

EDUC 4251 Departmental Syllabus
2006-2007

ASSESSMENT AND CORRECTION MATHEMATICS EDUCATION

Semester Hours: 3

COURSE DESCRIPTION

Prerequisite: Admission to Teacher Education; All courses from Block II; Must be taken concurrently with EDUC 4262, MATH 4713, READ 4251, and ESOL 4241.

This course is an overview of the development and 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.

CONCEPTUAL FRAMEWORK

The Division of Education's mission is to provide excellence in the initial preparation of professional educators for diverse settings who are competent and effective teachers, who can bring diverse learners to high academic achievement and to be able to work toward school improvement. This mission statement is supported by the Division's philosophy embedded in the purpose statements, and further expressed in the Division's goals, is the content for how professional, state, and institutional standards are addressed in the professional teacher education programs. Proficient demonstration of the Professional Outcomes (knowledge, skills, and dispositions) of the Conceptual Framework embraces the competencies and proficiencies of the INTASC Principles and the Georgia State Standards. The Division believes that each of the Professional Outcomes is of equal value, and is critical to the preparation of professional educators to be competent and effective teachers, and leaders in school improvement. Faculty members emphasize the importance of preparing caring, dedicated, skilled professional educators who are committed to offering children equitable educational opportunities to become lifelong learners. The ten Professional Outcomes (Knowledge, Adaptive, Leader, Decision Maker, Proactive, Culturally Sensitive, Reflective, Empathetic, Collaborative and Lifelong Learner) are what the Division believes proficient teacher candidates should exhibit upon program completion.

COURSE OBJECTIVES

The mission of the Division 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. The objectives for this course are related directly to the conceptual framework and appropriate descriptors, principles 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.

Students will:

1. Diagnose student error patterns and design appropriate remediation/correctives (Ashlock, 1990); Lifelong Learners, Adaptive, Empathetic, Knowledgeable, Reflective; NCTM (National Council of Teachers of Mathematics) # 3.5, 2.7; ACEI (Association for Childhood Education International) # 4, 5, 10, 12
2. Identify available resource materials for enhancing classroom instruction and use them effectively while taking into consideration individual differences in learning (Ashlock, 1990; Gough, 1998); Empathetic, Knowledgeable, Reflective, NCTM # 2.2, 2.5, 2.6; ACEI # 6, 9
3. Acquire knowledge of the learner based on developmental stage, cognitive style, and present level of performance (Ashlock, 1990; Gough, 1998); Empathetic, Knowledgeable, Reflective; NCTM #2.1, 2.2, 2.3, 2.4, 2.5; ACEI # 3, 6
4. Gain knowledge of informal and formal assessment tools, and prescriptive teaching techniques (Ashlock, 1990; Gough, 1998); Empathetic, Knowledgeable, Reflective; NCTM # 2.1, 2.2, 2.5, 2.6; ACEI # 4, 5, 10, and 12
5. Gain knowledge of modifying the mathematics program to meet the needs of students with special needs (Ashlock, 1990, Gough, 1998); Empathetic, Knowledgeable, Reflective; NCTM # 2.1, 2.2, 2.3, 2.4, 2.5; ACEI # 3,6,9
6. Apply knowledge during field experience (Ashlock, 1990, Gough, 1998); Decision Makers, Leaders, Lifelong Learners, Adaptive, Collaborative, Culturally Sensitive, Empathetic, Knowledgeable, Proactive, Reflective; NCTM # 2.1, 2.9, 2.10, 3.1, 3.3; ACEI # 1, 7.8.9

TEXTS, READINGS, AND INSTRUCTIONAL RESOURCES

Required Text: Ashlock, R. (2002). *Error Patterns in Computation*. Columbus, OH: Merrill.

References:

Journals: *Teaching Children Mathematics, Mathematics Teaching in the Middle School, the Elementary School Journal, the Journal for Research in Mathematics Education*

Websites:

<http://www.nctm.org/standards/>

<http://www.glc.k12.ga.us/qcc>

<http://www.udel.edu/bateman/acei/ncateinf.htm>

<http://www.doe.k12.ga.us/curriculum/testing/educators.asp>

<http://www.gapsc.com/TeacherCertification.asp> (for PSC Standards)

<http://www.doe.k12.ga.us/support/plan/nclb.asp>

<http://www.gadoe.org/> (for state standards)

ASSIGNMENTS, EVALUATION PROCEDURES, AND GRADING POLICY

Link to Conceptual Framework: This course is designed to provide undergraduate students with an introduction and understanding of the concepts and procedures for teaching mathematics to elementary students. The evaluation for this course is structured so that assignments correlate with the knowledge and skills necessary for students to understand mathematics concepts and theories and to demonstrate proficiency in teaching mathematics. At the completion of this course, students will demonstrate competencies in the areas of: **Decision Maker, Lifelong Learners, Collaborative, Culturally Sensitive, Empathetic, Knowledgeable, Proactive, Reflective--** (select, review and respond to appropriate journal articles, write appropriate lesson plans, deliver classroom demonstration and demonstrate appropriate techniques for teaching mathematics concepts, complete field experience requirements, respond to weekly questions, respond to exams, complete diagnostic kit, complete field experience journal requirements).