

Course Syllabus

Course Information

<i>Course Number/Sec.</i>	ED 3340 - 501
<i>Course Title</i>	Math Concepts for Teachers
<i>Term</i>	Fall, 2017
<i>Days & Time</i>	Tuesday and Thursday, 7:00 – 8:15

Professor Contact Information

<i>Professor</i>	Julia Haun
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<i>Office Hours</i>	By appointment
<i>Other Information</i>	Messages and assignments can be delivered to the Teacher Development Center

Course Description

The primary objective of this course is to examine how to facilitate the learning of mathematics in grades Kindergarten through Six so that students are actively involved in their own learning. Teachers will be encouraged to become actively involved in visualizing mathematical concepts, solving problems, performing mental calculations, using manipulatives, and employing mathematical models to realize that mathematics is a way of thinking rather than a collection of rules. The content is designed to reflect the National Council of Teachers of Mathematics *Principles and Standards for School Mathematics* and the Texas Essential Knowledge and Skills for Mathematics (TEKS), Grades K-8. The content and pedagogy for problem solving; whole numbers; number theory; fractions and decimals; probability and statistics; geometry; and measurement will be examined.

Student Learning Objectives/Outcomes

1. The student will analyze problem situations, create solutions strategies, solve problems, and justify his/her thinking.
2. The student will hypothesize whether properties from one set of numbers will work for other sets of numbers and then validate his/her conjectures.
3. The student will construct concepts of number, patterns, geometry, measurement, probability, and statistics through the use of exploration and investigation.

TEXES Domains and Competencies - This content of this course relates to the following domains and competencies assessed on the TEXES (Texas Examination of Educator Standards) indicated.

Core Subjects EC-6

Subject Test II -Mathematics

Competency 002 - Number Concepts and Operations

Competency 003 - Patterns and Algebra

Competency 004 - Geometry and Measurement

Competency 005 - Mathematical Processes

Required Textbooks and Materials

Required Texts

Albert B. Bennett, Jr. and L. Ted Nelson, Mathematics for Elementary Teachers, a Conceptual Approach, 9th edition

Required Materials

Calculator

Suggested Course Materials

Suggested Readings/Texts

Albert B. Bennett, Jr. and L. Ted Nelson, Student Solutions Manual for use with Mathematics for Elementary Teachers, 9th Edition

Assignments & Academic Calendar

A. Classwork:

Problems will be assigned based on the calendar for each section and reviewed at the beginning of each class. Additional problems may be assigned to supplement the assigned problems. Homework will be collected. Homework checks may be given and will factor into the grading. Emailed assignments will not be accepted.

B. Examinations:

Three tests and a final examination will be given. Each test will reflect the content of the problems or the activities that have been assigned or discussed as part of the course and problems from the text chapter tests. Completion of the homework will be your best preparation for the tests. The final examination will be cumulative.

Test 1 – Tuesday, September 19

Test 2 – Tuesday, October 24

Test 3 – Thursday, November 30

Cumulative Final Examination - December 12 (tentative) – 8:00 – 10:45

Grading Policy

In order to receive a passing grade in this course, each student must:

1. Participate in class discussions.
2. Complete all tests.

Grading:

Homework	50 points
Test 1	100 points
Test 2	100 points
Test 3	100 points
Final Examination	100 points

The cumulative point total is 450 points. The following point scale will be used to determine the final grade.

Points / Final Grade	Points / Final Grade	Points / Final Grade	Points / Final Grade	Points / Final Grade
437 - 450 A+	392 - 404 B+	347 - 359 C+	302 - 314 D+	269 or lower F
419 - 436 A	374 - 391 B	329 - 346 C	284 - 301 D	
405 - 418 A-	360 - 373 B-	315 - 328 C-	270 - 283 D-	

Course Policies

Make-up exams

Missed exams will be given at the discretion of the instructor and must be completed within seven days. Only extreme situations will warrant rescheduling an exam.

Extra Credit

No extra credit will be awarded.

Late Work

No late work will be accepted.

Class Attendance

Attendance will be taken. Students will be allowed up to four absences. After the fourth absence, twenty points will be deducted from the final point total for each absence.

Classroom Citizenship

All reading and homework assignments are expected to be completed before class.

Participate based on classroom norms.

Please silence your cell phones during class.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Policies and Procedures for Students

The University of Texas at Dallas provides a number of policies and procedures designed to provide students with a safe and supportive learning environment. Brief summaries of the policies and procedures are provided for you at <http://provost.utdallas.edu/home/index.php/syllabus-policies-and-procedures-text>

and include information about technical support, field trip policies, off-campus activities, student conduct and discipline, academic integrity, copyright infringement, email use, withdrawal from class, student

grievance procedures, incomplete grades, access to Disability Services, and religious holy days. You may also seek further information at these websites:

- http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm
- <http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html>
- <http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>
- <http://www.utdallas.edu/disability/documentation/index.html>

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.

Math Concepts for Teachers – Fall, 2017

Date	Section Number	Assigned Problems	Assignment Due
August 22	Sec. 1.1 – Intro to Problem Solving Texas Essential Knowledge and Skills	1.1 - 1, 3, 5, 7, 9, 19, 28	8/29
August 24	Sec. 1.2 - Patterns in Problem Solving	1.2 - 3, 5, 9, 23, 27, 28, 29, 51	8/29
August 29	Sec. 2.1 – Sets and Venn Diagrams	2.1 – 15a, 19, 31, 33, 35, 37, 39	9/5
August 31	Sec. 2.2 – Functions, Coordinates, Graphs	2.2 - TBD	9/5
September 5	Sec. 3.1 - Numeration Systems	3.1 – 11, 13, 21, 23, 25, 27, 39, 41	9/12
September 7	Sec. 3.2 – Addition and Subtraction	3.2 - 15, 19, 21, 25, 27, 45, 51	9/12
September 12	Sec. 3.3 & 3.4 – Multiplication/ Division	3.3 – 5a, 9, 11, 13, 19, 43, 45 3.4 - 1, 3, 5, 7a, 11, 19, 26a, 26b	9/19
September 14	Sec. 4.1 – Factors and Multiples	4.1 - 3, 27	9/19
September 19	<i>Test 1 - Chapters 1 - 3</i>		
September 21	Sec. 4.2 – GCF and LCM	4.2 - 3, 7, 9, 11, 13, 15, 21, 25, 27	9/26
September 26	Sec. 5.2 - Introduction to Fractions		
September 28	Sec. 5.2 - Introduction to Fractions	5.2 - 9, 11, 13, 19, 23, 25, 27, 43, 45	10/3
October 3	Sec. 5.3 - Fraction Operations, Add/Subt		
October 5	Sec. 5.3 Fraction Operations, Mult.		
October 10	Sec. 5.3 Fraction Operations, Division	5.3 - 3, 5, 13, 17, 19, 35, 37, 39, 51, 53	10/17
October 12	Sec. 6.1 – Decimals & Rational Numbers	6.1 - 5, 7, 11, 13, 17, 35, 37	10/17
October 17	Sec. 6.2 - Decimal Operations	6.2 - 3, 5, 9, 29, 43, 45	10/24
October 19	Sec. 9.1 – Plane Figures		
October 24	<i>Test 2 – Chapters 4-6</i>		
October 26	Sec. 9.1 – Plane Figures	9.1 - 7, 9, 13, 15, teaching question 2	10/31
October 31	Sec. 9.3 – Space Figures	9.3 - 3, 5, 8, 9, 10, 11, 13a, 13b	11/7
November 2	Sec. 10.1 – Systems of Measurement		
November 7	Sec. 10.1 – Systems of Measurement	10.1 - 5, 9, 10, 11, 13, 14, 25	11/15
November 9	Sec. 10.2/10.3 - Area, Perimeter, Volume		
November 14	Sec. 10.2/10.3 – Area, Perimeter, Volume	10.2 - 3, 6, 9, 13a, 31 10.3 – selected problems	11/16
November 16	Sec. 8.1 – Single-stage Experiments	8.1 - 1, 3, 5, 7, 9, 13, 15, 17	11/28
November 21/23	Thanksgiving Holiday		
November 28	Sec. 8.2 – Multistage Experiments	8.2 – 3, 5, 7, 11, 13, 15, 17	11/30
November 30	<i>Test 3 - Chapters 8.1, 9, 10</i>		
December 5	Exam Review		
December 12	Final Exam (tentative)	8:00 - 10:45	