

MATH FOR EDUCATION MAJORS II

The University of Toledo
Mathematics & Statistics Department, College of Natural Sciences and Mathematics
MATH1220-0XX, CRN XXXXX

Instructor:	(Insert Name]	Class Location:	(Insert Building/Room)
Email:	(Insert E-mail Address)	Class Day/Time:	(Insert Days/Time)
Office Hours:	(Insert Days/Time)	Credit Hours:	3
Office Location:	(Insert Building/Office Number)		
Office Phone:	(Insert Phone Number)		
Term:	(Insert Semester and Year)		

COURSE DESCRIPTION

Algebraic structure of real numbers, probability and statistics, basic plane geometry, coordinate geometry, measurement, and geometric figures.

STUDENT LEARNING OUTCOMES

The basic objective is to provide a general math course to satisfy the minimum math requirement for elementary mathematics educators to help them succeed in their teaching careers. A more detailed list of learning objectives is given below.

- Number, Number Sense and Operations:** Recognize the set of integers; add, subtract, multiply and divide integers; recognize rational and real numbers
- Measurement:** Work with nonstandard and standard units; work with length and area; work with surface area; work with volume
- Geometry and Spatial Sense:** Recognize and analyze geometric shapes; work with properties of lines and angles; recognize regular polygons and tessellations; recognize three-dimensional objects
- Patterns, Functions and Algebra:** Understand relations and functions of whole numbers; work with functions and their graphs
- Data Analysis and Probability:** Analyzing data with graphs and statistics; work with probability and simple/complex experiments; work with other counting techniques; work with simulation, expected value, odds and conditional probability
- Mathematical Processes:** Apply and adapt problem-solving strategies to solve a variety of problems; use more than one strategy to solve a problem and recognize there are advantages to various methods

PREREQUISITES

Minimum grade of C- in MATH 1210.

TEXTBOOK

- *Mathematics for Elementary Teachers: A Conceptual Approach*, Bennett/Burton/Nelson/Ediger, 10th Ed., McGraw-Hill 2016, (Includes Connect Plus access) ISBN: 9781260023688, Connect Plus Access only ISBN: 9781259293436.
- Connect Plus online access. Online access is provided with the text or may be purchased with a credit card the first time you sign in through Blackboard. The textbook is recommended, but not required. An e-book is included with access to Connect Plus.
- Access to a PC or Mac connected to the web and on which you have privileges to install browser plug-ins.

CALCULATOR

A scientific calculator may be used on quizzes and exams. **No graphing calculators may be used.**

UNIVERSITY POLICIES:

POLICY STATEMENT ON NON-DISCRIMINATION ON THE BASIS OF DISABILITY (ADA)

The University is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.

ACADEMIC ACCOMMODATIONS

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the Student Disability Services Office (Rocket Hall 1820; 419.530.4981; studentdisabilitysvs@utoledo.edu) as soon as possible for more information and/or to initiate the process for accessing academic accommodations. For the full policy see: <http://www.utoledo.edu/offices/student-disability-services/sam/index.html>

ACADEMIC POLICIES:

STUDENT PRIVACY

Federal law and university policy prohibits instructors from discussing a student's grade or class performance with anyone outside of university faculty/staff without the student's written and signed consent. This includes parents and spouses. For details, see the "Confidentiality of student records (FERPA)" section of the University Policy Page at <http://www.utoledo.edu/policies/academic/undergraduate/index.html>.

MISSED CLASS POLICY

If circumstances occur in accordance with "The University of Toledo Missed Class Policy" (found at <http://www.utoledo.edu/policies/academic/undergraduate/index.html>) result in a student missing a quiz, test, exam or other graded item, the student must contact the instructor in advance by phone, e-mail or in person, provide official documentation to back up his or her absence, and arrange to make up the missed item as soon as possible.

ACADEMIC DISHONESTY

Any act of academic dishonesty as defined by the University of Toledo policy on academic dishonesty (found at <http://www.utoledo.edu/dl/students/dishonesty.html>) will result in an F in the course or an F on the item in question, subject to the determination of the instructor.

COURSE EXPECTATIONS:

ATTENDANCE AND MISSED WORK POLICY

You are expected to attend each class session. Be on time for class. The class will consist of two activities on most day: review of homework problems and PRESENTATION OF NEW IDEAS. The class will generally begin with a call for questions. This is your chance to clarify any problems that you may have. In addition to class, you will also have to complete section homework and chapter quizzes. More information will be given the first day of class.

If you attend class, it is assumed that you will participate actively by asking questions and participating in discussions. It is your responsibility to be aware of any announcements or calendar changes made during lecture. If you have an excused absence (based on UT's missed class policy <http://www.utoledo.edu/policies/academic/undergraduate/index.html>), the work you missed must be made up by the next

class, unless you have made other arrangements with the instructor. You may communicate any expected or unexpected absences via written communication, email, and/or by voice mail. In the event of an emergency or an unavoidably short notice of absence, you must present an approved written excuse upon your return to class. Approved written excuses include, but are not limited to, doctor's notice, funeral programs, court summons, and other. Otherwise any missed exams will be recorded as "0%". Daily quizzes may not be made up for any reason.

CELL PHONES

All cell phones must be turned to silent/vibrate during class and must be put out of sight. Any visible/audible cell phone will be confiscated until the end of class or student will be asked to leave. Cell Phones will be collected during Exam times.

GRADING POLICY

The categories used for evaluation in this course and the percent weights associated with them are:

Participation	5%
Quizzes	12%
Homework	12%
Exam 1	17%
Exam 2	17%
Exam 3	17%
Final Exam	20%

Overall %	Grade
90 – 100%	A
80 – 89.9%	B
70 – 79.9%	C
60 – 69.9%	D
0 – 59.9%	F

Plus/minus grades are assigned within 2% of the grade boundary

PREPARATION FOR CLASS

You are expected to prepare for class, to have read the indicated sections prior to the class session and have your homework completed by the indicated due date. This is a three credit hour course and you should expect to spend 5 to 8 hours outside of class reading, studying and doing homework problems. The syllabus schedule indicates the order in which the sections will be discussed.

HOMEWORK

Homework assignments are available on Blackboard and are due the day after the section is complete. Homework problems allow you to test your knowledge and improve your skills. It is a very important part of this course, since you learn the material by doing the problems. Working together is allowed, even encouraged, however, be sure to do your own work. Homework is graded on completeness and correctness (with more emphasis on the completeness).

QUIZZES

Quizzes are done on Blackboard and consist of questions that will help you think like a teacher. Each chapter will have a quiz to complete. Quizzes remain available until the day the next chapter is taught. The best way to study for the quizzes is to attend class regularly and participate in any activities done in class.

INCOMPLETES, EXTRA CREDIT, ETC.

University and departmental policy stipulate that incompletes will be granted only in cases where a *substantial portion* (usually at least 3/4) of the class has been completed *successfully* and unavoidable circumstances prevent

completing the course by the end of the semester. Incompletes are not intended to rescue students who have performed poorly, or those who have not participated in the class. Students often come to me at the end of the semester after realizing that they are not likely to pass wanting an incomplete or extra credit or some other way of avoiding disaster. Generally, the end of the semester is too late. I don't usually allow extra credit, and particularly not for individual students. You need to keep up with the class, participate in the labs, get the homework done on time and prepare for the exams.

IMPORTANT DATES

- Final Exam: _____
- The last day to ADD/DROP classes: _____
- The last day to WITHDRAW from classes: _____
**Note: Instructors cannot withdraw students from class. Any student who has not withdrawn from class by _____ will receive a letter grade for the class!

STUDENT SUPPORT SERVICES

I have office hours every day from [:] to [:]. If this conflicts with your schedule, be sure to see me before/after class or contact me to arrange an alternate time. See me at the first sign of confusion.

Mathematics tutoring is provided by the Mathematics Learning and Resource Center and is located in the basement of Carlson Library - phone ext. 2176. It operates on a walk-in basis. MLRC hours can be found at <http://www.math.utoledo.edu/mlrc/MLRC.pdf> . Be sure to bring your book, notes from class, and specific problems you want help with. Tutors are not teachers. They are there only to help with *specific problems*.

TENTATIVE SCHEDULE

	Chapter 8	Integers
Week 1	8.1	Addition and Subtraction <i>Number, Number Sense & Operations</i>
Week 1	8.2	Multiplication, Division & Order <i>Number, Number Sense & Operations</i>
	Chapter 9	Rational Numbers, Real Numbers & Algebra
Week 2	9.1	The Rational Numbers <i>Number, Number Sense & Operations</i>
Week 2, 3	9.2	The Real Numbers <i>Number, Number Sense & Operations</i>
Week 3	9.3	Relations and Functions <i>Patterns, Functions and Algebra</i>
Week 4	9.4	Functions and Their Graphs <i>Patterns, Functions and Algebra</i>
	Chapter 10	Statistics
Week 5	10.1	Statistical Problem Solving <i>Data Analysis & Probability</i>
Week 5,6	10.2	Analyze and Interpret Data <i>Data Analysis & Probability</i>
Week 6	10.3	Misleading Graphs and Statistics <i>Data Analysis & Probability</i>
	Chapter 11	Probability
Week 7	11.1	Probability & Simple Experiments <i>Data Analysis & Probability</i>
Week 7,8	11.2	Probability & Complex Experiments <i>Data Analysis & Probability/Mathematical</i>
Week 8	11.3	Additional Counting Methods <i>Data Analysis & Probability/Mathematical Processes</i>
	Chapter 12	Geometric Shapes
Week 10	12.1	Recognizing Geometric Shapes – Level 0 <i>Geometry & Spatial Sense</i>
Week 10	12.2	Analyzing Geometric Shapes – Level 1 <i>Geometry & Spatial Sense</i>
Week 11	12.3	Relationships Between Geometric Shapes – Level 2 <i>Geometry & Spatial Sense</i>
Week 11	12.4	An Introduction to a Formal Approach to Geometry <i>Geometry & Spatial Sense/Mathematical Processes</i>
Week 12	12.5	Regular Polygons, Tessellations & Circles <i>Geometry & Spatial Sense</i>
Week 12, 13	12.6	Describing 3-Dimensional Shapes <i>Geometry & Spatial Sense</i>
	Chapter 13	Measurement
Week 13	13.1	Measurement with Nonstandard & Standard Units <i>Measurement</i>
Week 14	13.2	Length and Area <i>Measurement</i>
Week 14, 15	13.3	Surface Area <i>Measurement</i>
Week 15	13.4	Volume <i>Measurement</i>