

## SYLLABUS FOR T102

Revised Spring 2010

**Textbook:** A Problem Solving Approach to Mathematics for Elementary Teachers, 10<sup>th</sup> Edition by Billstein, Libeskind and Lott; Pearson/Addison-Wesley;

**Calculator:** TI-30XS MultiView is highly recommended.

**MyMathLab :** An online homework, tutorial, and assessment system. Students can complete algorithmically generated homework and practice tests online as well as access supplemental video clips, animations, the student solution manual and other resources. An access code will be bundled with new textbooks purchased at the bookstore or can be purchased separately at [www.coursecompass.com](http://www.coursecompass.com)

**Comments:** This text is very strong on problem solving, which is a frustration for many future elementary teachers. Our goal for future elementary teachers is understanding rather than memorization of algorithms. Teachers tend to teach as they have been taught. Instructors are encouraged to use cooperative learning, study groups, student journals, or any other technique to improve students' mastery of content. Students may sequence the T-courses as T101-102-103 or T101-103-102.

**Course Objectives:** By the end of this course, students should be able to:

- Work flexibly with fractions, decimals, and percents to solve problems
- Determine the probability of events
- Describe and analyze data graphically and numerically
- Work in groups to solve problems

**Finals:** The final exam for all sections of T102 will be provided by the math department with questions chosen to reflect the topics indicated on this syllabus. The T102 Final Review may be found on the web at <http://homepages.ius.edu/pmiller/>

**Grading:** Individual instructors are free to choose the grading scheme that best fit his/her teaching style. The department requires that the departmental final exam be weighted as at least 25% of the overall grade for the semester. Students who score below 60% on the final exam may not receive a grade higher than a "C" for the course (C+ is not an option). This should be clearly stated on your syllabus. Instructors are responsible for grading the exams for their own class; the completed exams, a summary sheet, and a printout of semester grades must be returned to the math department.

**The sections and topics listed below are to be covered in all sections of T102:**

**Chapter 6:** Sections 1-3. Fractions are very important!! The goal in this class is student mastery of the meaning of fractions and the understanding behind the traditional algorithms for working with fractions. Group work is especially important for this chapter. There are fraction circles and squares, Cuisenaire Rods, Pattern Blocks, etc. in the cabinet to use with activities from their book.

**Chapter 7:** Sections 1-4. This is the concluding chapter of the study of the real number system. Students should be reminded of the completion of the Whole Numbers, Natural Numbers, Integers, Rationals and Irrationals and Reals ... and the gradual increase of properties such as Closure of Subtraction and Division, the existence of Additive and Multiplicative inverses, density, and completeness.

**Chapter 8:** Sections 1-3. Percents are difficult topics for many people.

**Chapter 9:** Sections 1-5. Counting techniques and probability are difficult concepts for many of these students. Manipulatives for demonstrating experiments are in the cabinet. Group activities should be used here. Section 9-4 has added examples about Conditional Probability, which should be included.

**Chapter 10:** Sections 1-4. Statistics is often a welcome unit after the problem-solving challenge of probability. Teachers must be able to deal meaningfully with statistical measures in education and in life. Activities with data collection and interpretation are incorporated in many elementary texts.

## General Syllabus for T102 Math for Elementary Teachers 2

**Instructor:**

**Class Time & Location:**

**Office:**

**Voice Mail Number:**

**Office Hours:**

**E-mail:**

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**Students with Disabilities:** If you have specific physical, psychological or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Coordinator of Disability Services located in the University Center South, Room 207, 941-2243. Additional information about the Office of Services for Students with Disabilities may be obtained at: <http://www.ius.edu/ASC/DisabilityServices/>

**Grading Policy:** *In addition to other policies outlined by each instructor:*

The Final Exam is to count at least 25% of the course grade and students who score below 60% on the final exam may not receive a grade higher than a "C" for the course (C+ is not an option).

**Review for Final Exam:** <http://homepages.ius.edu/pmiller/ReviewForFinals.htm>

**Homework Policy:**

**Attendance Policy:** Attendance is a key factor in academic success. Class attendance is required. Illness is usually the only acceptable excuse for absence from class. Other absences must be explained to the satisfaction of the instructor, who will decide whether missed assignments may be made up. A student absent from class bears full responsibility for all material covered in class. *Individual instructors can include particular requirements and/or penalties for absences.*

**Makeup Policy:**

**Studying for the Class:** This is a college class and is much different than one taught in high school. We cover a lot of material and have limited time in class. **You should expect to spend at least two hours studying outside of class for each hour spent in class.** You cannot expect to master the material from just seeing it explained and working in class. An important part of your learning of the material will be the time you spend working out of class.

**Help Outside of Class:**

- **Math Lab:** Location: Physical Sciences, Room 015; 941-2670. Students may walk in and use the facilities at any time (free of charge) without an appointment. Tutor schedule is online at <http://www.ius.edu/mathlab/> and the bulletin board by the lab. Computer software from the textbook is installed on each computer.
- **Addison-Wesley Tutor Center:** Addison-Wesley's [Math Tutor Center](#) is staffed by college-level math instructors who can help you with what you're learning by phone, fax, email, or interactive web. Visit the Tutor Center's [registration page](#) to sign up for tutoring. When asked for a registration number, simply provide your MyMathLab course ID or student access code. <http://www.aw-bc.com/tutorcenter/registration.html>
- **Private Tutors:** Please visit the Student Development Center, University Center South, Room 203, to sign-up for a tutor. Most students get a tutor within 24 hours. The cost is \$5.00 per hour (non-refundable) and must be paid for in advance. For more information go to: <http://www.ius.edu/sdc/main/assist1.htm>

**Bad Weather Policy:** When there is bad weather in the area, a decision is made about whether the campus should be closed or open on a delayed schedule as soon as possible. The decision is independent of the decisions of school corporations and the other colleges in the area. Off-campus classes do not meet if campus is closed or if the school building in which they are held is closed.

**Delay Schedule:**

**Monday through Friday classes:**

8 a.m. classes meet from 10 a.m. until 10:55 a.m.

9:30 a.m. classes meet from 11 a.m. until 11:55 a.m.

11 a.m. classes meet from 12 noon until 12:55 p.m.

Other classes meet at regular times.

**Saturday Classes:**

Morning classes meet from 10:30 a.m. until 12 noon.

Afternoon classes meet at regular times.

## Daily Schedule

*Below is a sample daily schedule. This is only a suggestion. As long as you cover the sections indicated during the semester, you may structure the organization of the course as you wish.*

**You may want to combine some days to allow for a review day before an exam.**

<b>Day</b>	<b>Sections</b>	<b>Topics</b>
1	6.1	The Set of Rational Numbers
2	6.2	Addition, Subtraction, and Estimation of Rational Numbers
3	6.3	Multiplication and Division of Rational Numbers
4	Review	
5	Chapter 6 Test	
6	7.1	Introduction to Decimals
7	7.2	Operations on Decimals
8	7.3	Non-terminating Decimals
9	7.4	Real Numbers
10	8.1	Ratios, Proportions, and Proportional Reasoning
11	8.2	Percents
12	8.3	Computing Interest
13	Review	
14	Chapter 7 & 8 Test	
15	9.1	How Probabilities are Determined
16	9.2	Multistage Experiments with Tree Diagrams & Geometric Probabilities
17	9.3	Using Simulation in Probability
18	9.4	Odds, Conditional Probability, & Expected Value
19	9.5	Using Permutations & Combinations in Probability
20	Review	
21	Chapter 9 Test	
22	10.1	Displaying Data – Part I
23	10.2	Displaying Data – Part II
24	10.3	Measures of Central Tendency & Variation
25	10.4	Abuses of Statistics
26	Review	
27	Chapter 10 Test	
28	Review for Final Examination	

**Comprehensive Final Examination:** time & date

**Note:** If a student fails the final exam, the maximum course grade possible is a C.