PTED 7281 LF09 Teaching and Learning Mathematics for the 21st Century- P-5

Semester Hours 3
Semester/Year: Summer 2009
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Online Support:
WebCT Login and Help page: http://nibbler.westga.edu/webct/public/home.pl
Distance Learning Library Resources: http://www.westga.edu/~library/depts/offcampus/
Ingram Library Information: http://www.westga.edu/~library/info/library/shtml
UWG Distance Education: http://www.westga.edu/~distance/

COURSE DESCRIPTION

This course is designed to engage P-5 teachers of mathematics in investigations of their instruction in mathematics for the purpose of professional growth and teacher renewal. Through participation in the Learning Festival and an action research training module, P-5 teacher will gain knowledge regarding best practices in the teaching and learning of mathematics as well as strategies for researching teaching practices. With this knowledge, students will design an action research project that investigates some aspect of their mathematics instruction.

CONCEPTUAL FRAMEWORK

The conceptual framework of the College of Education at UWG forms the basis on which programs, courses, experiences, and outcomes are created. By incorporating the theme “Developing Educators for School Improvement,” the College assumes responsibility for preparing educators who can positively influence school improvement through altering classrooms, schools, and school systems (transformational systemic change). Ten descriptors (decision makers, leaders, lifelong learners, adaptive, collaborative, culturally sensitive, empathetic, knowledgeable, proactive, and reflective) are integral components of the conceptual framework and provide the basis for developing educators who are prepared to improve schools through strategic change. National principles (NBPTS 1, 2, 3, 4 & 5), propositions (NBPTS), and standards (Learned Societies) also are incorporated as criteria against which candidates are measured.
The mission of the College of Education is to develop educators who are prepared to function effectively in diverse educational settings with competencies that are instrumental to planning, implementing, assessing, and re-evaluating existing or proposed practices. This course’s objectives are related directly to the conceptual framework and appropriate descriptors, principles or propositions, and Learned Society standards are identified for each objective. Class activities and assessments that align with course objectives, course content, and the conceptual framework are identified in a separate section of the course syllabus.

**COURSE OBJECTIVES**

The students will:

1. address the relationships between children and mathematics (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   *(Decision Makers, Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)*

2. recognize the importance of the qualitative dimensions of children's learning (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   *(Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)*

3. build beliefs about what mathematics is, about what it means to know and do mathematics, and about children's view of themselves as mathematics learners (National Council of Teachers of Mathematics, 2000; Stein, et. al., 2000; Moon & Schulman, 1995);

   *(Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.5, 2.9)*

4. gain an understanding of the Standards 2000 (NCTM, 1998) and apply recommended strategies in the classroom (NCTM, 1990; Stein, et. al., 2000; Moon & Schulman, 1995);

   *(Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.3, 2.8)*

5. gain an understanding of the constructivist theory of math instruction (NCTM, 1998, 1990, 2000; Stein, et. al., 2000; Moon & Schulman, 1995); and

   *(Adaptive, Empathetic, Knowledgeable, Proactive, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.8)*

(Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Proactive, Reflective; NBPTS 1, 2, 3, 4, 5; NCTM 2.8)
TEXTS, READINGS, AND INSTRUCTIONAL RESOURCES

Required Texts: NONE
*Selected journal articles will be used based on individual student needs

Readings:


ASSIGNMENTS, EVALUATION PROCEDURES, AND GRADING POLICY

Assignments

1. **Learning Festival:** Each student will attend the University of West Georgia Learning Festival in its entirety. Each class member should receive a [copy of the Learning Festival Session Form](#) by which each student will document the sessions attended. Student will submit 3-5 page reflection paper discussing their experiences and knowledge gained from attending the UWG Learning Festival morning sessions. (Graded by a Rubric; Objectives: 1, 4, & 5) **Paper Due:** Friday, June 13, 2009.

2. **Action Research Online Training Module:** Each student will participate in an action research online training module. The training module will be available to participant from June 8, 2009 to June 30, 2009 on the course website. This training will prepare participant to design an action research project which examines some aspect of their mathematics instruction. The project should reflect pedagogical content knowledge
learned in the UWG Learning Festival. Students will participate fully in all training activities. (Graded by checklist; Objectives: 1, 4, & 5)

3. **Action Research Discussion Groups**: Students in small groups will participate in synchronous online reflective discussions regarding what each student plans to study about his or her mathematics teaching and/or student learning. The purpose of these discussion groups is to aid student in designing an action research project. Students will discuss the reasons for their selections and jointly analyze barriers and arrive at solutions for successfully conducting selected action research projects. The dates for these discussions will be finalized in class. (Graded by checklist; Objectives: 1, 4, & 5)

4. **Action Research Project in Mathematics**: Following the group discussions, students will create an action research project for the 2009-2010 school year. This action research project will allow participants to examine some aspect of their teaching of mathematics for the purpose of professional growth and teacher renewal. The project must reflect knowledge gained from the UWG Learning Festival and from the action research online training module as well as the small group discussions. These will be posted on the course WebCT website. Graded by a Rubric; Objective 3) **Postings will be due Tuesday, June 30, 2009.**

5. **Article Reflections**: Students will find and reflect on five journal articles related to their action research projects. Each journal article reflection should follow the *Learning From A Professional Journal* guidelines. (Graded by a Checklist; Objective 3) Journals will be due on June 30, 2009.

**Tardy Submission of Assignment Policy**: Assignments that are submitted after the due date will be reduced by 10%.

**Evaluation Procedures**

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<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>Learning Festival</td>
<td>50</td>
<td>A = 100 - 90%</td>
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<tr>
<td>Math/Science Workshop</td>
<td>50</td>
<td>B = 89 - 80%</td>
</tr>
<tr>
<td>Reflective Discussion</td>
<td>50</td>
<td>C = 79 - 70%</td>
</tr>
<tr>
<td>GPS Professional Growth Plans</td>
<td>100</td>
<td>D = 69 - 60%</td>
</tr>
<tr>
<td>Journal Article Reflections</td>
<td>50</td>
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<tr>
<td>Professionalism</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
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**Professionalism Policy**

Professionalism will be graded as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Tardies/Left Early</th>
<th>Unexcused Absences</th>
<th>Unprofessional Conduct</th>
<th>Late Assignments</th>
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<tbody>
<tr>
<td>A</td>
<td>0-1</td>
<td>0</td>
<td>0</td>
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Attendance Policy: Students are expected to attend class and be respectful of the instructor and other students. Since emergencies do occur, you will be allowed one absence without grade reduction. Absences beyond one will require a written summary or power point presentation of the chapters covered during that class. 10% will be deducted from your final grade for each absence not accompanied by a summary/Powerpoint.

<table>
<thead>
<tr>
<th>DATE</th>
<th>CLASS TOPIC OUTLINE</th>
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<tbody>
<tr>
<td>Session 1</td>
<td>6/3 Course Introduction /Learning Festival</td>
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<tr>
<td>Session 2</td>
<td>6/4 Learning Festival</td>
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<tr>
<td>Session 3</td>
<td>6/5 Learning Festival</td>
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<tr>
<td>Session 4</td>
<td>Ongoing Action Research Training Module</td>
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<tr>
<td>Session 5</td>
<td>TBA Synchronous Group Discussions</td>
</tr>
<tr>
<td>Session 6</td>
<td>6/30 Action Research Projects and Course Evaluations</td>
</tr>
</tbody>
</table>

Students are expected to adhere to the highest standards of academic honesty. Plagiarism occurs when a student uses or purchases ghost-written papers. It also occurs when a student utilizes the ideas of 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 Student Handbook, Undergraduate Catalog, and Graduate Catalog.