University of North Texas at Dallas

Spring 2016

MATH 1353-030   Geometry and Measurement for Teachers   3 credit hours

Division: Liberal Arts and Life Sciences

Department: Mathematics and Information Sciences

Instructor: Dr. Gwendolyn Johnson

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Office hours: Mondays and Wednesdays 11:30 to 1:00 and 2:30 to 3:30
Tuesdays and Thursdays 3:00-5:30
Fridays by appointment
Because I often have meetings on campus, I might not be in my office during these hours. Please email me to make sure I will be available before you visit.

Class Location: Bldg 2 room 232

Class Times: Tuesdays 5:30 to 6:50 and online

Course Catalog Description:

We will study basic geometry, the coordinate plane, the Pythagorean Theorem, polygons, circles, congruence and similarity, transformations, symmetry, perimeter, area, surface area and volume.

Required Materials:

There is no textbook for this class, but you will need to bring a calculator, graph paper, a protractor, and a ruler to class everyday.

Learning Objectives:

1. Students will describe the <u>types of</u> and <u>properties of</u> two-dimensional shapes such as triangles, quadrilaterals, pentagons, and hexagons.
2. Students will answer questions and solve problems related to the measurement of two-dimensional shapes including perimeter, circumference, area of basic and composite (nonstandard) shapes, the Pythagorean Theorem and similar figures.
3. Students will answer questions and solve problems related to three-dimensional shapes, surface area, and volume.
4. Students will answer questions and solve problems related to coordinate geometry, transformations, and symmetry.
5. Students will solve problems related to the customary (traditional American) and metric systems of measurement.

INTASC Standards:

> **InTASC Standard #4 Content Knowledge:** The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline meaningful for learners to ensure mastery of the content.
>
> **InTASC Standard #5 Application of Content** The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

Learning Resources:

> UNT Dallas Math Lab is located in Bldg 1 room 336.
>
> UNT Dallas Writing Center can be found at www.unt.edu/wc
>
> Academic Advising and Student Support is located in Bldg 1, third floor.   972-338-1645

Grading:

> **Tests**   740 points
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> **Homework**   160 points
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> **Attendance**   50 points
>
> **Group Activities** 50 points
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>   1,000 points total

Tentative Course Outline

Dates	Tuesday	On Your Own
Jan 19-22	PowerPoint 1A: Lines, Angles, Polygons Group Activity: Parallel Postulate Proofs Group Activity: Conditionals & Contrapositives	PowerPoint 1B: Lines, Angles, Sums of Angles Practice 1A: Reading Protractors Practice 1B: Lines and Angles
Jan 26-29	PowerPoint 1C: Triangles and Quadrilaterals Group Activity: Circles	PowerPoint 1D: Understanding Circles Practice 1C: Line and Angle Relationships Practice 1D: Angles and Triangles Complete Homework 1 - graded
Feb 2-5	**Test: angles, polygons, circles** **Homework due**	PowerPoint 2A: Area and perimeter of squares, rectangles, and parallelograms
Feb 9-12	PowerPoint 2B: Area of circles, triangles, and trapezoids Group Activity: Can the perimeter of a square be larger than the area?	PowerPoint 2C: Area of composite (nonstandard) shapes
Feb 16-19	PowerPoint 2D: Scale drawings and similar figures	Review Complete Homework 2 - graded
Feb 23-26	**Test: area, perimeter, similar figures** **Homework due**	Online Assignment: Plotting points on a coordinate grid PowerPoint 3A: Translations and Reflections
March 1-4	PowerPoint 3B: Rotations, Fraction Multiplication and Dilations	Review Complete Homework 3 - graded
March 8	**Test: coordinate, transformations** **Homework due**	Online Assignment: Elapsed time
March 22-25	PowerPoint 4A: Customary Measurement	Practice 4A
Mar 29 -April 1	PowerPoint 4B: The Metric System	Practice 4B
April 5-8	PowerPoint 4C: Pythagorean Theorem	Review Complete Homework 4 - graded
April 12-15	**Test: measurement, Pythagorean** **Homework due**	Online Assignment: Names of the Three-D Solid Figures
April 19	PowerPoint 5A: Faces, edges, vertices, and nets	Practice 5A
April 20-22	PowerPoint 5B: Volume of prisms, cylinders, and cones	Review Complete Homework 5 - graded
April 26-29	**Test: 3-D figures and volume** **Homework due**	Review
May 3-5	Review – class online	Review
May 10 or 12	**Comprehensive final exam**	

Course Policies

Attendance and Participation

It is important to attend class! If you must miss class, it is your responsibility to learn the information by downloading the PowerPoint and practice problems from Blackboard and scheduling an appointment with the instructor.

Participation includes attending class, paying attention to the instructor and other students, asking and answering questions, and volunteering to solve problems at the board. Students who miss class or who arrive late or leave early will lose participation points.

Blackboard

I use Blackboard a lot and expect that you will log in to check for announcements and download materials at least twice per week. Most homework assignments must be submitted to Blackboard.

Group Work

You will be expected to learn some of the material by working with a group of students. Working in groups will help you learn how to…

- Explain math concepts in clear, helpful ways
- Teach in ways that are consistent with constructivist learning theory
- Work with people who think differently than you do

Homework

Homework will be accepted up to three weeks past the due date, but a late penalty will apply. The late penalty will be 10% for one day to one week late, 20% for eight days to two weeks late, and 30% for 15 days to three weeks late.

Illness

All absences affect your participation grade, regardless of the reason for the absence. You do NOT need to provide any documentation from a doctor or hospital. I appreciate knowing the reason for the absence, but providing a reason does not earn participation points.

Tests

If you must be absent the date of a test, it is your responsibility to let me know ahead of time. A make-up test must be scheduled no later than one week after the original test date. A make-up test might contain different questions than the original test.

University Policies and Procedures

Bad Weather:

On days that present severe weather and dangerous driving conditions, a decision may be made to close the campus. Please sign up for the JagAlert Emergency Notification system. http://www.untdallas.edu/police/resources/jagalert
If you have already signed up, make sure your information is up-to-date.

Children on Campus:

University policy does NOT allow you to bring your children to class. The university policy states, "UNT Dallas students may not bring children to campus and leave them unattended. UNT Dallas students may not bring children to campus and take them to class."

Class Attendance:

You are expected to attend class! The university policy states that UNT Dallas "recognizes that student success is promoted by the expectation of regular attendance and participation in class. Regular and punctual attendance at all scheduled classes is expected."

Course Drop

Courses dropped prior to the census date will not appear on the student's transcript. If a course is dropped after the census date but prior to the end of the sixth week, the faculty member will assign a grade of W. No student will be allowed more than six grades of W other than the exceptions on the university's website.

Inclement Weather and Online Participation

Online classes may or may not be effected by campus closures due to inclement weather. Unless otherwise notified by your instructor via e-mail, online messaging, or online announcement, students should assume that assignments are due as scheduled.

Nettiquette

In any social interaction, certain rules of etiquette are expected and contribute to more enjoyable and productive communication. Emails, Discussion Board messages and/or any other forms of written communication in the online environment should use proper "netiquette" (i.e., no writing in all caps (usually denotes yelling), no curse words, and no "flaming" messages (angry, personal attacks).

Racial, ethnic, or gender slurs will not be tolerated, nor will pornography of any kind.

Any violation of online netiquette may result in a loss of points or removal from the course and referral to the Dean of Students, including warnings and other sanctions in accordance with the University's policies and procedures. Refer to the Student Code of Student Rights Responsibilities and Conduct athttp://www.untdallas.edu/osa/policies. Respect is a given principle in all online communication. Therefore, please be sure to proofread all of your written communication prior to submission.

Online Attendance and Participation

The University attendance policy is in effect for this course. Class attendance in the Blackboard classroom and participation is expected because the class is designed as a shared learning experience, and because essential information not in the textbook will be discussed in the discussion board. Online presence and participation in all class discussions is essential to the integration of course material and your ability to demonstrate proficiency.

Attendance for this online or hybrid course is considered when you are logged in and active in Blackboard, i.e., posting assignments, taking quizzes, or completing Discussion Boards. To maintain financial aid award eligibility, activity must occur before the census date of the session or term of the course. Refer to http://www.untdallas.edu/registrar for specific dates. If you are absent/not active in the course shell, it is YOUR responsibility to let the instructor know immediately, upon your return, the reason for your absence if it is to be excused. All instructors must follow university policy 7.005 covering excused absences; however, it is the instructor's discretion, as outlined in the course syllabus, of how unexcused absences may or may not count against successful completion of the course

Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committee to complying with the Americans with Disabilities Act (ADA). Students with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit Section 504 Coordinator, Cynthia Suarez at 972-338-1777 or email Cynthia.suarez@untdallas.edu