

Math 26 - Structure of Mathematics for Elementary Education II
Spring 2002
Dr. Patsy Fagan

Section 401 MW: 11:00 – 12:15 a.m.; Mer 203 Office: Howard 110
Office Hours: MW: 8:30 – 10:30 am; W: 3:30-4:30 pm. Telephone: 271-2839
Other hours by appointment. E-Mail: patsy.fagan@drake.edu

Required Text: Mathematics Reasoning for Elementary Teachers by Long & DeTemple
 Mathematics Activities for Elementary School Teachers by Dolan, Williamson & Muri

Required Equipment Tricon manipulative kit, protractor, compass, scissors, straightedge
 TI-15 Explorer calculator and TI-73 (or TI-83+) graphing calculator

Necessary Web sites: www.education.ti.com; <http://occ.awlonline.com/bookbind/pubbooks/longdetemple/>; www.nctm.org; www.iowamath.org

Program Goals: The courses in the mathematics program are explicitly designed for prospective elementary school teachers. The goals for this program are to help you:

- * Become a mathematical problem solver,
- * Learn to communicate mathematics,
- * Learn to reason mathematically,
- * Connect mathematical ideas,
- * Learn to value mathematics, and
- * Become confident in one's own ability.

Course Goals for Math 26: Math 26 is a continuation of Math 25. The content is focused on the underlying mathematical structure in the K-6 mathematics program. The purpose of this course is to present activities and topics in the three mathematical representations: concrete/numerical, pictorial/graphical, and abstract/algebraic. With regard to this purpose, activities and projects require you to:

- * Represent a given concept/activity using three different view of mathematics,
- * Develop problem-solving, communication, and reasoning skills through an activity approach to learning,
- * Develop competence and confidence in your ability to effectively do mathematics.

Overview of Topics: The course focuses on selected content in chapters 1-13.

Class Attendance and Participation: Regular attendance and participation is expected with **no more than 2 absences** for the semester. Participation is demonstrated by ability to contribute to small group and whole class discussions, by completion of advanced reading of chapter sections, and by completion of homework problems. Grades on HW/Projects turned in late will be reduced by 10% per day. If a class is missed, contact me. Seats are assigned for lecture and groups are designated for some project assignments

ICTM Annual Winter Conference: You are encouraged to attend the one-day conference and to prepare a written report of the attended sessions for extra credit. The conference is on Friday, February 22, at Ames High School, 1021 Ames High Drive, Ames, IA. The registration fee is \$5 (on-site/ without lunch) or \$10 (advanced/ with lunch).

Quizzes/Tests/Final Exam: Quizzes and tests are tentatively scheduled as listed on the class schedule. Additionally, announced and unannounced quizzes based on assigned practice problems are scheduled. Prior consent of the instructor and written verification of personal illness requiring hospitalization, death in family, or university sponsored activity (or comparable extenuating circumstance) are REQUIRED in order to make-up a missed quiz, test, and/or final. All grading questions need to be directed to Dr. Fagan. Keep your assignments for review purposes, and for possible grading errors. Use the Addison-Wesley web site for practice quizzes.

Homework/Lab Assignments: Homework for each section covered is all problems printed in blue. Students are expected to do as many of the problems in each section that are necessary for complete conceptual understanding of the material. Tutors are available in the Math Lab to give assistance with weekly homework assignments. However, the responsibility for learning the material rests with the student. Students are responsible for checking answers and re-doing any problems that are not completely understood after the initial effort. Specified lab assignments from the lab manual are assigned; some of which are collected for credit.

Mathematics Lab: Attendance at Math Lab is highly recommended. Lecture videotapes, solution manuals are located in the Lab as well as the Lab Director and qualified student tutors who are able to assist you with weekly homework assignments and to help you prepare for tests. The Lab is located in Meredith 201 and is open MONDAY-THURSDAY 12:30 - 4:30 p.m.; MONDAY-THURSDAY 9:00-10:30pm, and SUNDAY 7:00-8:30pm.

Grading: The following is a guideline of intended assessment for this course. Students will be notified of any alternations made at Dr. Fagan's discretion. All grading questions need to be directed to Dr. Fagan. Keep your assignments for review purposes, for possible grading errors, and for preparation of your portfolio Grades are assigned to represent the following:

- A: Demonstrates a thorough understanding of the generalizations, concepts, and facts specific to the tasks or situations. *Provides new insights into some aspect of the information.*
- B: Demonstrates a *complete and accurate understanding of the generalizations, concepts, and facts* specific to the tasks or situations.
- C: Displays an incomplete understanding of the generalizations and concepts specific to the tasks or situations and has some notable misconceptions but has demonstrated *accurate memorization of facts and algorithms necessary for the tasks and situations.*
- D: Demonstrates severe misconceptions about the generalizations and concepts specific to the tasks or situations and has demonstrated errors in memorization of facts and algorithms necessary for tasks and situations.
- F: Any performance less than what is necessary for a grade of D.

<u>Assessment Items</u>	<u>Percent Weight</u>	<u>Letter Grade Conversion Points</u>
Tests, Comprehensive Final	40%	A+, A, A- = 12, 11, 10 pts
Quizzes, Writings, HW	30%	B+, B, B- = 9, 8, 7 pts
Projects	25%	C+, C, C- = 6, 5, 4 pts
Attendance/Participation (class, lab)	5%	D+, D, D- = 3, 2, 1 pts
	100%	F = 0 pts
Some Extra Credit will account for no more than 5% of final grade.		No attempt = -1 pt

Important Dates: Feb. 4: Last day to drop without a mark of "W"
 Feb 22: ICTM Annual Winter Conference
 Mar 15: Last day to drop or declare CR/NC; No drop slips will be signed after this date
 Mar 18-22: Spring Break - No class
 May 10: Study Day - No class
 May 13-17: Final: TBA