As such, you should conduct yourself at all times in a professional manner. You will demonstrate your professionalism through the following behaviors:

1. **Attendance and punctuality are required,** since much of the value of the course will be through the experiences that occur during our class sessions. You must be present to learn, and to contribute to the learning of others. If you must be absent, please notify me in advance and make arrangements to get class notes from a friend. If that is not possible, please send an email or talk with me as soon as you can. Since our class meets only once a week, missing more than one (1) class session will affect your participation and professionalism grade.

2. **Active participation** is expected, a critical assumption for learning anything more deeply. The pedagogy being advocated and modeled through our course is the belief that our students must commit to, and be involved actively in, the problems and situations being posed. Be involved. Developing collegial, supportive relationships is an important aspect of the teaching profession.

3. **Use of laptop computers** during class is allowed only for specific course-related activities (e.g. composing notes, using math applets/excel/or other mathematical tools). In general, you should not engage in web browsing, email or other questionable unrelated activities during class time.

4. **Thorough preparation** for each class is expected. The better-prepared one is for any experience, the more one will likely benefit from it.

5. **Thoughtful reflection** following each course experience is expected. Looking back at one’s experiences can help to review and consolidate what is important to remember. Being reflective is a necessary habit of excellent teachers as it is used to evaluate ideas, feelings, and experiences in order to make needed changes in your practice.

6. **Deadlines** are goals, which can be altered, as we may need to do so. Flexibility is needed when dealing with humans, who differ in their needs in unique ways. If you need additional time that is reasonable and justified, please talk with me about it before the due date.

7. **High quality** is expected at all times. All participants should be expected to contribute and produce in very high quality ways, striving always to do the very best. This must be especially true of those who would choose to be a teacher of others!

8. **Find enjoyment** while you are growing as a teacher. Find positive energy in our course. If you have any, try to deal with your anxieties, fears, or negative feelings about mathematics. As an early childhood teacher you must strive to instill a love of learning for all subjects in your students.