

# MATH 1125 – AUTUMN 2016

## MATHEMATICS FOR ELEMENTARY TEACHERS I

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### Texts

- *Mathematics for Elementary Teachers and Activities Manual, 4<sup>th</sup> edition*) by Sybilla Beckmann. (These are packaged together. The ISBN is: 0321836715).
- Student Packet (distributed in class)

**Note:** Used texts are not recommended for this class. The same texts will be used for Math 1126 so the expense covers both classes. We also recommend keeping the text as a resource for your teaching career.

### Course Description and Expectations

This is the first course in a two-semester sequence. Math 1125 focuses on concepts of number systems and operations, number theory, and some work with expressions, equations, sequences, and series.

The goal of this course is to prepare you to become teachers of elementary and middle school students. Knowing mathematics for yourself is not the same as knowing mathematics for teaching. For this reason, we emphasize explanations of mathematical ideas. To make this point very clear: Full credit will NOT be given for correct mathematical answers without an explanation that is clear and complete.

*Attendance and participation 5 days a week is critical to your success in this class.* Each class (lecture and recitation) will consist of doing an activity in a small group and discussing it with the whole class. You are expected to participate actively in all phases, so please bring the Activities Manual pages to every class. Working with and learning from classmates is an integral part of this class. Explaining your thinking verbally in small and large groups will prepare you to explain mathematics to your students. It will also help you clarify your own ideas and/or questions. This should be thought of as a pre-professional experience; your classmates are your future colleagues.

*Reading is crucial* because we do not teach using the traditional lecture format. Reading assignments are designed to provide the explanation and summary of material that are not provided in class. You are expected to complete all reading assignments. You will find the Practice Problems and their solutions particularly helpful. The most successful students in Math 1125 are those who make reading a regular part of their study of the material.

**IMPORTANT DATES (also listed on the calendar on Carmen)**

Fri., Sept. 9 – Quiz 1

Fri., Sept. 16 – Quiz 2

Fri., Sept. 23 – Quiz 3

Thur., Sept. 29 – **Midterm 1**, 7:40 – 8:40PM, in IH 0100.

Fri., Oct. 7 – Quiz 4

Fri., Oct. 21 – Quiz 5

Thur., Nov. 3 – **Midterm 2**, 7:40 – 8:40PM, in IH 0100.

Fri., Nov. 18 – Quiz 6

Fri., Dec. 2 – Quiz 7

Tues., Dec. 13 – **Final Exam**, 8 – 9:45PM, Location TBA.**Homework will be due on Thursdays unless otherwise noted.****Exams**

This course will have TWO midterms (one hour each) and a final exam (one hour, 45 minutes). These will be weighted equally. The midterms are common exams held in the evenings to give you maximum time and quiet. If you have a university-sanctioned conflict with an exam, be sure to alert your lecturer. All makeups require written documentation of the conflict (e.g., illness, religious holiday, another university commitment). For family emergencies, speak with your lecturer.

**Homework**

There will be weekly homework assignments. Homework assignments will receive a score out of 15 points: you will receive 5 points for completing all of the problems (less if you do not) and ONE randomly selected problem will be graded on the 10-point scale following this paragraph. The graded problem will be assessed on both the quality of your explanation and the correctness of your solution.

**Grading Rubric**

Points	Description	Characteristics
10	Excellent	Correct mathematics that is carefully thought out and thoroughly explained.
8	Good	Correct mathematics with an emerging but incomplete explanation.
6	Basic	Correct mathematics but little or no explanation OR largely correct mathematics with an emerging explanation that shows understanding.
4	Emerging	Work that has some merit but also has significant shortcomings in the mathematics and/or explanation.
2	Credit for effort	Work that shows some <i>relevant</i> effort but is seriously flawed.
0	No credit	No work submitted or no relevant effort shown.

Occasionally, a score will be given that is not on the rubric (e.g., a “1” or a “7”). This indicates that your work is between two scores. (Turn page for revision policy.)

Last updated 8/18/16

***Homework Revision Policy:***

Any graded homework problem earning less than an “8” may be revised and resubmitted according to the following requirements:

- Resubmit the original homework assignment with your TA’s comments.
- Submit a complete revision of the problem solution.
- Return the revision to your TA no later than 1 week after the graded papers have been returned.
- You may earn up to half the missed points. These will be added to the original score for your final score.

**Quizzes**

This course will have 7 in-class quizzes. Each 20-minute quiz will cover material taken from the activities completed since the previous quiz in lecture and in recitation. Quizzes will be graded according to the same 10-point rubric applied to the homework problem. The lowest quiz grade will be dropped allowing you to miss a Friday class without excuse and without penalty. *Makeup Policy:* If you have an excused absence (e.g., illness with doctor’s note, religious holiday, documented university conflict), a makeup quiz will be permitted. In most cases, written documentation will be required for a makeup. For other emergencies, speak to your lecturer.

**Overall Grading Scheme**

Participation in Class:	5%
Quizzes:	15%
Homework:	20%
Exams (3 at 20% each):	60%

**Semester Grades**

These will be determined roughly according to the standard OSU scheme:

Letter Grade	%	Letter Grade	%
A	93 – 100%	C	73 – 76
A-	90 – 92	C-	70 – 72
B+	87 – 89	D+	67 – 69
B	83 – 86	D	60 – 66
B-	80 – 82	E	0 – 59
C+	77 – 79		

GEC Information

This Mathematics course can be used, depending on your degree program, to satisfy the Quantitative and Logical Skills category of the General Education Requirement (GEC). The goals and learning objectives for this category are:

Goals: Courses in quantitative and logical skills develop logical reasoning, including the ability to identify valid arguments, use mathematical models and draw conclusions based on quantitative data.

Learning objectives: Students comprehend mathematical concepts and methods adequate to construct valid arguments and understand inductive and deductive reasoning, scientific inference and general problem solving.

**Academic Misconduct Statement:**

“It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee” (Faculty Rule 3335-5-48.7). For additional information, see the Code of Student Conduct at <http://studentlife.osu.edu/csc/>.

\*\*\* You are encouraged to work with other students and with tutors in the Tutor Room; however, you must submit your own individual written work.

\*\*\* You may use the Internet as an additional resource, HOWEVER, any use of examples or text taken from any Internet website must be cited as with any other outside materials.

**Disability Services Statement :**

Students with disabilities that have been certified by Student Life Disabilities Services (SLDS) will be appropriately accommodated and should inform the instructor as soon as possible of their needs. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; 098 Baker Hall, 113 W. 12th Avenue.