Instructor Information
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Office Hours: Monday and Wednesday 10:30am to 11:30am; Monday 4:30pm to 5:30pm
Tuesday and Thursday 12:00am to 1:00pm
Division Office and Phone: Science, Mathematics, and Engineering.
Room K224. 972-860-4750

Course Information
Course Title: Teaching Math in Elementary and Middle School II
Course Number: MATH 1351
Section Number: 23501
Semester/Year: Spring 2020
Credit Hours: 3
Class Meeting Time/Location: From 9:40pm to 8:30pm Monday in Building K Room 134
Certification Date: February 3, 2020
Last Day to Withdraw: April 16, 2020. A student is responsible for withdrawing from a course. Please talk to your Instructor, Advisor, Veteran’s Affairs Official and Financial Aid Official, as appropriate, before making the decision to withdraw from any course.

Course Prerequisites
Prerequisite Required College level ready in Mathematics at the non-algebra or algebra levels.

Course Description
Course Description: Prerequisites: Math 1351. Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification. (3 Lec.)
Student Learning Outcomes

Upon successful completion of this course, students will:

1. Understand the interrelationship between statistics and probability.
2. Be able to teach how to represent and interpret data with multiple methods including line graphs, bar graphs, circle graphs, stem plots, frequency tables, histograms, line plots, and box plots.
3. Be able to teach how to find measures of central tendency and different ways to quantify the dispersion of data using range, clusters, gaps, interquartile range, and standard deviation.
4. Be able to teach basic probability concepts including complementary events, mutually exclusive events, expected values, experimental probability, and theoretical probability.
5. Understand the van Hiele Levels of Geometric Thinking.
6. Be able to teach basic concepts of geometry in one dimension, two dimensions, and three dimensions.
7. Be able to teach about transformations, symmetry, tessellations, and similarity.
8. Understand geometry as measurement and be able to teach systems of measurement and precision.
9. Be able to teach how to find perimeter, area, surface area, and volume.
10. Be able to use a variety of manipulatives to teach mathematical concepts in grades 4-8.

Texas Core Objectives

The College defines essential knowledge and skills that students need to develop during their college experience. These general education competencies parallel the Texas Core Objectives for Student Learning. In this course, the activities you engage in will give you the opportunity to practice two or more of the following core competencies:

1. **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication Skills** - to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
5. **Personal Responsibility** - to include the ability to connect choices, actions, and consequences to ethical decision-making
6. **Social Responsibility** - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
Required Course Materials


**ISBN** 9780135190050

**Activities Guide:** Mathematics Activities for Elementary School Teachers w/Manipulatives 13th ed Authors: Dolan, Williamson & Muri

**ISBN:** 9780134995618

This course will run using interactive software called MyMathLab. MyMathLab is an online, textbook-based software where you will complete assignments. Students must have access to a computer with Internet to complete the required work for this course. Standard plug-ins are needed to access this tool. To access MyMathLab click the following link: MyMathLab.

To enroll into your MyMathLab course you will need a course ID which will be given to you by your instructor. You can request temporary access but will only have access from the first day of the semester through day 14. After this point, you must enter a valid MyMathLab student access code. If the access code is not entered by that day, access to all online assignments will be suspended. Students should have permanent access to MyMathLab by the end of the first test.

If you purchase your MyMathLab code online you MAY have the option of purchasing a 10 or an 18 week subscription. You MUST purchase the 18 week subscription so that you will have access to your assignments for the entire 16 week semester.

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

**Institutional Policies**

Institutional Policies relating to this course can be accessed using the link below. These policies include information about tutoring, Disabilities Services, class drop and repeat options, Title IX, and more.

Brookhaven Institutional Policies
Graded Work

The tables below provide a summary of the graded work in this course and an explanation of how your final course grade will be calculated.

Summary of Graded Work

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>MyMathLab Homework</td>
<td>20 assignments worth 100 points each</td>
<td>40%</td>
</tr>
<tr>
<td>Tests in MyMathLab</td>
<td>4 tests worth 100 points each</td>
<td>12%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1 final worth 100 points</td>
<td>12%</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Final Grade

<table>
<thead>
<tr>
<th>Points</th>
<th>Percentages</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-59</td>
<td>0-59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Description of Graded Work

**Homework:** Each section covered will have a homework assignment on MyMathLab for the student to complete outside of class. Each problem will allow 3 attempts. After the third attempt the student will no longer be allowed to work on the problem. The student will earn the points from the third attempt. Activities from the activite manual will be assigned and each activity counts as 2 homework assignments. There will also be one research paper assigned during the course. It will also count as 2 homework grades.

**Tests:** You will have 4 tests each worth 100 points. Each test will be over a chapter or two in the course. The tests will be taken in MyMathLab. The “Save for Later” feature will be utilized during testing. More information will be given in class.

**Final Exam:** The final exam is a 35 question multiple choice and free response questions. The final exam will be taken in the assigned classroom for the course. The final exam will count for 20% of the course average.
Attendance and Your Final Grade

There is no formal grade for attendance, but to reward good attendance the following policy will be followed to award extra points on the final exam:

0-1 absence and 0-2 tardiness / early departures 10 bonus points on the Final Exam  
0-1 absence and 3-5 tardiness / early departures 5 bonus points on the Final Exam  
2 absence and 0-2 tardiness / early departures 5 bonus points on the Final Exam

If a student has 4 or more absences a grade of F will be earned by the student

Late Work Policy

All due dates are listed in the syllabus and MyMathLab. Once this deadline has passed all assignments are closed and the grades cannot be changed. If an assignment has not been worked on the grade will be a zero.

Other Course Policies

If a student must be absent please inform Ms. Long in writing via an email.

Course Schedule

All Assignments/Tests are Due the Next Class Meeting @ 5:00pm Unless Otherwise Noted. Chapter Homework and Tests are done in MyMathLab. Chapter Activities are to be turned in at the Beginning of Class.

<table>
<thead>
<tr>
<th>Day</th>
<th>Class Topic(s)/Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-27</td>
<td>Introduction/Orientation</td>
</tr>
<tr>
<td></td>
<td>Chapter 9.1 Determining Probabilities</td>
</tr>
<tr>
<td>2-3</td>
<td>Chapter 9.2 Multistage Experiments and Modeling Games</td>
</tr>
<tr>
<td></td>
<td>Chapter 9.3 Simulations and Applications of Probability</td>
</tr>
<tr>
<td>2-10</td>
<td>Chapter 10.1 Designing Experiments/Collecting Data</td>
</tr>
<tr>
<td></td>
<td>Chapter 10.2 Displaying Data Part I</td>
</tr>
<tr>
<td></td>
<td>Chapter 10 Activity A</td>
</tr>
<tr>
<td>2-17</td>
<td>Chapter 10.3 Displaying Data Part II</td>
</tr>
<tr>
<td></td>
<td>Chapter 10.4 Measures of Central Tendency and Variation</td>
</tr>
<tr>
<td></td>
<td>Chapter 10 Activity B</td>
</tr>
<tr>
<td>2-24</td>
<td>Test #1 Chapters 9-10</td>
</tr>
<tr>
<td></td>
<td>Chapter 11.1 Basic notation</td>
</tr>
<tr>
<td></td>
<td>Chapter 11.3 More About Angles</td>
</tr>
<tr>
<td>3-2</td>
<td>Chapter 11.2 Curves, Polygons, and Symmetry</td>
</tr>
<tr>
<td></td>
<td>Chapter 11.4 Geometry in 3-D</td>
</tr>
<tr>
<td></td>
<td>Chapter 11 Activity</td>
</tr>
<tr>
<td>3-9</td>
<td>3-D Activity Day</td>
</tr>
<tr>
<td></td>
<td>3-D Activity Day Paper</td>
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<tr>
<td></td>
<td>NET Activity</td>
</tr>
<tr>
<td>Day</td>
<td>Class Topic(s)/Assignment</td>
</tr>
<tr>
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<td>----------------------------</td>
</tr>
</tbody>
</table>
| 3-23 | Test #2  Chapter 11  
Chapter 12.1 Congruence Through Construction  
Chapter 12.2 Additional Congruence Theorems |
| 3-30 | Chapter 12.3 Additional Constructions  
Chapter 12.4 Similar Triangles and Other Similar Figures  
Chapter 12 Activity |
| 4-6  | Chapter 14.1 Translations, Rotations, and Tessellations  
Chapter 14.2 Reflections and Guide Reflections  
Chapter 14.3 Dilations  
Chapter 14 Activity |
| 4-13 | Test #3  Chapters 12 & 14  
Chapter 13.1 Linear Measure  
Chapter 13.2 Areas of Polygons and Circles |
| 4-20 | Chapter 13.3 The Pythagorean Theorem and Equation of a Circle  
Chapter 13.4 Surface Area  
Chapter 13 Activity |
| 4-27 | Chapter 13.5 Volume and Mass |
| 5-4  | Test #4  Chapter 13  
Final Exam Review |
| 5-11 | Final Exam  **In Class 5:40-8:30** |

**Format of Cover Page for Activities**
Your Name  
MATH 1351.21501  
Title (Chapter 9 Activity #__)  

**Useful Links for Activities**
[Link for Activities Masters](#)  
[Link for Color Manipulatives](#)  

**Supplies Needed for Every Class**
- colored pencils  
- scissors  
- graph paper ¼” or cm grid  
- ruler w/ inches and cm  
- 4 function calculator  
- roll of scotch tape  
- protractor  
- compass  
- plenty of paper
3-D Activity Paper Format of Cover Page

Your Name
Instructor K. Long
MATH 1351.21501
Title (3-D Activities)
Date Due (March 23, 2020)

3-D Activity Paper Format of Paper

One inch margins: Left, right, top, and bottom
Double Spaced
12 pt. font (Times New Roman)

Content of Paper

- Discuss any frustrations and learning moments you had with each manipulative.
- Discuss the pros and cons of incorporating these manipulatives into your classroom.
  Reference current sources for this part. Make sure you cite your sources.
- 4 - 5 pages