

SYLLABUS FOR T103

Revised Spring 2009

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

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

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. Student 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:

- Precisely describe, classify, and analyze 2- and 3-dimensional objects using their defining properties.
- Identify congruence and similarity through constructions and solve related problems.
- Determine the measurements of perimeter, area, surface area, and volume with and without formulas.
- Apply and analyze geometric transformations
- Work in groups to solve problems.

Finals: The final exam for all sections of T103 will be provided by the math department with questions chosen to reflect the topics indicated on this syllabus. The T103 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 T103:

Chapter 11: Sections 1-4.

Chapter 12: Sections 1-4. Section 5 and 6 are optional . Provide opportunities for students to experience the concepts of construction via paper-folding and the use of the Mira (available in cabinet)

Chapter 13: Sections 1-5. Mass & temperature have been included in section 5, but are still optional. In 13.2, area of a kite may be omitted and in 13.3, equation of a circle may be omitted. This is a very important chapter! Students must obtain understanding of what they are measuring with perimeter, area, surface area and volume. These topics cannot be mastered as formula memorization. Tests and quizzes should be designed to include composite figures (semicircles, cones on top of cylinders, etc.) to prevent formula-only approaches.

Chapter 14: Sections 1-5. Minimize the formal treatment of transformations, but encourage the use of wax paper or tracing paper to perform these motions, rather than compass and straightedge.

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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.

Day	Sections	Topics
1	11.1	Basic Notions
2	11.1-11.2	Basic Notions and Polygons
3	11.3	More about Angles
4	11.4	Geometry in Three Dimensions
5	Review	
6	Chapter 11 test	
7	12.1	Congruence through Constructions
8	12.2	Other Congruence Properties
9	12.3	Other Constructions
10	12.4	Similar Triangles and Similar Figures
11	Review	
12	Chapter 12 test	
13	13.1	Linear Measure
14	13.2	Areas of Polygons and Circles
15	13.3	The Pythagorean Theorem
16	13.4	Surface areas
17	13.5	Volume, Mass, and Temperature
18	Review	
19	Chapter 13 test	
20	14.1	Translations and Rotations
21	14.2	Reflections and Glide Reflections
22	14.3	Size Transformations
23	14.4	Symmetries
24	14.5	Tessellations of the Plane
25	Review	
26	Chapter 14 test	
27	Use this day where you see necessary (maybe in chapter 12 or 13?)	
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.