

University of North Texas at Dallas

SYLLABUS

MATH 3680		(Applied Statistics) (3Hrs)		Spring 2012	
Department of		Mathematics and Information Sciences		Division of Liberal Arts and Life Sciences	
Instructor Name:		Dr. Ali Shaqlaih			
Office Location:		Founders' Hall, Room 227			
Office Phone:		972-338-1569			
Email Address:		ali.shaqlaih@unt.edu			
Office Hours:		MW:10:00 - 11:00am; MW: 1:00 - 4:00 pm; T: 8:00 - 9:00am			
Classroom Location:		Founders' Hall, Room 242			
Class Meeting Times:		M, W: 8:30-9:50 am			
Course Catalog Description:		The purpose of this course is to extend your knowledge in the fundamental concepts of Probability and Applied Statistics. To this end, we will cover descriptive statistics, elements of probability, random variables, confidence intervals, hypothesis testing, regression, contingency tables.			
Prerequisites:		Math 1710 and either credit for Math 1720 or concurrent enrollment in Math 1720.			
Required Texts:		<ul style="list-style-type: none"> • Probability and Statistics for Engineering and the Sciences, 8th Ed, by Jay L. Devore, ISBN-10: 0538733527, ISBN-13: 9780538733526 • Class notes and handouts distributed b in class are as important as the textbook. • WebAssign access code; Course: Math 3680, Course ID: unt 4040 6565 			
Recommended Text		Statistics for the Sciences, Buntinas, M, Funk, G., ISBN-13:978-534-38774-7.			
Access to Learning Resources		UNTD Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm UNTD Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com			
Course Goals					
		Some of the goals of this course are to: <ul style="list-style-type: none"> • Explore Mathematics and become a persistent and successful mathematical problem solver • Learn to reason, justify and communicate mathematically • Think critically and creatively and learn to apply different system of analysis • Build new Statistical knowledge through problem solving; 			
Learning Objectives/Outcomes:					
		At the end of this course, the student will be able to: <ul style="list-style-type: none"> • Be able to apply statistics in applicable situations • Demonstrate the ability to solve problems related to probability <ul style="list-style-type: none"> ○ Mathematics Program Learning Outcomes: Students will be able to: • Communicate with technical precision in writing mathematical ideas. • Read, understand, formulate, explain, and apply mathematical statements. • State and prove important results in key mathematical areas including algebra and analysis. 			

Course Outline

Priority will be given to understanding the material in depth rather than covering more topics. This schedule is subject to change by the instructor. Any changes to this schedule will be announced in class.

Chapter #	TOPICS	TIMELINE
Chapter 1	Descriptive Statistics	Weeks of Jan. 16, 23
Chapter 2	Probability	Weeks of Jan. 30, Feb. 6
Chapter 3	Discrete Random Variables	Weeks of Feb. 13, 20
Chapter 4	Continuous Random Variables	Weeks of Feb27, March 5
Chapter 7	Confidence Intervals	Weeks of March 12
Chapter 8	Tests of Hypotheses (single sample)	Weeks of March 26
Chapter 9	Two samples Inferences	Weeks of April 2, 9
Chapter 12	Linear Regression and Correlation	Week of April 16, 23
Chapter 14	Categorical Data Analysis	Week of April 30

Course Evaluation

This course will utilize the following instruments to determine students' grades.

Instrument	Value	Total
Homework Assignments	Different Assignments	60
Online Quizzes	Different quizzes	90
In Class Quizzes	8 quizzes at 25 points each	200
Hour Exams	2 exams at 150 points each	300
Projects and Presentations	Presentations, projects	60
Attendance & Participation	Participation	40
Final Exam	One comprehensive exam	250
Total:		1000

The following standard grading scale will be used to determine your final letter grade:

$100\% \geq A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\% > F \geq 0.$

Technology Use Policy:

In order to aid in computations, a TI-84^{Plus} calculator (or equivalent) is a **must** for this class. I also recommend that you have an access to a PC-based statistics program, such as Microsoft Excel spreadsheet, SPSS or Minitab, for doing more substantial computations that may arise on projects or homework problems. It is **not** necessary to purchase any software for this course as Microsoft Excel, and Mathematica are available on the University's computer/math labs.

Homework Policy:

Homework will be into two parts, recommended part, that is for practice and the student doesn't need to turn in and another part that is to be handed in at the beginning of the class on the due date. You should view the assigned homework problems as the minimum number of problems required to attain some level of mastery of the material. I deem it acceptable for students to work in groups as they make their preliminary efforts to explore and work through homework problems. However, after any such preliminary and cooperative efforts, I expect each student to write up his/her final homework papers individually and without outside assistance. The act of copying another student's homework, or writing a problem solution as dictated by a tutor or from a solution manual, constitutes academic misconduct. You should do all homework problems but only selected problems will be graded. You should be as neat as possible on the homework and try to keep the problems in order with space between them. Late homework will **NOT** be accepted.

Online Assignments Policy:

There will be online quizzes or/and homework assignments that every student needs to complete using WebAssign. Each student should buy an access code for WebAssign to get access to these assignments. Students must purchase and register in WebAssign by the 3rd class. Students may access WebAssign at any general access lab on campus. More information about the due dates of the assignments will be announced in class. There will be **no extension for the due times** for any reason.

In Class Quizzes Policy:

There will be 11 in-class quizzes throughout the course. At the end of the semester, each student's best 8 quizzes will be added to get a 200 possible-point total. Generally, quizzes will be given in the first 15 minutes of the class so be on time; if you come late you will lose your quiz time. **There will be no make-ups for missed quizzes for any reason.** The material that will be covered in the quizzes will be announced a head of time.

Exams & Make-up exams policy:

The material that will be covered in the exams will be announced in class and the final exam will be comprehensive. Exams should be taken as scheduled in the class time. No makeup examinations will be allowed except for documented emergencies (See Student Handbook). All requests for make-up exams **MUST** be submitted to the instructor in writing, with the supported documents.

General Policies:

- The first and most fundamental expectation I have for everyone in the class is to respect one another. Among other things, this means that only one person speaks at a time, **no one works on anything not related to the class (no cell use, no texting, no reading, no sleeping,)** and everyone will put forth an honest effort.
- It is the student's responsibility to stay abreast of all class announcements and changes made to this syllabus in class, the material covered in class whether present or not.
- Generally, Leaving and entering the class back is **not allowed**. You can leave the class if you are not returning or for real emergency case. Leaving the class should be by the permission of the instructor.
- You are expected to review all graded quizzes, homework and exam papers as soon as they are returned. All questions about the grading of quizzes, homework or exam papers must be reported within **seven** calendar days of the date on which the paper was returned.
- This class will be very active and I expect you to participate as much as possible. To do well, attend class every meeting on time, be prepared to work for the full class time, be organized, bring all necessary materials to class, do the homework and extra problems steadily every day rather than once a week and follow instructor directions. Don't be afraid to make mistakes or ask questions, the more you get involved, the better you'll do!
- **My door will always be open and you should feel free to e-mail me if you have questions.** Don't stress out about math! You have the abilities to do very well as long as you work hard.

Students with Disabilities (ADA Compliance):

The University of North Texas Dallas faculty is committed 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. For more information, you may visit the Office of Disability Accommodation/Student Development Office, Suite 115 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. 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 the SETE to be an important part of your participation in this class.

Bad Weather Policy:

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Class attendance and participation is required because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Coming to class late or leaving early is considered an absence. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

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 at <http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic%20Integrity.pdf>

for complete provisions of this code. In addition, all academic work submitted for this class, including exams, papers, and written assignments should 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.”**

Diversity/Tolerance Policy:

Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & 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 Center for Student Rights and Responsibilities as the instructor deems appropriate.

Important dates:

Quiz 1	Jan. 25
Quiz 2	Feb. 1
Quiz 3	Feb. 8
Quiz 4	Feb. 15
Quiz 5	Feb. 22
Last day to withdraw with an automatic W	Feb 24
First Hour Exam	Feb. 29
Quiz 6	March 7
Quiz 7	March 14
Quiz 8	March 28
Last day to drop with W or WF	March 29
Quiz 9	April 4
Second Hour Exam	April 11
Quiz 10	April 18
Quiz 11	April 25
Final exam	May 7 at 8:00 am