

DSCI 3710 Business Statistics
Spring 2020

Instructor: Dr. Ge, Ling
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Office hours: Tuesday 10-12 and Thursday 10-11 or by Appointment

Class Schedule:

Sec	Time	Days	Location
004	2:00pm-4:50pm	Th	ENV 130

Fall 2019 Academic Calendar

What happens	Dates
First day of classes	Monday, January 13
MLK Day	Monday, January 20
Last day to drop a course without a 'W'	March 30
May request an incomplete	April 6
Last day to withdraw (Grade W)	April 17
Spring Break	March 9-13
Last day of classes	April 30

Course materials:

1. Required book and software:
 - Discovering Business Statistics, by Hawkes Learning Systems (HLS), <http://www.hawkeslearning.com/>
Option 1: Courseware + eBook*, ISBN 13: 978-1-941552-85-8
Option 2: Courseware + eBook* + Textbook (HARD COPY), ISBN 13: 978-1-941552-69-8
2. Optional book:
 - Any Excel Primer - Most of you had an Excel reference in BCIS 2610 that will suffice.

Course Goals

At the end of the course, students will

1. have an increased appreciation for the use of statistics in business decision making,
2. acquire a positive attitude toward business statistics and how it is relevant for your future coursework and decision making,
3. be able to read, understand and communicate in the language of applied business statistics,
4. be able to select the appropriate statistical tool/methodology to aid in business decision making for your future course work and future job,
5. be able to use appropriate statistical formulae to solve problems,
6. be more capable of using a computer to describe and analyze numerical data,
7. be able to use quantitative methods for business decision making.

Learning expectations:

1. Students are encouraged to pay attention to commercials and news items in print, as well as audiovisual media to become aware of the wide use of statistics in our daily lives. To better assist students in understanding the use of these methodologies in business, many of the class problems will be presented as simple business cases.
2. Students will observe and actively participate in the working of problems found in the textbook. In addition, students are required to complete modules in **Hawkes Learning Systems (HLS): Business Statistics**.
3. Students are encouraged to participate in class discussions on statistical methodologies applied to non-trivial cases in various areas of business. Regular and punctual attendance for the **full** period of each class is expected (irrespective of whether roll calls are made or otherwise). Absences and tardiness are likely to cause you to miss the presentation of significant material and this may result in a lower grade.

Grading

Evaluation Items	Points
HLS Tutorials (16*25)	400
Online Excel Quizzes (4*25)	100
Mid-term Exam	250
Final Exam	250
Total	1000

Exams:

There will be two exams: one in-class mid-term exam and a comprehensive in-class final exam. **Each one is worth 250 points. Please check for the time and location of your final exam later.** No make-up exams are given, unless with an appropriate University approved excuse. If you have a conflicting event or appointment, please see the instructor well in advance. You will be asked to provide evidence or documentation such as hospital papers, an obituary, or a doctor's notice. Each exam will be open book, open notes, open laptop etc.

Any issues related to on time completion or credit for the modules and online quizzes should be resolved with the instructor within one week following their respective due dates. Such issues cannot be considered weeks later and especially not during compilation of the final grades, at the end of the semester.

HLS Tutorials:

Tutorial exercises, also referred to as modules and homework, using the **Hawkes Learning Systems: Business Statistics (HLS)** are assigned. The due dates for the tutorials using **HLS** software are assigned. These form a significant part of the course grade and **must be registered onto the HLS Web database by the due date** to receive full credit as well as bonus points (two extra credit points per module). On completion of a module in a COB lab, or at home, you should **save the HLS certification code to your disk. If you are connected to the internet** the module will register automatically **but always double check that you have received credit by going to your progress report.** If there is any problem, exit HLS and then go to your course HLS Web site at <https://course.hawkeslearning.com/untbstat/default.asp>.

Excel Quizzes:

Projects involving the use of **Excel** to analyze business data are assigned. These are an important part of the course grade that is graded via an online **Quiz** that is available in the HLS software using WEBTEST on the dates they are due. **For each Excel Quiz, you will get two attempts and the highest one will count.**

To take a quiz in HLS open the software as usual and select Web Test at the bottom of the page. This will open the Web Test area. Select Take Test on the left side of the page. When a new window opens, select Assigned Test and OK. From the Select a Test Menu you can select the appropriate Excel Quiz. These Quizzes will not open until the dates as posted in the progress report or as announced in class. Once you select the Begin Test button the clock is running for the assigned time allotted for the Quiz. If you log off before completing the Quiz/Exam, you will receive either a -0- or partial credit for what portion you did complete. Therefore get everything you need BEFORE opening the Quiz.

Late submission:

Policy on late submission is as shown in the table below. Hardware failure or inaccessibility is not a valid excuse for late work. This means that if the computer eats your assignment, or if the labs are full, you will not be excused from handing in an assignment on time.

Submission Time	Percentage of full grade
Within 24 hours after deadline	70%
Within 48 hours after deadline	50%
Beyond 48 hours after deadline	0%

Incomplete grades:

The grade of "I" is not given except for rare and very unusual emergencies, as per University guidelines. An "I" grade cannot be used to substitute your poor performance in class. If you think you will not be able to complete the class satisfactorily, please drop the course.

Letter Grades:

90% or more (≥ 900)	A
80% or more (≥ 800)	B
70% or more (≥ 700)	C
60% or more (≥ 600)	D
Below 60% (< 600)	F

Grade questions

Any issues related to on time completion or credit for the tutorials and online quizzes should be resolved with the instructor within one week following their respective due dates. Such issues cannot be considered weeks later and especially not during compilation of the final grades, at the end of the semester.

Class policies:

1. **Class attendance:** Regular class attendance and informed participation are expected.
2. **Academic integrity:** Business professionals must be trusted, because they may have access to a wide variety of confidential and private information. Everyone is expected to maintain the highest degree of ethical standards when taking exams or doing assignments.
This course adheres to the UNT policy on academic integrity. The policy can be found at <http://deanofstudents.unt.edu/conduct>. If you engage in academic dishonesty related to this class, you will receive a failing grade on the exam or assignment, or a failing grade in the course. In addition, the case may be referred to the Dean of Students for appropriate disciplinary action.
3. **Accessibility:** The University complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with special needs. If you have any special learning or testing requirements please let us know as soon as possible so special arrangements can be made. It is better that we register with the UNT Office for Disability Accommodation (ODA) as soon as possible.
4. **Statement Regarding Email as Official Means of Communication:** Each student must have a UNT email address to be able to communicate with the professor, the TA, and students in the group or the class. Email communication will be sent only to official UNT email addresses. If you use a different email address, please ensure that your UNT email is forwarded correctly.
5. **Canvas:** The class will also rely heavily on Canvas for class communication, material distribution and discussion. It is important for you to visit Canvas at least **twice a week** for class information.
6. **Responsibilities of students:** It is YOUR responsibility to make sure you are current with course happenings. If you must miss a class, it is your responsibility to recover any missed materials with your classmates. It is your responsibility that all assignments and projects must be completed and submitted according to the instructions provided. Failure to follow instructions may result in a failing grade.
7. **Meeting Behavior:** A repeatedly disruptive student will have his or her letter grade reduced. Side conversations during lectures or when another student is speaking are to be kept to a minimum. The exception to this expectation is when students are working in teams. In this situation, I would prefer that you work with your teammates before asking the instructor. This practice will keep the class moving along at a faster pace.
8. **Leaving Class Early:** If you want to leave class earlier due to a good reason such as 1) seeing a doctor, 2) job interview, 3) important student organization activities, etc., please inform the professor before class and select a seat so that you will minimally disrupt the class.
9. **Student Perceptions of Teaching (SPOT):** Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT. This short Web-based survey will be 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 this feedback from my students, as I work to continually improve my teaching.
10. **Changes in the Syllabus:** The professor reserves the right to improve the materials and requirements as the semester unfolds, with sufficient warning concerning exams, and assignments.
11. **Grounds for Dismissal from the Course**

A student can be dismissed from the course with a grade of "WF" for reasons of unsatisfactory progress. Some grounds for unsatisfactory progress are as follows:

- i. The student has **more than 3 un-excused assignment returns** (such as Excel or HLS, on their final due dates) / absences.
- ii. The student misses (providing no reason)/ or is caught cheating on an examination.

For any missed exam the following evidence will be accepted as tenable excuse:

- Written and valid doctor's excuse for illness
- Inability to reach class due to inclement weather (i.e. ice and/or snow, flooding, etc.)
- Valid UNT sponsored event (must provide signed reference from head of sponsoring department.)

If a student is caught cheating, he or she will be immediately removed from the class with a "WF" grade. To be reinstated, the student must provide substantial evidence to the contrary in a hearing held in the Dean of Students Office, University of North Texas.

- iii. If a student is suspected of unsatisfactory progress, the instructor will first issue a warning (oral) to the student. Upon issuance of the warning, the student has three (3) days to provide evidence supportive of the student's position. If the student provides satisfactory evidence, the instructor will reinstate him or her into the class.

Tentative Course Schedule – Spring 2020

This is a tentative schedule. Dates and topics of lecture are subject to change. Any changes will be announced. (HLS# means **HLS: Business Statistics** tutorials, **HT** means **Hypothesis Testing**.)

For important add/drop etc. dates see <http://registrar.unt.edu/registration/spring-registration-guide>

<u>WEEK</u>	<u>TOPICS</u>	<u>HLS and Excel Assignments</u>
Week 1 (Jan 13-19)	Course policies Hypothesis testing for Population mean - large samples. Exclude Calculations of power and beta; concepts only	HLS: Obtain authorization code HLS1: 10.4a HT means (Z-value)
Week 2 (Jan 20-26)	Hypothesis tests for population mean - small n, introduction to t-tables	HLS2: 10.4b HT mean (t-value) HLS3: 10.4c HT means (p-value)
Week 3 (Jan 27-Feb 2)	C.I. & hypothesis test for two populations means - large independent samples. C.I. & hypothesis test for two populations means - small independent samples. Exclude hand calculation for DF with unequal variance case	HLS4:11.1 HT 2 means (σ known) HLS5: 11.2 HT 2 means (σ – unknown) HLS6: 11.3 Compare μ 's (dep. n)
Week 4 (Feb 3-9)	F-test for two variances right tailed tests- concept only One-way analysis of variance. Exclude calculations for test for equality of variance and hand calculation for Tukey test	HLS 7: 12.2-12.4 ANOVA CASE 1: Comparing population Means - Excel Quiz 1 (Multicultural)
Week 5 (Feb 10-16)	C.I. for population proportion: large samples only . Determination of sample size Hypothesis test for population proportion: Large samples	HLS 8: 10.7a HT proportions (Z)
Week 6 (Feb 17-23)	Hypothesis test for population proportion: Large samples (continued)	HLS 9: 10.7b HT prop. (p-value)*
Week 7 (Feb 24-Mar 1)	Comparing two population props. - large independent samples. Catch up and Review.	HLS 10: 11.4 HT 2 proportions*

<u>WEEK</u>	<u>TOPICS</u>	<u>HLS and Excel Assignments</u>
Week 8 (Mar 2-8)		CASE 2: One-way ANOVA Excel Quiz 2 (Marketing / Management)
Mar 5th ***** EXAM 1 ***** In Room Env 130, Starts at 2:00pm. 75 minutes.		
Week 9 (Mar 9-15)	SPRING BREAK - NO CLASSES	
Week 10 (Mar 16-22)	BREAK	
Week 11 (Mar 23-29)	Chi-Square test for independence/homogeneity Exclude pooling of contingencies Chi-Square test: p-values using Chi-square tables	HLS 11: 15.3 Chi-sq. test for association
Week 12 (Mar 30-Apr 5)	Bi-variate data & correlation Covariance & Least Squares Line Simple linear regression, model assumptions, meaning of s^2	HLS12: 4.8 Scatter Plots & Corr HLS13: 13.1-13.5 Fit linear model
Week 13 (Apr 6-12)	Simple linear regression: hypothesis test and C.I. for slope Coefficient of determination, danger of assuming causality. Exclude t-test for rho	HSL 14: 13.8 Regression I CASE 3: Chi-Square test - Excel Quiz 3 (Marketing)
Week 14 (Apr 13-19)	Estimation/Prediction Residual analysis Dummy variables Multiple regression using Excel	HLS 15: 14.5a Multi regression
Week 15 (Apr 20-26)	Global F- test vs individual t-tests	HLS 16: 14.5b ANOVA regression
Week 16 (Apr 27-30)	Catch up and Review	CASE 4: Multiple Regression Excel Quiz 4 (Real Estate)
Finals Week (May 2-8)	** COMPREHENSIVE FINAL EXAM ** Time and place to be announced. 75 minutes	