EDME 7272 Elementary Mathematics II

Semester/Year: Fall 2013

Time: Thursdays, 3:30-6:00

Instructor: Jennifer Edelman

Office Location: Coliseum 2032

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

Online Hours: By appointment

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Email: jedelman@westga.edu

Online Support: CourseDen Home Page
https://westga.view.usg.edu/
CourseDen Help & Troubleshooting
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: This course focuses on preparing K-5 Mathematics Endorsement candidates to:
• Understand and use the major concepts of probability and data analysis for grades K-5
• Solve problems using multiple strategies, manipulatives, and technological tools
• Interpret solutions
• And determine reasonableness of answers and efficiency of methods.
In addition, this course will nurture collaboration, critical thinking, hands-on exploration, manipulative use, problem-based inquiry, technology utilization, and activity implementation addressing various learning styles:
and will select and use a variety of formative and summative assessment techniques to monitor student progress, gauge students’ mathematical understanding, and interpret school-based progress. Must be taken concurrently with EDME 7272L.

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 (National Board for Professional Teaching Standards, National Council of Teachers of Mathematics) 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: This course will develop a mathematical and pedagogical knowledge base that reflects the spirit of the NCTM Principles and Standards (2002) and the National Board for Professional Teaching Standards (1998); diverse learning styles; multiple intelligences; and contributions of underrepresented groups and diverse cultures through the use of varied instructional strategies and methods including:

- Guided discussion
- Modeling and simulations
- Cooperative and collaborative grouping
- Student presentations
- Hands-on activities that actively engage students in the learning process.

COURSE OBJECTIVES:
Students will:
1. Understand and use the major concepts and techniques of algebra for grades K-5, including describing and representing mathematical relationships.
   (Conceptual Framework Descriptors: Professional Excellence, Field Based Inquiry, the Betterment of Society)
   (Standards: NBPTS 1, 2)

2. Understand and use the major concepts of geometry and measurement for grades K-5, including measurement of two- and three-dimensional objects using customary and metric units and describing/modeling mathematical ideas and real world constructs.
   (Conceptual Framework Descriptors: Professional Excellence, Field Based Inquiry, the Betterment of Society)
   (Standards: NBPTS 1, 2)
3. Understand and use the major concepts of probability and data analysis for grades K-5, including making decisions and predictions through collecting, representing, processing, summarizing, analyzing, and transforming data taken from real-world scenarios.  
(Conceptual Framework Descriptors: Professional Excellence, Field Based Inquiry, the Betterment of Society)  
(Standards: NBPTS 1, 2)  

4. Solve problems using multiple strategies, manipulatives, and technological tools; interpret solutions; and determine reasonableness of answers and efficiency of methods.  
Evers, W.M. & Walberg, H.J., 2004; NCTM, 2000  
(Conceptual Framework Descriptors: Professional Excellence, Field Based Inquiry, the Betterment of Society)  
(Standards: NBPTS 1, 2)  

5. Nurture collaboration, critical thinking, hands-on exploration, manipulative use, problem-based inquiry, technology utilization, and activity implementation addressing various learning styles.  

6. Select and use a variety of formative and summative assessment techniques to monitor student progress, gauge students’ mathematical understanding, and interpret school-based progress.  

TEXTS, READINGS, INSTRUCTIONAL RESOURCES, AND REFERENCES

Required Text(s)  Beckmann, S. (2008). *Mathematics for Elementary Teachers* (2nd ed.). Boston: Pearson Addison Wesley. *NOTE: there is a newer edition of this text. If you have not already purchased the book, I recommend getting the newest version).*  

Additional readings will be posted on CourseDen  


Required Instructional Resources: Access to a variety of manipulatives such as pattern blocks, two-color counters, geoboards, snap cubes, algebra tiles, metric and standard weight systems, miras, tangrams, cubic centimeters, etc.  

Course References:  


ASSIGNMENTS, EVALUATION PROCEDURES, AND GRADING

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.

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:
   • 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. GPS Investigation –
   Part I
   • With a partner, examine the Geometry and Measurement standards.
     o Examine your grade level as well as the previous and next grade levels. (Kindergarten should consider skills that are taught in Pre-K.)
     o Create a mini-vertical alignment of your findings.
   • Individually, reflect on your alignment.
     o What concepts and skills are you building on from the previous grade?
     o How will you further develop these concepts and skills in your grade?
     o How will students be using what they learn in your classroom next year?
     o How will you incorporate the process standards into your teaching of number and operations?

   Part II
   • With a partner, examine the Probability and Data Analysis standards.
     o Examine your grade level as well as the previous and next grade levels. (Kindergarten should consider skills that are taught in Pre-K.)
     o Create a mini-vertical alignment of your findings.
   • Individually, reflect on your alignment.
     o What concepts and skills are you building on from the previous grade?
     o How will you further develop these concepts and skills in your grade?
     o How will students be using what they learn in your classroom next year?
How will you incorporate the process standards into your teaching of probability and data analysis?

3. **Lesson Plans:** Develop 8 lesson plans that may or may not be part of one unit for your grade level. At least one lesson plan representing the content from each of the GPS strands in this course (Algebra, Geometry/Measurement, and Probability/Data Analysis) shall be included. These lesson plans can be used for the content implementation requirement in EDME 7272L. The lesson plans must include the following:
   - Strategies addressing diversity (gender, ethnicity, learning styles, etc.) to support full participation by all students;
   - Appropriate use of technology, print and electronic resources, and manipulative and visual materials;
   - Interdisciplinary activities and problem solving;
   - Effective uses of student groupings such as peer teaching and collaborative grouping;
   - Varied instructional strategies based on current research and local, state, and national standards; and
   - Formative and summative assessments to determine student achievement.

4. **Reading Notebook:**
   - 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. **Final Exam:**
   - A final exam will be given and will be comprehensive. Keep all of your notes and readings to prepare for the test!

Note: The Mathematics Endorsement requires the completion of portfolio. The portfolio will include three sections describing or illustrating the candidate’s effective implementation of appropriate content lessons (Section 1 – Content Implementation; Section 2 – Student Learning; and Section 3 – Technology Integration). The assignments that you complete in each class should be maintained throughout the endorsement program. The completed portfolio will be submitted in the Advanced Strategies course.

**Evaluation Procedures**

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<thead>
<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>Thursdays 3:30-6:00</td>
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<tr>
<td>2. GPS Investigations (I &amp; II)</td>
<td>25%</td>
<td>Rubric</td>
<td>I: October 3</td>
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<td></td>
<td></td>
<td></td>
<td>II: November 7</td>
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<td>3. Lesson Plans</td>
<td>30%</td>
<td>Rubric</td>
<td>1 &amp; 2 Algebra: Sept. 19</td>
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<td>3-5 Geometry: October 17</td>
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<td></td>
<td>6-8 Probability and Data</td>
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<td></td>
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<td>Analysis: December 5</td>
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<tr>
<td>4. Reading Notebook</td>
<td>15%</td>
<td>Rubric</td>
<td>See course outline</td>
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<td>Grading</td>
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<tr>
<td>A = 90 - 100%, B = 80 - 89%, C = 70 - 79%, and F = Below 70%.</td>
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**CLASS, DEPARTMENT, AND UNIVERSITY POLICIES**

**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 teachers you have made a commitment to 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!