

Course Syllabus

Course Information

<i>Course Number/Sec.</i>	ED 3340 - 501
<i>Course Title</i>	Math Concepts for Teachers
<i>Term</i>	Fall, 2016
<i>Days & Title</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. 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 – Thursday, September 22

Test 2 – Thursday, October 27

Test 3 – Thursday, December 1

Cumulative Final Examination - December 15 (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/Participation	100 points
Test 1	100 points
Test 2	100 points
Test 3	100 points
Final Examination	100 points

The cumulative point total is 500 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
485 - 500 A+	435 - 449 B+	385 - 399 C+	335 - 349 D+	less than 299 F
465 - 484 A	415 - 434 B	365 - 384 C	315 - 334 D	
450 - 464 A-	400 - 414 B-	350 - 364 C-	300 - 314 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.”

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

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

Math Concepts for Teachers – Fall, 2016

Date	Section Number	Assigned Problems	Assignment Due
August 23	Sec. 1.1 – Intro to Problem Solving Texas Essential Knowledge and Skills	1.1 - 1, 3, 5, 7, 9, 19, 28	8/30
August 25	Sec. 1.2 - Patterns in Problem Solving	1.2 - 3, 5, 9, 23, 27, 28, 29, 51	8/30
August 30	Sec. 2.1 – Sets and Venn Diagrams	2.1 – 15a, 19, 31, 33, 35, 37, 39	9/6
September 1	Sec. 3.1 – Numeration Systems	3.1 – 11, 13, 21, 23, 25, 27, 39, 41	9/6
September 6	Sec. 3.2 – Addition and Subtraction	3.2 - 15, 19, 21, 25, 27, 45, 51	9/15
September 8	Sec. 3.3 – Multiplication	3.3 – 5a, 9, 11, 13, 19, 43, 45	9/15
September 13	Sec. 3.4 – Division	3.4 - 1, 3, 5, 7a, 11, 19, 26a, 26b	9/20
September 15	Sec. 4.1 – Factors and Multiples	4.1 - 3, 27	9/20
September 20	Sec. 4.2 – GCF and LCM	4.2 - 3, 7, 9, 11, 13, 15, 21, 25, 27	9/27
September 22	<i>Test 1 - Chapters 1 - 3</i>		
September 27	Sec. 5.2 - Introduction to Fractions		
September 29	Sec. 5.2 - Introduction to Fractions	5.2 - 9, 11, 13, 19, 23, 25, 27, 43, 45	10/4
October 4	Sec. 5.3 - Fraction Operations, Add/Subt		
October 6	Sec. 5.3 Fraction Operations, Multiplication		
October 11	Sec. 5.3 Fraction Operations, Division	5.3 - 3, 5, 13, 17, 19, 35, 37, 39, 51, 53	10/18
October 13	Sec. 6.1 – Decimals & Rational Numbers	6.1 - 5, 7, 11, 13, 17, 35, 37	10/18
October 18	Sec. 6.2 - Decimal Operations	6.2 - 3, 5, 9, 29, 43, 45	10/25
October 20	Sec. 9.1 – Plane Figures		
October 25	Sec. 9.1 – Plane Figures	9.1 - 7, 9, 13, 15, teaching question 2	11/1
October 27	<i>Test 2 – Chapters 4-6</i>		
November 1	Sec. 9.3 – Space Figures	9.3 - 3, 5, 8, 9, 10, 11, 13a, 13b	11/9
November 3	Sec. 10.1 – Systems of Measurement		
November 9	Sec. 10.1 – Systems of Measurement	10.1 - 5, 9, 10, 11, 13, 14, 25	11/15
November 10	Sec. 10.2/10.3 - Area, Perimeter, Volume		
November 15	Sec. 10.2/10.3 – Area, Perimeter, Volume	10.2 - 3, 6, 9, 13a, 31 10.3 – selected problems	11/29
November 17	Sec. 8.1 – Single-stage Experiments	8.1 - 1, 3, 5, 7, 9, 13, 15, 17	11/29
November 22/24	Thanksgiving Holiday		
November 29	Sec. 8.2 – Multistage Experiments	8.2 – 3, 5, 7, 11, 13, 15, 17	12/6
December 1	<i>Test 3 - Chapters 8.1, 9, 10</i>		
December 6	Exam Review		
December 15	Final Exam (tentative) 8:00 – 10:45		