

## DSCI 2710 - 002: Data Analysis with Spreadsheets – Fall 2019 Syllabus

**CLASS (DAY/TIME):** Thursday 6:30 pm -9:20 pm: BLB 080  
**INSTRUCTOR:** **Dr. Arunachalam Narayanan (Chalam)**  
**OFFICE:** BLB 379J  
**OFFICE HRS:** **T 2:00 – 4:00 pm (Frisco Campus);**  
W 10:00 – 12:00 noon, TH 2:00-4:00 pm, or by appointment  
**E-MAIL (preferred):** [Arunachalam.Narayanan@unt.edu](mailto:Arunachalam.Narayanan@unt.edu)

### **REQUIRED SOFTWARE:**

**Excel & Minitab 17**, installed in the College of Business computer lab. As UNT students enrolled in a COB class, you have access to the physical COB computer lab, as well as the virtual lab via VMWare.

**Hawkes Learning: Discovering Business Statistics** by Nottingham. Note: This software is **required** to complete the assignments (HLS Modules). Your personal access code to the software is required to obtain the lesson certifications, and to take the online WEBTEST quizzes. The software is available online and available to purchase at [www.hawkeslearning.com](http://www.hawkeslearning.com). **Software access includes the eBook. Hardbound book not required unless you want it.**

HLS Main Website: <http://www.hawkeslearning.com/>

HLS Web Access: <https://learn.hawkeslearning.com/Portal/>

HLS training video: <http://tv.hawkeslearning.com/Video.htm?PlayerID=2956123671001>

### **RECOMMENDED BOOK (for further reading/comprehension):**

**Discovering Business Statistics** by Nottingham/Hawkes, Hawkes Learning, ISBN-10: 1-935782-87-8 or ISBN-13: 978-1-935782-87-2.



### **IF YOU ARE LESS FAMILIAR WITH EXCEL:**

Any Excel Primer – Any Excel reference that covers material similar to our BCIS 2610 course.

**GOALS:** At the end of the course, you should:

1. Have an increased appreciation for the use of statistics in business decision making,
2. be better able to select the appropriate statistical tool/methodology to aid in business decision making,
3. be able to use a computer spreadsheet program such as **Excel** to describe and analyze numerical

data,

4. be better able to communicate in the language of applied business statistics,
5. have acquired a more positive attitude towards business statistics,
6. be able to manipulate simple statistical equations to solve non-verbal (numerical) problems,
7. have an enhanced ability to follow directions and instructions,
8. have a much better vision of how analytics are used in analysis and business decisions,
9. understand more about job/career potential of analytics and Decision Sciences.
- 10. Think about becoming a Business Analytics Major!**

### **TEACHING METHOD:**

1. You are encouraged to attend classes regularly. I believe that 80% of studying is done in classrooms, the students who understand the topics while being presented in class – tend to do well in exams and assignments.
2. You are encouraged to pay attention to commercials and news items in printed as well as audio-visual media to become aware of the wide use of statistics in our daily lives. To better assist you in understanding the use of these methodologies in business many of the class problems will be presented as simple business cases.
3. You should **study** the material in the PowerPoint slides. You are strongly encouraged to try to independently solve the problems included in the lecture slides, not simply verify that the provided solutions “make sense”. **Actually work the problem by hand!**
4. You should **work** on the homework assignments (HLS lessons and Excel/Minitab case studies). The case studies and the Hawkes Learning lessons are intended to assist you in better structuring the learning time you spend on mastering the course material. Exam questions will sometimes refer to these assigned exercises.

### **EVALUATION:**

To demonstrate your ability to use quantitative techniques in business, you will answer exam questions based on short cases. Rather than being purely numerical, problems will be presented in word format. Many Hawkes Learning (HLS) lesson assignments will also be presented in word format. In addition, you will work on Excel/Minitab case studies that require you to use an Excel spreadsheet program to analyze and describe real-world business data. By simulating real business problems and requiring you to communicate in writing, using the language of statistics, these evaluation instruments will reinforce the course objectives.

### **GENERAL COMMENTS**

1. Doing the assignments is essential for success in this course. In fact, the assignments constitute a large portion of your grade in this course (30%). You are encouraged to keep up with the homework and meet the submission deadlines. Even if you 100% in all exams and score 0 in the assignments, the best grade possible is “C”. Therefore, doing assignments is crucial. They are simple and help you with the preparation.
2. You should not hesitate to ask questions in class. Usually someone else has the same question, so, when you ask a question in class, others can benefit from the question.
3. Regular and punctual attendance for the **full** period of each class is expected (irrespective of whether roll calls are made, or attendance is otherwise verified). Absences and tardiness are likely to cause you to miss the presentation of significant material and this may result in a

lower grade. There will be no make-up if you miss any of the mid-term exams, unless you have a **University-approved excuse**. Whenever applicable, such an excuse is to be provided to the instructor in writing, as early as possible.

4. You have the final responsibility for seeing that you properly withdraw before the scheduled last drop day, in case you wish to withdraw from/ drop the course. If you stop attending class, you should execute the drop procedure since failure to do so will result in a grade of “F” which cannot be changed.

Note the dates:

Sep 9<sup>th</sup>, 2019 – Last day to drop without penalty of W

Nov 4<sup>th</sup>, 2019 – Last day for a student to drop a course (with W).

(Always check <https://registrar.unt.edu/> for exact dates and procedures)

### **DSCI 2710 COURSE- SPECIFIC POLICIES:**

1. **HLS Lessons:** Homework using the **Hawkes Learning: Discovering Business Statistics** is assigned. The due dates for the **HLS lessons** are listed on this syllabus. These form a significant part of the course grade and **must be registered in the Hawkes courseware (on the Web) by the due date** to receive full credit.

Late submissions will receive 10 points. No submissions are accepted after Saturday December 09, 2019. No credit is awarded for any HLS lesson completed after the above date.

2. **Excel/Minitab Cases:** Projects involving the use of **Excel** to analyze business data are assigned. These are an important part of the course grade. For each case assignment, a data set will be provided. Case assignments will use Excel. Instructions will be provided. For each one of these case assignments your instructor may use an online quiz to verify your Excel case comprehension and apply your score on that quiz as your case score. Case handouts will provide more details on how to submit your case assignments; along with announcements in class.
3. **Exams:** There will be three exams plus a comprehensive final exam. All exams will be closed books. The lowest grade of Exams 1, 2, and 3, will be dropped. For each exam, bring a formula/summary sheet, calculator, any tables that apply, and your Student ID.
4. **Grading:** The 20 HLS lessons are worth a total of 300 points (@ 15 points each); The 4 Excel case assignments are worth a total of 200 points (@50 pts. each); The three in-class mid-term exams are worth a total of 300 points (@150 each, with the lowest grade of the three dropped), and the departmental comprehensive final is worth 200 points.

### **Course Point Allocation:**

Exam #1	150
Exam #2	150
Exam #3	150
(Lowest of exams #1, #2, #3, will be dropped)	-150
Final exam (cumulative)	200
HLS Lessons (Hawkes Learning)	300 (15 points each)
Excel & Minitab case assignments	<u>200</u> (50 points each)
TOTAL	1000

5. **Letter Grades:**
  - ≥ 900 points (or ≥ 90%) → A
  - ≥ 800 points (or ≥ 80%) → B
  - ≥ 700 points (or ≥ 70%) → C
  - ≥ 600 points (or ≥ 60%) → D
  - < 600 points (or below 60%) → F
  
6. **Extra Credit and Kahoots:** Extra credit assignments are announced in class. They are intended to provide a bonus opportunity for the students that attend class. Kahoots are for in class activities. Not all Kahoots are graded, but they are intended to help with the classroom instruction. Email instructions or makeup opportunities for these assignments are not available.
  
7. **Tutoring Lab (BLB 011).** This is available for students seeking additional help. The purpose of the lab is to assist students to overcome difficulties with statistics problems. It is not meant to be an extensive tutoring service. Hours will be announced in class and/or posted on the course website & on CANVAS.

#### **DEPARTMENT, COLLEGE, and OTHER POLICIES**

1. **COMPLAINTS:** If you wish to register a complaint, you should first discuss your complaint with your instructor. If you wish to carry it further, contact Dr. Chalam Narayanan (the course coordinator) and then the ITDS Department Chair Dr. Leon Kappleman, but **only after first discussing it with your instructor.**
2. **EXAMS:** You are required to take all exams, unless a written medical or other UNT-approved excuse is provided. In that case, you should discuss the alternative arrangements with your instructor. Please have a picture ID in your possession when taking all exams. As a general rule, the course format requires **no make-up exam** be given.
3. **ACADEMIC INTEGRITY:** This course adheres to the UNT policy on academic integrity. The policy can be found at [Student Academic Integrity Policy \(06.003\)](#). If you engage in academic dishonesty you will receive a failing grade on the test or assignment, or a failing grade in the course. In addition, the case may be reported to the UNT Dean of Students/Academic Integrity Office, which maintains a database of related violations.
4. **STUDENTS WITH DISABILITIES:** The College of Business complies with the **Americans with Disabilities Act** in making reasonable accommodations for qualified students with disability. If you have an established disability you should register with the Office for Disability Accommodation and receive further instructions. Please see your instructor as soon as possible if you have any questions.
5. **DEADLINES:** Dates of drop deadlines, final exams, etc., are published in the university catalog and the schedule of classes. Please be sure you keep informed about these dates.
6. **SPOT:** The Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT. This short Web-based survey will be made available to you at the end of the semester/session, 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 SPOT to be an important part of your participation in this class.
7. **CELL PHONES:** As a courtesy to your instructor and to your fellow classmates, you are asked to set your cell phone to vibrate, or switch it off. In case of a personal emergency, if you must use your cell phone, you are asked to step out of the classroom.
8. **INCOMPLETE GRADE (I):** 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, please drop the course.
9. **CAMPUS CLOSING:** In the event of an official campus closing, please check your UNT e-mail (EagleConnect) for instructions on how to turn in assignments, how the due dates are modified, etc.
  10. **SEATS MAY BE ASSIGNED FOR EXAMS.**

Emergency Evacuation Procedures for Business Leadership Building:

- **Severe Weather** In the event of severe weather, all building occupants should immediately seek shelter in the designated shelter-in-place area in the building. If unable to move safely to the designated shelter-in-place area, seek shelter in a windowless interior room or hallway on the lowest floor of the building. All building occupants should take shelter in rooms 055, 077, 090, and the restrooms on the basement level. In rooms 170, 155, and the restrooms on the first floor.
- **Bomb Threat/Fire** In the event of a bomb threat or fire in the building, all building occupants should immediately evacuate the building using the nearest exit. Once outside, proceed to the designated assembly area. If unable to safely move to the designated assembly area, contact one or more members of your department or unit to let them know you are safe and inform them of your whereabouts. Persons with mobility impairments who are unable to safely exit the building should move to a designated area of refuge and await assistance from emergency responders. All building occupants should immediately evacuate the building and proceed to the south side of Crumley Hall in the grassy area, west of parking lot 24.

**DSCI 2710 – 002: SYLLABUS: Fall - 2019**

The syllabus below is a tentative outline for the semester. It is meant to be a guide and several items are subject to change. Exams may be moved in time & will be announced in class. Certain topics may be stressed more or less as will be indicated in classroom coverage.

<u>Week</u>	<u>Topics &amp; Section in Text</u>	<u>HLS Lesson</u>
<b><u>Week 1</u></b>		
Aug. 29	Review Course Syllabus Introduction to Statistics: Ch. 1.1 thru 1.4 <b>L0. Hawkes: Obtain access code</b> L1. Levels of measurement: Ch. 2.5 <b>Levels of Measurement</b>	<b>2.5-2.6</b>
<b><u>Week 2</u></b>		
Sept. 05	L2. Organizing, Displaying & Interpreting Data: Ch.3.1 thru 3.7 Frequency Distributions: Ch. 3.1 <b>Graphical displays; pie charts &amp; bar charts</b> <b>Graphical displays; histograms, polygons, Stem &amp; leaf</b> L3. Descriptive Measures: Ch. 4.1 <b>Measures of Location</b>	<b>3.3</b> <b>3.5-3.9</b> <b>4.1</b>

**Week 3**

	L4. Descriptive Measures cont.: Ch.4.2 -4.3, 4.5	
	<b>Measures of Dispersion</b>	<b>4.2a</b>
Sept. 12	L5. <b>Constructing Samples</b>	<b>4.2b</b>
	<b>Overview of Case #1</b>	
	L6. Probability, Randomness & Uncertainty: Ch. 5.1 thru 5.6 (See Summary pp. 275 – 277)	
	<b>Classical Probability</b>	<b>5.1</b>
	<u>Review for Exam #1</u>	

**Week 4**

Sept. 19 **\*\* EXAM #1 \*\***

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**Week 5**

	L7. The Discrete Prob. Distribution: Ch. 6.1 thru 6.3	
	<b>Discrete Random Variables</b>	<b>6.1-6.3</b>
Sept. 26	L8. The Binomial Distribution: Chap. 6.5	
	<b>The Binomial Distribution</b>	<b>6.5</b>

**Week 6**

	L9. The Poisson Distribution: Ch. 6.6	
	<b>The Poisson Distribution</b>	<b>6.6</b>
Oct. 03	L10. Introduction to Time Series	
	<b>Overview of Case #2</b>	

**Week 7**

	L11. Continuous Random Variables: Ch.7.2 – 7.3	
	<b>Reading the Normal Curve</b>	<b>7.3a</b>
Oct. 10	L12. Continuous Random Variables	
	<b>The Normal Distribution</b>	<b>7.3b</b>

**Week 8**

	L13. Continuous Random Variables	
	<b>Finding the value of z</b>	<b>7.3c</b>
Oct. 17	<b>Bonus: HLS/Excel Written Exercise</b>	
	<b>Review for Exam 2</b>	
	L14. Samples & Sampling Distributions: Ch. 8.1 – 8.3	
	<b>The Distribution of the Sample Mean</b>	<b>8.3</b>

**Week 9**

Oct. 24 **\*\* EXAM #2 \*\***

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**Week 10**

Oct. 31 L15. Estimating Means: Single Samples: ( $\sigma$  Known): Ch. 9.1 – 9.3  
**Interval Estimation of Pop. Mean,  $\sigma$  Known** 9.1-9.3

**Week 11**

Nov. 07 L16. Estimating Means: Single Samples ( $\sigma$  Unknown): Ch. 9.4  
**Interval Estimation of Pop. Mean,  $\sigma$  Unknown** 9.4b  
**Overview for Case #3**  
**Review for Exam 3**

**Week 12**

Nov. 14 **\*\* EXAM #3 \*\***

**Week 13**

Statistical Process Control: Ch. 17.1-17.2  
L17&L.18. Monitoring with an x-Bar & R Charts: Ch. 17.3  
Nov. 21 **Monitoring with an R Chart** 17.3b  
**Monitoring with an x-Bar Chart** 17.3a  
L19. Monitoring with a p-Chart: Ch. 17.4  
**Monitoring with a p Chart** 17.4  
**Overview for Case #4**  
L20. Monitoring with a c-Chart (Classroom Demonstration): Ch. A.14  
**C – Charts** A.14

**Week 14**

Nov. 28 \*\*\*\*\*THANKSGIVING\*\*\*\*\*

**Week 15**

Dec. 05 **(Recap of p-charts and c-charts)**  
Review for Final

**Week 16**

Dec. 12 \*\*\*\*\*FINAL\*\*\*\*\*  
**6:30 PM – 8:30 PM: THURSDAY**  
**Note the time**  
**In the same classroom**

**HLS Lesson Due dates:** Module registration due by 11:59pm CT on the WEB registration system. Late submissions will receive 10 points. No submissions are accepted after Saturday December 09, 2019

<u>No.</u>		<u>HLS Lesson</u>	<u>Due Date</u>
1	2.5-2.6	Levels of measurement	09/02
2	3.3	Graphical displays: pie charts, bar graphs	09/08
3	3.5-3.9	Graphical displays: line graphs, histograms, stem-and-leaf	09/08
4	4.1	Measures of location	09/10
5	4.2a	Measures of dispersion	09/15
6	4.2b	Constructing samples	09/17
7	5.1-5.2	Classical probability	09/19
8	6.1-6.3	Discrete random variables	09/29
9	6.5	The Binomial distribution (word problems)	09/29
10	6.6	The Poisson distribution	10/06
11	7.3a	Reading a normal curve (z) table	10/13
12	7.3b	The normal distribution	10/13
13	7.3c	z – Transformations	10/20
14	8.3	The distribution of sample means	10/27
15	9.1-3	Interval Estimation of the Population Mean	10/27
16	9.4b	Interval Est. of the Population mean $\sigma$ unknown	11/11
17	17.3b	Monitoring with an R chart	11/24
18	17.3a	Monitoring with an X-Bar Chart	11/24
19	17.4	p-charts	12/09
20	A.14	c-charts	12/09

**Case Assignments:** For the Case Assignments We will use an online Quiz to account for your scores on these assignments – the Excel Quizzes will be on Canvas.

<u>No</u>	<u>Topic</u>	<u>Due Date</u>
CASE 1 (Excel)	Graphical displays	09/23
CASE 2 (Excel)	Discrete Distributions	10/07
CASE 3 (Excel)	Warranty calculations	11/11
CASE 4 (Excel)	Quality Control	12/5

<b>Exams:</b>		
	Exam 1 (regular classroom)	09/17
	Exam 2 (regular classroom)	10/24
	Exam 3 (regular classroom)	11/14
	Final Exam (regular classroom)-Remember Time Change	12/12



## ETHICAL ACADEMIC BEHAVIOR IN ITDS CLASSES

The UNT College of Business and the ITDS Department expect their students to behave at all times in an ethical manner. There are at least two reasons for this. First, ethical behavior affirms the personal value and worth of the individual. Second, professionals in all fields (but particularly in information systems, accounting, and HR) frequently handle confidential information on behalf of their employers and clients. Thus employers of UNT College of Business graduates expect ethical conduct from their employees because that behavior is crucial to the success of the organization. Academic dishonesty is a major violation of ethical behavior.

Students are expected to read (<https://policy.unt.edu/policy/06-003>) UNT's Student Standards of Academic Integrity which defines academic dishonesty and sets out the consequences for unethical academic behavior. Cheating and plagiarism are the most common types of academic dishonesty.

The UNT's Student Standards of Academic Integrity policy defines cheating as: *The use of unauthorized assistance in an academic exercise, including but not limited to:*

1. *Use of any unauthorized assistance to take exams, tests, quizzes or other assessments;*
2. *Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments;*
3. *Acquisition, without permission, of tests, notes or other academic materials belonging to a faculty or staff member of the University;*
4. *Dual submission of a paper or project, or re-submission of a paper or project to a different class without express permission from the instructor;*
5. *Any other act designed to give a student an unfair advantage on an academic assignment.*

The university's policy defines plagiarism as the *"Use of another's thoughts or words without proper attribution in any academic exercise, regardless of the student's intent, including but not limited to:*

1. *The knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement or citation.*
2. *The knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in selling term papers or other academic materials.*

Examples of academic dishonesty in an ITDS class include: copying answers from another person's paper; using notes during an exam; copying computer code from another person's work; having someone else complete your assignments or take tests on your behalf; stealing code printouts, software, or exams; recycling assignments submitted by others in prior or current semesters as your own; and copying the words or ideas of others from books, articles, reports, presentations, etc. for use as your own thoughts without proper attribution (i.e., plagiarism). It does not matter whether you received permission from the owner of the copied work; claiming the material as your own is still academic dishonesty.

The ITDS Department believes it is very important to protect honest students from unfair competition with anyone trying to gain an advantage through academic dishonesty. Academic dishonesty is not tolerated in ITDS classes, and those who engage in such behavior are subject to sanctions as outlined in the UNT's policy and/or the course syllabus. You are strongly encouraged to read the policy carefully so that you are aware of what constitutes academic dishonesty and the consequences of this unethical behavior. By signing below, I acknowledge my responsibility to read the UNT academic dishonesty policy and the Student Standards of Academic Integrity (<https://policy.unt.edu/policy/06-003>); and attest that I have read and understand the statements in this document and agree to behave ethically in this class.

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Student Name (Print)

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Student ID No.

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Student Signature

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Date