

**GOVERNORS STATE UNIVERSITY
COLLEGE OF EDUCATION/DIVISION OF EDUCATION
COURSE SYLLABUS**

Course Title: Teaching Lab II – Mathematics

Course Number: ELED 401

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Trimester: Fall 2003



Catalog Description:

Provides opportunities for students to make, implement, and evaluate decisions under supervision in teaching mathematics, science, and social studies. Requires teaching small groups of elementary students. Requires 30 clock hours of field work. *Prerequisites: EDUC 321, EDUC 322, and concurrent enrollment in ELED 460, ELED 463, and ELED 466.*

Intended Audience: Undergraduate students in elementary education who have completed Lab I.

Instructional Objectives:

The Conceptual Framework of the Professional Education Unit provides direction for teaching and learning for all teacher education programs. The Professional Education Unit at Governors State University strives to develop competent practitioners who operate at high cognitive levels and who make good decisions (i.e., use reasoned eclecticism) with regard to the application and testing of instructional strategies. Consistent with the Illinois Professional Teaching Standards and the Conceptual Framework of the Professional Education Unit, the following objectives will be the focus of this course.

1. Apply theories pertaining to how children learn mathematics in planning instruction.
2. Compare and contrast various approaches to instruction, such as discovery learning, constructivism, and lectures.
3. Describe appropriate sequencing of mathematics topics within each of the major strands.
4. Identify a wide variety of concrete, instructional aids appropriate for teaching the major topics in the elementary mathematics curriculum and create inexpensive teacher-made aids for this purpose.

5. Identify and apply strategies appropriate for developing problem-solving ability.
6. Implement appropriate instructional models for teaching the meaning of the fundamental arithmetic operations and algorithms.
7. Apply appropriate teaching strategies for developing concepts and skills within each of the major strands at given grade levels.
8. Identify a wide variety of real-world situations and other curricular areas where mathematical concepts and procedures would be applied.
9. Discuss the relative strengths and weaknesses of printed materials such as textbook series and other curricular materials.
10. Discuss and analyze various grouping strategies in relationship to instructional goals and learning styles.
11. Discuss the strengths and limitations of integrating technology into instruction.
12. Use interview techniques and teacher-made tests to identify student error patterns and suggest appropriate diagnostic and remediation techniques.
13. Discuss and implement methods of individualizing instruction which address student diversity and children with special needs.
14. Discuss the implications of Illinois and NCTM standards for instruction and assessment.
15. Use research, professional journals, and other resources in planning instruction activities.
16. Display a professional disposition toward subject matter, colleagues, and students that they teach.



Teaching Lab II: Mathematics Portion

The following activities will be the focus of the field experiences in mathematics:

1. observing two mathematics lessons
2. evaluating students' thinking/understanding of mathematics and students' attitude toward mathematics by observing and interviewing students; and
3. planning, organizing, and teaching at least three mathematics lessons to the class assigned;
4. selecting and using concrete materials to teach mathematics;
5. keeping a log for each lesson taught and writing an overall reflection for Lab II math experiences.

Assignments:

1. **Observations of two mathematics lessons** (1 hour)
While observing, give attention to the following questions:
 - a) What are the objectives of the lesson?
 - b) What materials does the teacher use?
 - c) What materials do the students use?
 - d) What happens during the lessons?
 - e) How do students respond to the lesson?
 - f) What are the teacher's classroom management techniques?
 - g) What are the teacher's questioning techniques and how does the teacher respond to students' answers?
 - h) How does the teacher assess student learning?
 - I) What other methods might be used to teach this lesson?

2. **Teaching mathematics lessons** (4 hours)
 - a) During this field experience, each Lab II student will teach a minimum of three lessons presenting mathematics concepts. These lessons should be taught to the class assigned. The lessons should be planned for at least a half-hour time period.

- b) For each lesson, discuss with your cooperating teacher the concept that he or she would like you to teach.
- c) At least one week before you plan to teach the lessons, turn in a copy of the lesson plans to the instructor so that he/she can give you feedback concerning the lessons
- d) After teaching each lesson, write a log reflecting what happened during your teaching of the lesson and your evaluation of it.
- e) Arrange for the university supervisor to observe at least one of your lessons. After you have written the summary and evaluation of the lesson of which you have been observed, schedule a follow-up conference with your university supervisor.
- f) Use the following outline for the lesson plans:
 - I. Objective(s)
 - II. Materials to be used
 - III. Procedure
 - IV. Evaluation

The students should be able to . .

State specifically what you intend to do, what you intend for students to do, and what major questions you plan to ask.

- 3. **Evaluative Testing/Interview (2 hours)**
 - a) Ask your cooperating teacher to assign you a group of students (The students can be above average, average or below average.)
 - b) Construct and conduct an evaluative testing/interview with the students to determine their strengths and weaknesses. The procedure for developing problems to be used for the assessment will be discussed in class.
 - c) Write a summary report including:
 - a brief description of the students been tested
 - a group result
 - individual analysis: Analyze at least three students' responses, focusing on error patterns and thought processes
 - conclusions regarding the concepts that need to be taught.
- 4. **Attitude Inventory (1 hour)**
 - a) Develop an attitude questionnaire and administer to the same group of students. The guidelines for constructing it will be discussed in the class.
 - b) Calculate, analyze, and summarize the result for each student.
- 5. **Journal Writing (1 hour)**
 - a) Keep a log for each lesson that you have taught.
 - b) Write an overall reflection for your Lab II math experiences.
- 6. **Post Test (1 hour)** Covers the areas you have taught in this lab.

7. **Dispositions**

- a) Your work and participation in class, while being one indication of your knowledge of course material, also reflects your dispositions with regard to becoming an effective mathematics teacher. As in all courses in the Elementary Education program, the following dispositions will be monitored:
- professional behavior,
 - appreciation of human diversity,
 - commitment to collaboration with colleagues,
 - commitment to ethical behavior,
 - commitment to life-long learning , including professional development, and
 - habits of mind that reveal reasoned eclecticism.
- b) As indications of positive and professional dispositions, we expect students to:
- be actively involved during in-class activities,
 - contribute to class discussion,
 - be on time for class and when submitting assignments, and
 - cooperate in and make significant contributions to group planning of lessons.

Your interactions with faculty, other candidates, and students should also be consistent with the dispositions listed above.

Disability Statement:

Students who have a disability or special needs and require accommodation in order to have equal access to the classroom, must register with the designated staff member in the Division of Student Development. Please go to Room B1201 or call (708) 534-4090 and ask for the Coordinator of Disability Services. Students will be required to provide documentation of any disability when an accommodation is requested.

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