**GRAMBLING STATE UNIVERSITY**

**COLLEGE OF EDUCATION**

**Dept. Of Curriculum and Instruction**

Protecting the heritage: Cultivating knowledgeable, skilled and compassionate educators, and community leaders in "The Place Where Everybody is Somebody"

# Course Syllabus

## ED 209 Professional Accountability II Seminar Mathematics

Instructor: Harrison Jones, IV. Ed.D.
Semester: FALL Semester 2020
Semester Credit: 3 hours
Office Location: Assembly Center, Room 173A
Office Phone: (318) 274-2438
Email: Joneshar@gram.edu
Conference Hours: MW 10:00 - 1:00 p.m. Tues 12:00 – 4:00

## I. Course Catalog Description

This course is designed to enhance the content knowledge and skills of teacher candidates who are preparing for the Core Academic Skills for Educators: Mathematics Assessment. Specifically, the course includes interactive activities that focus on math skills, test-taking strategies, and Common Core College and career readiness skills needed to successfully prepare for a career in education.

## II. Format and Hours

The goal of this course is to provide teacher candidates with relevant content and test-taking strategies to aid in the preparation and mastery of the Core Academic Skills for Educators Mathematics assessment. Special emphasis is placed on mathematics problem solving skills, and test-taking strategies. Students are required to engage in weekly Praxis laboratory activities.

## III. Course Objectives

| Objectives: The candidate will | Assessment Strategies | NCTM | LCET |
|---|---|---|---|
| 1. Do problem Solving | A,B | 1,2,4,6,7 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIA, IIIB, IIIC |

| | | | |
|---|---|---|---|
| 2. Understand numbers and number systems by studying place value and the decimal system | A,B | 1,2,4,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 3. Perform addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals | A | 1,2,4,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 4. Use visualization in geometry and measure angles and define circles, spheres, and triangles | A,B | 1,2,3,4,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 5. Study the geometry of motion and change | A,B | 1,2,3,4,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 6. Calculate area and perimeter of geometrical objects | A | 1,2,3,4,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 7. Identify patterns and list sequences; and solve equations and graph functions | A,B | 1,2,3,4,5,6,7,8,9 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 8. Quantify data by using the mean, mode, and median | A | 1,2,3,4,5,6 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |
| 9. Define and discuss probability | A,B | 1,2,3,4,5,6,7 | IA1-IA5, IIA, IIB, IIC, IIIA, IIIB, IIIC |

## IV. Primary Empirical Base

A number of learning theories have been applied to the domain of mathematics. ACT has been used to develop a computer tutoring program for geometry. Repair Theory provides a detailed analysis of the cognitive process involved in subtraction. Conversation Theory served as the basis for studies in learning probability. Schoenfeld has developed a comprehensive theory of mathematical problem solving that suggests four kinds of skills are necessary to be successful in mathematics: resources, heuristics, control processes, and beliefs. Research on mathematics instruction is reported in Charles & Silver (1989), Cocking & Mestre (1988), and Grouws & Cooney (1988).

Charles, R & Silver, E. (1989). The Teaching and Assessing of Mathematical Problem Solving. Hillsdale, N.J.:Erlbaum.

Cocking, R. & Mestre, J. (1988). Linguistic and Cultural Influences on Learning Mathematics. Hillsdale, N. J.: Erlbaum.

Grouws, D. & Cooney, T. (1988). Perspectives on Research on Effective Mathmatics Teaching. Hillsdale, N. J.: Erlbaum.

## V. Proposed Resources and Materials

- Required Text: None

- Handouts on Math Problems & Concepts

- Required Websites

Online Resources for Mathematics Teachers

1.) Louisiana K-12 Mathematics standards
http://www.doe.state.la.us/DOE/asps/home.asp?I=CONTENT

2.) The Math Forum
http://mathforum.org/library/topics/arithmetic/

3.) The National Council of Teachers of Mathematics
http://www.nctm.org

4.) PK-2 Resources
http://illuminations.nctm.org/pages/prek2.html

5.) Grades 3-5 Resources
http://illuminations.nctm.org/pages/35.html

6.) Grades 6-8 Resources
http://illuminations.nctm.org/pages/68.html

**Canvas web-enhanced activities**

www.mometric.com

www.ets.org

www.kaptest.com

www.khanacademy.org

**. Assessment Strategies**

**A.** Knowledge and Comprehension level: traditional methods such as objective examinations (multiple choice, fill in the blank, true/false, short answer, and essay) to assess knowledge and comprehension of key ideas and terms.

**B.** Application, analysis, synthesis, and evaluation level: written performance assessments of candidates work samples. (e.g., mathematics problem-solving, personal applications, critical

thinking exercises, individual and group research projects and presentations, web-based activities, field-based observations and reflective journals.

## VII. Grading Scale

| | |
|---|---|
| 90-100 | A |
| 80-89 | B |
| 70-79 | C |
| 60-69 | D |
| Below 60 | F |

## VIII. Grading Procedures

There will be two practice 100-pt exams, and 10 homework assignments @ 100 pts each.

PRACTICE EXAM 1: 100

PRACTICE EXAM 2: 100

HW AVERAGE: 100

ATTENDANCE: 100

$$\frac{1 \text{ *Average=EXAM +EXAM 2 +HW AVG +ATTENDANCE}}{4}$$

*Grade: Compare average to Grading Scale above

## IX. Weekly Homework Assignments and Exam Dates

- **DIAGNOSTIC EXAM**
- **HW #1:** Rational number operations
- **HW #2:** Ratios and proportion
- **HW #3:** Percentages
- **PRACTICE EXAM #1:**
- **HW #4:** Data representations
- **HW #5:** Scatterplots
- **HW #6:** Correlation and Causation
- **HW #7:** Probability
- **PRACTICE EXAM #2:**
- **HW #8:** Algebraic word problems
- **HW #9:** Linear equations
- **HW #10:** Geometry (Circles,Perimeter, area, and volume)