DSCI 2710.001/1616: Data Analysis with Spreadsheets.

Instructor Contact

**Name:** Scott Hamilton, PhD  
**Pronouns:** He/Him  
**Office Location:** BLB 367E  
**Phone Number:**  
**Office Hours:** By appointment or Tuesdays 1pm-3pm & Thursday 11am-1pm on campus and via Zoom  
https://unt.zoom.us/my/scotthamilton  
**Email:** scott.hamilton@unt.edu *(Preferred and please put course name and section numbers in title)*

**REQUIRED SOFTWARE:**

**Canvas:** The lecture notes, Excel case files, Case quizzes, all of the exams and other material will be posted on Canvas so please make sure you keep up and check Canvas often.

**Excel,** installed in the College of Business computer lab.

**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.

**COURSE WEB SITE(S):** You will be using Hawkes Learning materials for this course. To access Hawkes, click the Hawkes Single Sign On link in the Hawkes Learning Module through Canvas.

**REQUIRED COURSEWARE:** *Discovering Business Statistics* by Quinton Nottingham and James Hawkes  
**ISBN:** 978-1-941552-85-8 *(Courseware + eBook)*

Software access includes the eBook. **Hardbound book not required.**

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


The software access code is **required** to complete the assignments (HLS Modules). If you took DSCI 2710 previously and have an access code **for the above product,** then you can **reuse** it.
If you need to purchase access, you may do so either from the UNT bookstore or through your Hawkes account. To purchase through Hawkes, simply click the Hawkes Learning link in Canvas and click the Activate button on your dashboard.


For any questions or technical issues with the Hawkes courseware, please reach out directly to their Tech Support Team via LiveChat ([http://chat.hawkeslearning.com](http://chat.hawkeslearning.com)) or phone (1-800-426-9538) (M-F 7am-9pm CST)

**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 formulae 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 Decision Sciences Major!**

**TEACHING METHOD:**
1. 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.

2. 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”.

3. You should work on the homework assignments (HLS lessons and Excel 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 mostly refer to these assigned exercises. The best way to prepare for exams is to go over the practice exams posted on Canvas.

**EVALUATION:**
To demonstrate your ability to use quantitative techniques in business, you will be evaluated on a number of homework assignments, Excel case studies, and exam questions. Rather than being purely numerical, exam and case problems will be presented in word format. Many Hawkes Learning (HLS) lesson assignments will also be presented in word format. You will work on Excel case studies that require you to use an Excel spreadsheet to analyze and describe real-world business data. By simulating real business problems and 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. You are encouraged to keep up with the homework and meet the submission deadlines.
2. You should not hesitate to ask questions to me, (the professor, Dr. Hamilton) or the teaching assistant. I will try to keep a FAQ section on Canvas for commonly asked questions. Usually someone else has the same question, so, when you ask a question, others can benefit from the question. Since we do not meet in person in class, such questions become even more important for an online class.
3. Regular monitoring of the course material posted on Canvas is expected. 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.

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 completed by the due date to receive full credit as well as bonus points (two extra credit points per module). Late tutorial submissions still receive full credit, provided they are completed by the end of day on Dec 12, 2021; however, no bonus points are earned. No credit is awarded for any tutorial exercise completed after this date.

2. **Excel/Minitab Case Quizzes**: 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. These case assignments will use Excel; however, for some, using Minitab will also be an option. I will post instructions on Canvas on how to use Minitab, if necessary. I will use an online quiz on Canvas for each case to verify your Excel/Minitab case comprehension and apply your score on that quiz as your case score.

3. **Exams**: There will be three exams plus a comprehensive final exam. All exams will be available on Canvas. The lowest grade of Exams 1, 2, and 3, will be dropped. For each exam you will be given a short period of time (typically about 40 hours), in which you will need to be ready to take the timed exam at class time. More details on the online exams will be posted on Canvas.
4. **Grading:** The 20 HLS lessons are worth a total of 400 points (@ 20 points each); The 4 Excel case assignments are worth a total of 100 points (@ 25 pts. each); The three mid-term exams are worth a total of 300 points (@ 150 each, with the lowest grade of the three dropped), and the comprehensive final is worth 200 points.

**Course Point Allocation:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam #1</td>
<td>150</td>
</tr>
<tr>
<td>Exam #2</td>
<td>150</td>
</tr>
<tr>
<td>Exam #3</td>
<td>150</td>
</tr>
<tr>
<td>Total (Lowest of exams #1, #2, #3, will be dropped)</td>
<td>–150</td>
</tr>
<tr>
<td>Final exam (cumulative)</td>
<td>200</td>
</tr>
<tr>
<td>HLS Lessons (Hawkes Learning)</td>
<td>400</td>
</tr>
<tr>
<td>Excel/Minitab case Quizzes</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1,000</td>
</tr>
</tbody>
</table>

5. **Letter Grades:** If you achieve the following thresholds, you are guaranteed to receive the letter grade listed next to them:

- \( \geq 900 \) points (or \( \geq 90\% \)) \( \rightarrow \) A
- \( \geq 800 \) points (or \( \geq 80\% \)) \( \rightarrow \) B
- \( \geq 700 \) points (or \( \geq 70\% \)) \( \rightarrow \) C
- \( \geq 6000 \) points (or \( \geq 60\% \)) \( \rightarrow \) D
- \( < 600 \) points (or below 60%) \( \rightarrow \) F

6. **Extra Credit:** Each HLS Tutorial that you finish on time earns you 1 extra credit point. That means a student who finishes all tutorials on time will receive 20 points in addition to the 400 points for homework. These extra credit points are added to your total but the maximum score is still out of 1,000 points. There will also be opportunities for extra credit during in-class exercises and activities.

**DEPARTMENT, COLLEGE, and OTHER POLICIES**

- **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. Arunchalam Narayanan (the course coordinator) and then the ITDS Department Chair Dr. Leon Kappelman, but only after first discussing it with your instructor.

- **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. As a general rule, the course format does not allow make-up exams.

- **ACADEMIC INTEGRITY:** This course adheres to the UNT policy on academic integrity. The policy can be found at [https://vpaa.unt.edu/fs/resources/academic/integrity](https://vpaa.unt.edu/fs/resources/academic/integrity). 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.

- **STUDENTS WITH DISABILITIES:** The College of Business complies with the [Americans with Disabilities Act](https://www.ada.gov) 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.

- **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.
• 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.

• 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 won’t be able to pass, please drop the course.

• CAMPUS CLOSING: In the event of an official campus closing, please check your UNT e-mail for instructions on how to turn in assignments, how the due dates are modified, etc.

Face Coverings: UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

Attendance: Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with the professor and the instructional team prior to being absent, so you, the professor, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the professor and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community. If you are experiencing any symptoms of COVID-19 (https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

Course Materials for Remote Instruction: Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a [webcam and microphone – faculty member to include what other basic equipment is needed] to participate in fully remote portions of the class. Additional required classroom materials for remote learning include: [list specific software, supplies, equipment or system requirements needed for the course]. Information on how to be successful in a remote learning environment can be found at https://online.unt.edu/learn

DSCI 2710 – 001/1616 Section Schedule: FALL 2021
The schedule 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. You will also be able to keep up with the Homework deadlines and Quiz and Exam dates.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics &amp; Section in Text</th>
<th>HLS Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Course syllabus</td>
<td></td>
</tr>
</tbody>
</table>

5
to Statistics: Ch. 1.1 thru 1.4

Hawkes: Obtain access code

Levels of measurement: Ch. 2.5

Levels of Measurement 2.5-2.6

Week 2
8/30/20

Organizing, Displaying & Interpreting Data: Ch. 3.1 thru 3.7

Frequency Distributions: Ch. 3.1

- Graphical displays; pie charts & bar charts 3.3
- Graphical displays; histograms, polygons, Stem & leaf 3.5-3.9

Week 3
9/6/20

Descriptive Measures: Ch. 4.1

Measures of Location 4.1

Descriptive Measures cont.: Ch. 4.2 - 4.3, 4.5

Measures of Dispersion 4.2a

Week 4
9/13/20

Constructing Samples

Case 1 Quiz is Due 4.2b

Week 5
9/20/20

Exam 1 in class!

Probability, Randomness & Uncertainty: Ch. 5.1 thru 5.6

(See Summary pp. 275 – 277) 5.1-5.2

Classical Probability

Week 6
9/27/20

The Discrete Prob. Distribution: Ch. 6.1 thru 6.3

Discrete Random Variables 6.1-6.3

- The Binomial Distribution: Chap. 6.5 6.5
- The Poisson Distribution 6.6

Continuous Random Variables: Ch. 7.2 – 7.3

Reading the Normal Curve 7.3a

Week 8
10/11/20

Continuous Random Variables

Case 2 Quiz is Due 7.3b

Week 9
10/18/20

Exam 2 in class!

Continuous Random Variables

Finding the value of z 7.3c

Samples & Sampling Distributions: Ch. 8.1 – 8.3

The Distribution of the Sample Mean 8.3

Week 10
10/25/20

Estimating Means: Single Samples: (σ Known): Ch. 9.1 – 9.3

Interval Estimation of Pop. Mean, σ Known 9.1-9.3
Week 11  Estimating Means: Single Samples (σ Unknown): Ch. 9.4  
11/1/20  
**Interval Estimation of Pop. Mean, σ Unknown**  
**Case 3 Quiz is Due**  
9.4b

Week 12  **Exam 3 in class!**  
11/8/20  
Statistical Process Control: Ch. 17.1-17.2  
Monitoring with an x-Bar & R Charts: Ch. 17.3  
**Monitoring with an R Chart**  
**Monitoring with an x-Bar Chart**  

Week 13  Monitoring with a p-Chart: Ch. 17.4  
11/15/20  
**Monitoring with a p Chart**  
17.4

Week 14  Monitoring with a c-Chart: Ch. A.14  
11/22/20  
**C – Charts**  
**Case 4 Quiz is Due**  
A.14

***************THANKSGIVING***************

Week 15  Catch-up and prepare for the finals.  
11/29/20  
Week 16  
12/6/20  
*** FINAL EXAM ***

**HLS Lesson Due dates:** Lesson registration due by 11:59pm CT on the WEB registration system. Late submissions forego the 1 point extra credit. No submissions are accepted after December 9th.

<table>
<thead>
<tr>
<th>No.</th>
<th>HLS Lesson</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.5 Levels of measurement</td>
<td>19-Sep</td>
</tr>
<tr>
<td>2</td>
<td>3.3 Graphical displays: pie charts, bar graphs</td>
<td>19-Sep</td>
</tr>
<tr>
<td>3</td>
<td>3.5 Graphical displays: line graphs, histograms, stem-and-leaf</td>
<td>19-Sep</td>
</tr>
<tr>
<td>4</td>
<td>4.1 Measures of location</td>
<td>19-Sep</td>
</tr>
<tr>
<td>5</td>
<td>4.2a Measures of dispersion</td>
<td>19-Sep</td>
</tr>
<tr>
<td>6</td>
<td>4.2b Constructing samples</td>
<td>19-Sep</td>
</tr>
<tr>
<td>7</td>
<td>5.1 Classical probability</td>
<td>17-Oct</td>
</tr>
<tr>
<td>8</td>
<td>6.1 Discrete random variables</td>
<td>17-Oct</td>
</tr>
<tr>
<td>9</td>
<td>6.5 The Binomial distribution (word problems)</td>
<td>17-Oct</td>
</tr>
<tr>
<td>10</td>
<td>6.6 The Poisson distribution</td>
<td>17-Oct</td>
</tr>
<tr>
<td>11</td>
<td>7.3a Reading a normal curve (z) table</td>
<td>17-Oct</td>
</tr>
<tr>
<td>12</td>
<td>7.3b The Normal Distribution</td>
<td>17-Oct</td>
</tr>
</tbody>
</table>
13  7.3c  Finding the value of z  7-Nov
14  8.3  Sampling distributions: means  7-Nov
15  9.1  Estimating means: sigma known  7-Nov
16  9.4b  Estimating means: sigma unknown  7-Nov
17  17.3b  Statistical quality control: R charts  28-Nov
18  17.3a  Mean charts using range  28-Nov
19  17.4  p-charts  28-Nov
20  A.14  c-charts  28-Nov

Case Assignments:

<table>
<thead>
<tr>
<th>No</th>
<th>Topic</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE 1</td>
<td>Simple Data Analysis</td>
<td>9/19</td>
</tr>
<tr>
<td>CASE 2</td>
<td>Discrete Distribution Probabilities</td>
<td>10/17</td>
</tr>
<tr>
<td>CASE 3</td>
<td>Estimating Means</td>
<td>11/7</td>
</tr>
<tr>
<td>CASE 4</td>
<td>Quality Control</td>
<td>11/28</td>
</tr>
</tbody>
</table>

Exams: All exams will be applied during the prescribed time of class

Exam 1  9/23
Exam 2  10/21
Exam 3  11/4
Final Exam  12/9