

**Course Syllabus**  
**ITE 324: Elementary Mathematics I**  
**Fall 2007**

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**Required Course Texts**

About Teaching Mathematics by Marilyn Burns.

A Collection of Math Lessons from Grades 1 Through 3 by Burns & Tank

or A Collection of Math Lessons from Grades 3 Through 6 by Marilyn Burns.

(Of the two Collection of Math Lessons books, you are only required to purchase the book that corresponds to the grade level of your current classroom placement.)

**Course Description**

The primary emphasis of this course is to assist and support you in your development as a teacher of mathematics. The sessions and readings for the course have been designed to (re)familiarize you with various mathematical content areas and simultaneously introduce you to larger issues concerning mathematics teaching and learning. One strand of the course will focus on expanding your awareness and competence in the mathematics content areas of numbers and operations, geometry and spatial sense, and measurement. Another intersecting strand will focus on methods for teaching these content areas. In addition to familiarizing ourselves with the state mathematics standards and considering their implications for our lesson and unit planning, we will also consider a variety of instructional methods and techniques with a focus on problem solving, cooperative learning, and the use of manipulatives.

**Course Format**

This class will be taught primarily through workshops, discussions, and dialogue. Ample opportunity will be provided for students to raise questions, share experiences, and work collaboratively in our learning community. Many hours will be devoted to sharing teaching ideas, planning lessons together, and reflecting collaboratively on our teaching experiences. Since much of the learning in this course will occur through the class activities, it is essential that you attend class, and that you take the responsibility of being prepared for class by diligently completing the weekly assignments.

**Conceptual Framework of the College of Education**

This course is designed to support the core values of the College of Education.

The course will support you in becoming:

*Knowledgeable* of content, pedagogy, and learners.

*Effective* in using your professional experience and skills to ensure that all children learn.

*A caring* professional who is sensitive to students and their families and communities.

## **Course Assignments and Expectations**

### Reading and Problem-Solving Assignments

You are expected to read the assigned textbook pages diligently and reflect carefully on the readings, and should be prepared to share your insights and reactions with the class each week. The textbook readings will often include problem-solving assignments for you to complete. Through these problem-solving assignments you will identify and develop strategies for solving problems, and reflect on your own approach and style in problem solving. During each week of problem-solving assignments, please come to class prepared to share your solutions, struggles, and insights with your classmates.

### Classroom Teaching Assignment

Over the course of the semester you will work independently or collaboratively with a partner to plan 1 mathematics lesson that incorporates the ideas about teaching and learning mathematics that you have developed throughout the course. You will each teach the lesson in your respective classroom placements, and therefore should plan your instruction with that particular group of students in mind. Since this will be your first mathematics teaching experience for the course, it is highly recommended that you plan your instruction around a related lesson that is clearly outlined in one of our required or recommended course texts.

### Lesson Plan and Lesson Reflections

At our last class meeting, you will submit a lesson plan for the lesson that you taught for your classroom teaching assignment and 2-3 pages of reflections on your teaching experience. Your lesson plan and lesson reflections should follow the EECE Backward Design Lesson Plan Format, which can be found in the Teacher Education Program Handbook.

### Lesson Presentation

Prior to turning in your lesson plan and reflections, you will share your mathematics lesson with your ITE 324 classmates through an interactive and hands-on oral presentation, which you may choose to do either independently or collaboratively with a partner. Your presentation should include your rationale for teaching the lesson, a brief account of what happened during the lesson, your reactions and your students' reactions to the lesson, and samples of your students' work. The central feature of your presentation should be a hands-on lesson or demonstration that gives the class an opportunity to engage with some portion of your lesson through first-hand experience.

### Reflective Response Letters

During each week of student presentations, you will write a reflective response letter to a classmate (or pair of classmates) who presented in the previous week. In each these 1 page letters you will provide the presenters with thoughtful feedback on their lesson. You will tell them what you thought were the strengths of the lesson, ask any questions that you have about the lesson, and offer suggestions for improving upon or extending the lesson. You will give a hard copy of the letter to each of the presenters and also give an additional copy to me.

## **Grading & Self-Evaluation**

Just as I will encourage you to view student assessment and grading as a two-way dialogue that values and incorporates reflective input from both student and teacher, I will engage in a dialogue about grades and grading

with you. In an effort to foster objective and critical self-evaluation, I will ask you to be responsible for monitoring your personal effort and performance in the class over the course of the semester.

At our last class meeting, you will turn in a self-evaluation essay in which you assess your effort and learning in the course. In this paper consideration should be given to all aspects of the course, including attendance, timely completion of course assignments, learnings from class discussions and readings, learnings from the course workshops and presentations, insights gained from your interactions with your students and mentor teachers, and insights gained from your teaching and planning experiences.

This should be a 2-3 page paper in which you take stock of your learnings and present them in written form for further evaluation. At the end of your paper please add a footnote indicating what letter grade you believe you have earned as a result of your effort and learning in this class. While I cannot guarantee that our perceptions will coincide perfectly, I can ensure you that I will give serious consideration to your self-evaluation when making the final grade determinations.

**Disability Statement:** The University of Hawaii at Mānoa is committed to a policy of non-discrimination and recognizes its obligation to provide equal access to its programs, services, and activities to students with disabilities. If you need accommodations due to a documented disability please contact the instructor during the first week of the course or contact KOKUA (Queen Lili‘uokalani Center for Students Services, Room 013, 956-7511) for assistance.

<b>Date</b>	<b>Discussion Topics</b>	<b>Assignments Due</b>
Aug 20	Course Introduction Changing Perspectives on Mathematics Education	
Aug 27	Teaching Mathematics Through Problem Solving What Is and Is Not a Problem?	Read Burns 3-23.
Sept 3	Holiday—No Class	
Sept 10	Organizing the Classroom for Problem Solving The Teacher's Role in a Problem-Solving Curriculum	Read Burns 24-42. Dialogue with your teacher about your class' mathematics curriculum.
Sept 17	Developing Number Concepts and Place Value Relating Numbers to Problem Situations	Read Burns 161-182. Bring in a math-related children's book.
Sept 24	Teaching and Learning Addition and Subtraction Focusing on Reasoning Instead of Rules and Procedures	Read Burns 139-160 & 183-193.
Oct 1	Teaching and Learning Multiplication and Division Connecting Algorithms with Concrete Experiences	Read Burns 194-211 & 125-135.
Oct 8	Math Lesson Planning Conferencing and Work Period	Browse Burns ATM & recommended resources. Come with tentative ideas for your math lesson.
Oct 15	Math Lesson Planning Conferencing and Work Period	Continue to develop your math lesson. Midterm self-evaluation.
Oct 22	Exploring Geometry and Measurement	Read Burns 46-58 & 79-99. Begin teaching your math lesson.
Oct 29	Lesson Presentations	
Nov 5	Lesson Presentations	Reflective response to one lesson presentation.
Nov 12	Holiday—No Class	
Nov 19	Lesson Presentations	Reflective response to one lesson presentation.
Nov 26	Lesson Presentations	Reflective response to one lesson presentation.
Dec 3	Last Class Session Final Thoughts and Wrap Up Turn in All Final Assignments	Lesson plans and lesson reflections. Self-evaluation essay. Reflective response to one lesson presentation.