

University of North Texas at Dallas
Fall 2016
SYLLABUS

MATH 1355: Probability and Statistics for Teachers 3 HRS	
Department of	Mathematics
School of	Liberal Arts & Sciences
Instructor Name:	Dr. Gwen Johnson
Office Location:	Bldg 2 (Founders Hall) room 232
Office Phone:	972-338-1320
Email Address:	Gwendolyn.johnson@untdallas.edu
Office Hours:	Mondays & Wed. 11:30 to 1:00 and 2:30 to 3:30 (I can stay later if needed.) Thursdays 2:30 to 5:30 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.
Course Format	73% Face-to-face (traditional) 27% Online (independent)
Classroom Location:	Building 2 (Founders Hall) room 243
Class Meeting Days & Times:	Tuesdays and Thursdays 1:00 to 2:20 (Some Tuesdays will be online.)
Course Catalog Description:	Elementary probability; tree diagrams; counting techniques; statistical techniques for organizing, summarizing, displaying, and interpreting data; sampling techniques, descriptive statistics; normal distribution; discussions of children's learning of statistics and probability.
Prerequisites:	Two years of high-school algebra and one year of high-school geometry or consent of department or MATH 1010 with a grade of C or better.
Required Text:	none
Access to Learning Resources:	UNT Dallas Library: (Founders Hall) phone: (972) 780-1616 web: http://www.untdallas.edu/library e-mail: Library@untdallas.edu UNT Dallas Bookstore: (Building 1) phone: (972) 780-3652 web: http://www.untdallas.edu/bookstore e-mail: untdallas@bkstr.com
Course Goals or Overview	
1.	Prepare students for the Arithmetic Accuplacer exam
2.	Prepare students for the math content questions on the TExES EC-6 Core Subjects exam
3.	Provide students with the mathematics content necessary to teach elementary school
Learning Objectives	
1.	Students will answer questions and solve problems related to financial literacy.
2.	Students will answer questions and solve problems related to data analysis including bar graphs, line plots, pictographs, stem-and-leaf plots, and Venn diagrams.
3.	Students will answer questions and solve problems related to probability including counting combinations, set theory, and tree diagrams.
4.	Students will answer questions and solve problems related to statistics including sampling techniques, mean, median, mode, normal distribution, range, and correlation.

Course Outline

Timeline	Topics	Learning Objective	Activities and Assignments
August 23	Financial Literacy: Taxes, income, debit and credit cards	1	PowerPoint 1A Practice 1A
August 25	Financial Literacy: Budgets, fixed and variable expenses, net worth	1	PowerPoint 1B Practice 1B
August 30	Financial Literacy: Running a business	1	PowerPoint 1C Homework #1
Sept. 1	Financial Literacy	1	Review Quiz on financial literacy and reading tables
Sept. 6 Class online	Data Analysis: Ratios and pictographs	2	PowerPoint 2A Practice 2A
Sept. 8	Data Analysis: Bar graphs, histograms, line plots	2	PowerPoint 2B Practice 2B
Sept. 13 Class online	Data Analysis: Fractions, percent, percent bar graphs	2	PowerPoint 2C Practice 2C
Sept. 15	Data Analysis: Circle graphs, stem-and-leaf plots	2	PowerPoint 2D Practice 2D
Sept. 20	Data Analysis: Venn diagrams and review	2	PowerPoint 2E Homework #2
Sept. 22		2	Test on types of graphs
Sept. 27 Class online	Probability: "certain", "more likely" and "less likely"	3	PowerPoint 3A Practice 3A
Sept. 29	Probability activities	3	Group Activities: <ul style="list-style-type: none"> • Basic Principles of Probability • Some Probability Misconceptions • Picking Cubes from a Bag
October 4 Class online	Probability: Proportions and prediction	3	PowerPoint 3B Practice 3B
October 6	Probability activities	3	Group Activities: <ul style="list-style-type: none"> • If You Flip 10 Pennies...? • How Many Keys Are There? • Counting Outcomes
October 11 Class online	Basic probability, complement, and the multiplication counting principle	3	PowerPoint 3C Practice 3C
October 13	Tree diagrams and compound probability with replacement	3	PowerPoint 3D Practice 3D
October 18	Compound probability without replacement	3	PowerPoint 3D Practice 3D
October 20	Probability activities	3	Group Activities: <ul style="list-style-type: none"> • Number Cube Rolling Game • Picking Two Marbles from a Bag • Using Fraction Arithmetic
October 25 Class online		3	Homework #3
October 27		3	Test on probability
November 1 Class online	Statistics: Mean, median, mode, and range	4	PowerPoint 4A Practice 4A
November 3	Statistics: Mean, median, mode, and range	4	Group Activities: <ul style="list-style-type: none"> • The Mean as "Making Even" • What Does the Range Tell Us?

			• Using Mean, Median, and Mode to Predict
November 8	Statistics: Mean and median	4	Group Activities: <ul style="list-style-type: none"> • Solving Problems About the Mean • The Mean as "Balance Point" • Same Median, Different Mean
Nov. 10	Quartiles, percentiles, and box plots Deviation from the mean	4	PowerPoint 4B Practice 4B
Nov. 15	Z-scores and the normal curve Skewed vs. symmetrical distributions	4	PowerPoint 4C Group Activity: Describing Data Distributions Practice 4C
Nov. 17	Statistics: Correlation and scatterplots	4	PowerPoint 4D Group Activity: Is it a Line of Best Fit? Practice 4D
Nov. 22		4	Test on Statistics
Nov. 24	No class due to Thanksgiving		
Nov. 29 Class online	Review		
Dec. 1	Review		
Dec. 6	No class – Reading Day		
TBD			Comprehensive Final Exam

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Grading Matrix:

Instrument	Points
Attendance, Group Activities	150
Homework Assignments	150
Quiz and Tests	500
Final Exam	200
TOTAL:	1,000 points

Grade Determination

A = 90% or better B = 80 to 89%

C = 70 to 79%

D = 60 to 69%

F = less than 60%

University Policies and Procedures

Students with Disabilities (ADA Compliance): The University of North Texas at Dallas makes reasonable academic accommodation for students with disabilities. Students seeking accommodations must first register with the Disability Services Office (DSO) to verify their eligibility. If a disability is verified, the DSO will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, DSO notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet/communicate with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Disability Services Office website at <http://www.untdallas.edu/disability>. You may also contact them by phone at 972-338-1777; by email at UNTDisability@untdallas.edu or at Founders Hall, room 204. (UNTD Policy 7.004)

CoursEval Policy: Student's evaluations of teaching effectiveness is a requirement for all organized classes at UNT Dallas. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider students' evaluations to be an important part of your participation in this class.

Assignment Policy: According to the instructor's discretion while working in concert with the division/program's guidelines).

Exam Policy: (*Discuss any special instructions relating to exams-sample given*): Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook).

Academic Integrity: Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity (Policy 7.002) at http://www.untdallas.edu/sites/default/files/page_level2/pdf/policy/7.002%20Code%20of%20Academic_Integrity.pdf Refer to the Student Code of Student Rights, Responsibilities and Conduct at http://www.untdallas.edu/sites/default/files/page_level2/hds0041/pdf/7_001_student_code_of_conduct_may_2014.pdf Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. In addition, all academic work turned in for this class, including exams, papers and written assignments must include the following statement: "*On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.*"

Bad Weather Policy: Campus facilities will close and operations will be suspended when adverse weather and/or safety hazards exist on the UNTD campus or if travel to the campus is deemed dangerous as the result of ice, sleet or snow. In the event of a campus closure, the Marketing and Communication Department will report closure information to all appropriate major media by 7 a.m. That department will also update the UNTD website, Facebook and Twitter with closing information as soon as it is possible. For more information please refer to <http://www.untdallas.edu/police/resources/notifications>

Attendance and Participation Policy: (*Discuss your attendance and participation policy.*)

The University attendance policy is in effect for this course. Please refer to Policy 7.005 Student Attendance at <http://www.untdallas.edu/hr/upol>

Diversity/Tolerance Policy: Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive and inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Dean of Students as the instructor deems appropriate. (UNTD Policy 7.001)