DSCI 3710.002 – summer 1- 2020 – Syllabus

CLASS (DAY/TIME/LOCATION): Monday - Thursday 12:00-1:50pm
INSTRUCTOR: Dr. Mahdi Fathi
OFFICE: BLB 005
E-MAIL: mahdi.fathi@unt.edu
OFFICE HRS: Wed 3– 5 PM (BLB 325-E), Fri. 8–10 PM (online) and by appointment

Tutor hours: Posted shortly

COURSE WEB SITE(S): You will be using Hawkes Learning materials for this course. To access Hawkes, click the icon through Canvas.


The software access code is required to complete the assignments. If you took DSCI 2710/3710 previously and have an access code for the above product, then you can reuse it. If you have an access code for a different product, then you will have to buy a new code.

If you need to purchase access, you may do so either from the UNT bookstore or through your Hawkes account. It may be cheaper to purchase directly online through Hawkes for $85. To purchase through Hawkes, simply click the Hawkes Learning link in Canvas and click the Activate button on your dashboard.

For a full tutorial of the Hawkes website, please watch the following video: http://tv.hawkeslearning.com/VideoPlayerSingle.htm?PlayerID=5062857235001

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) or phone (1-800-426-9538) (M-F 7am-9pm CST).
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 better able to read, understand and communicate in the language of applied business statistics,
4. be better able to select the appropriate statistical tool/methodology to aid in business decision making for your future coursework 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. have an enhanced ability to use quantitative methods for business decision making.

TEACHING METHOD:
1. You are encouraged to visit canvas page regularly and watch all video lectures posted. I believe that 80% of studying is done by listening, the students who understand the topics while being presented—tend to do well in exams and assignments.
2. 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.
3. Students will observe and actively participate in the working of problems found in the textbook. In addition, students will be required to complete modules in Hawkes Learning. This process is intended to help students make more efficient use of their time in learning how to solve problems.
4. The use of spreadsheets in analyzing business data will be stressed.
5. 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!**
6. Students are required to complete Hawkes lessons and computer projects.

EVALUATION:
To demonstrate their ability to use quantitative techniques in business, students will complete the Hawkes Learning lessons, analyze real business data for class cases using Excel and answer exam questions based on short data analysis situations. Wherever possible, rather than being purely numerical, problems will be presented in word format. The exams and assigned work reinforce the course objectives by simulating real business problems that require students to communicate.

CAMPUS CLOSING POLICY: In the event of an official campus closing, please check your UNT e-mail account (EagleConnect) or the Hawkes notice system for instructions about how to turn in various assignments, how the due dates are modified, etc.

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. In fact, the assignments constitute a large portion of your grade in this course (50%). 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 “F”. Therefore, doing assignments is crucial. They are simple and help you with the preparation. Students are encouraged to keep up with
the homework and meet the submission deadlines.

2. Students should not hesitate to ask questions.

3. The mid-term exam or the quizzes may be missed only if 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. Students have the final responsibility for seeing that they properly withdraw before the scheduled last drop day, in case they wish to withdraw from/drop the course. A student who stops participating class should execute the drop procedure since failure to do so will result in a grade of “F” which cannot be changed. Note the dates:
   
   June 5th, 2020 – Last day to drop without penalty of W
   June 24th, 2020 – Last day for a student to drop a course (with W).
   
   (Always check http://registrar.unt.edu/registration/spring-registration-guide for exact dates and procedures)

5. Students are requested not to phone the ITDS department for their final grade in the course. Final grades are only available electronically.

DSCI 3710 COURSE- SPECIFIC POLICIES:

1. **Homework:** Homework is assigned and should be completed when due. While only the Hawkes modules (lessons), WEBTESTS and Quizzes on Excel cases are graded, all reading material is testable, even if it is not emphasized in the lecture.

2. **Excel Cases:** 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 Hawkes software using WEBTEST on the dates they are due. For each Excel Quiz, you will get two attempts and the highest one will count. Note: If you miss any Excel Quizzes or get a low score in one, I may replace that low or zero score with 50% of the maximum quiz score.

3. **Lessons:** Lessons, also referred to as modules and homeworks, using the Hawkes Learning courseware are assigned. The due dates for the lessons using Hawkes are assigned in 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 lesson submissions still receive full credit, provided they are registered by the end of day on July 3, 2020; however, no bonus points are earned. No credit is awarded for any lessons completed after this date.

   For a full tutorial of the Hawkes website, please watch the following video:
   

4. **Exams:** There is one mid-term exam and a comprehensive final exam. Each one is worth 250 points. Both of these exams will be in class. No make-up exams are given without an appropriate University approved excuse. 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/exams 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.

**Taking Online Excel Quizzes:** To take a quiz in Hawkes, access your account through Canvas as normal and select the quiz from your Dashboard. These Quizzes will not open until the dates as posted in Hawkes or as announced in class. Once you select the Start 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.

5. **Grading:** The 16 Hawkes modules are worth a total of 400 points (@ 25 points each); The 4 online Excel case quizzes are worth a total of 100 points (@25 pts. each); The mid-term exam and the final exam are worth 250 points each.

<table>
<thead>
<tr>
<th>Point Allocation:</th>
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<tbody>
<tr>
<td>Mid-term Exam</td>
<td>250</td>
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<tr>
<td>Hawkes Lessons (16*25 pts)</td>
<td>400</td>
</tr>
<tr>
<td>Online Excel quizzes (4 * 25 pts)</td>
<td>100</td>
</tr>
<tr>
<td>Final Exam</td>
<td>250</td>
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<tr>
<td><strong>TOTAL:</strong></td>
<td>1,000</td>
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</table>

**Extra Credit:** Each Hawkes Lesson that you finish on time earns you 2 extra credit points. That means a student who finishes all lessons on time will receive 32 points in addition to the 400 points for homework. These extra credit points are added to your total (so these are true extra points!)

**Video lecture quizzes:** They are intended to provide a bonus opportunity for the students who watch video lectures. Each video quiz is worth about 2 points and will be posted in canvas. There will be opportunity to earn up to 40 bonus points by answering those questions.

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

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

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 posted on Canvas. In addition, since this is an online class, we have a dedicated teaching assistant whom you will be able to
reach through online chat and who will hold office hours online.

DEPARTMENT, COLLEGE, and OTHER POLICIES

1. To be eligible for enrollment in upper level business courses, students must have satisfied all of the following requirements:
   a) A 2.70 grade point average
   b) Completion of 45 hours of the pre-business course work,
   c) Completion of DSCI 2710 or equivalent a grade of C or better. DSCI 2710 requires MATH 1100 and 1190 as well BCIS 2610. In addition, students are required to have completed: Accounting 2020 with grade “C” or better and Economics1100.

   If you are a business major (including business undecided or pre-accounting majors) enrolled in upper level business courses and do not meet these requirements, please drop the upper level courses immediately in order to receive a refund of your tuition. If you choose not to drop, the Dean's office will administratively cancel your enrollment in those courses. In that event, you will not receive a tuition refund.

2. 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. Hakan Tarakci hakan.tarakci@unt.edu (the course coordinator) and then the ITDS Department Chair (Dr. Leon Kappelman, leon.kappelman@unt.edu), but only after discussing it with your instructor.

3. As a general rule, the course format requires no make up exam be given. The grade of "I" is not given except for rare and very unusual emergencies, as per University guidelines.

4. You are required to take all exams, unless a written medical 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.

5. Academic integrity: This course adheres to the UNT policy on academic integrity. The policy can be found at http://vpaa.unt.edu/academic-integrity.htm. 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 referred to the Dean of Students for appropriate disciplinary action.

6. Students with Disabilities: The College of Business Administration complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disability. If you have an established disability as defined in the "Act" and would like to request accommodation, please see your instructor as soon as possible. Office hours and the email are shown at the top of this syllabus.

7. 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 (and any change thereof).

8. **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 Hawkes, on their final due dates) / absences.
   ii. The student misses (providing no reason) / or is caught cheating on an examination.

   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) actual days to provide evidence supportive of the student’s position. 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 the student provides satisfactory evidence, the instructor will reinstate him or her into the class.

If a student misses the final exam, he or she must provide the information stipulated above. If the excuse is acceptable, the instructor will submit an "I" for the final grade. **This is the only circumstance in which an "I" grade will be awarded. If you think you will not be able to complete the class satisfactorily, please drop the course. An “I” grade cannot be used to substitute your poor performance in class.**

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.

The next page is a tentative outline for the semester. It is meant to be a guide and several items are subject to change. Exams and quizzes may be moved to better accommodate any changes in class pace. Certain topics may be stressed more or less than indicated.

**Emergency Evacuation Procedures for Business Leadership Building:** (Generic instructions, if you happen to be in BLB 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 safely move 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 on 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, wests of parking lot 24.
**DSCI 3710 – Topics**

**NOTE:** THE DATES BELOW ARE TENTATIVE. FOR THE MOST UP-TO-DATE INFORMATION, REFER TO HAWKES AND CANVAS.

(Hawkes# means Hawkes Learning Lesson, HT means Hypothesis Testing.)

For important add/drop etc. dates see [http://registrar.unt.edu/registration/spring-registration-guide](http://registrar.unt.edu/registration/spring-registration-guide)

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPICS</th>
<th>Hawkes and Excel Assignments</th>
</tr>
</thead>
</table>
| Week 1 (June 1-6) | Course policies  
Hypothesis testing for  
Population mean - large samples. **Exclude**  
Calculations of power and beta; concepts only | Dates assignments are covered in class – due dates are listed in Hawkes  
Hawkes: Purchase access (if needed) |

|            | One-tailed test for μ with large n  
Use of p-values  
Hypothesis tests for population mean - small n, introduction to t-tables  
C.I. & hypothesis test for two populations means - large independent samples. | | Hawkes 1: 10.4a HT means (Z-value)  
Hawkes 2: 10.4b HT mean (t-value)  
Hawkes 3: 10.4c HT means (p-value)  
Hawkes 4:11.1 HT 2 means (σ known) |

| Week 2 (June 7-12) | C.I. & hypothesis test for two populations means - small independent samples. **Exclude**  
hand calculation for DF with unequal variance case  
Paired (dependent) small samples from two populations.  
F-test for two variances  
right tailed tests- concept only | | Hawkes 5: 11.2 HT 2 means (σ – unknown)  
Hawkes 6: 11.3 Compare µ’s (dep. n)  
Hawkes 7: 12.2-12.4 ANOVA  
CASE 1: Comparing population Means - Excel Quiz 1 (Multicultural)  
FIRST SET OF Hawkes Lessons due |

| Week 3 (June 13-19) | C.I. for population proportion: **large samples only**. Determination of sample size  
Hypothesis test for population proportion: Large samples  
Hypothesis test for population proportion: Large samples (continued)  
Comparing two population props. - large | | Hawkes 8: 10.7a HT proportions (Z)  
Hawkes 9: 10.7b HT prop. (p-value)*  
Hawkes 10: 11.4 HT 2 proportions* |
independent samples.

Catch up and Review (A zoom session – will be on **Wednesday between 5-7pm**)

<table>
<thead>
<tr>
<th>CASE 2: One-way ANOVA</th>
<th>Excel Quiz 2</th>
<th>(Marketing / Management)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECOND SET OF Hawkes Lessons due</td>
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</tbody>
</table>

**June 19th, 2020**

******* EXAM 1 *******

(75 minutes, Exam will be open for 5 hour time window between 4-9pm. If you want to take the exam at a different time, contact instructor directly)

During the exam time, access to Hawkes website and Canvas site will be restricted with only materials required for the exam

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**Week 4 (June 20-26)**

<table>
<thead>
<tr>
<th>Chi-Square test for independence/homogeneity</th>
<th>Exclude pooling of contingencies</th>
<th>Hawkes 11: 15.3 Chi-sq. test for association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square test: p-values using</td>
<td>Chi-square tables</td>
<td></td>
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<tr>
<td>Bi-variate data &amp; correlation</td>
<td></td>
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<tr>
<td>Covariance &amp; Least Squares Line</td>
<td>Hawkes 12: 4.8 Scatter Plots &amp; Corr</td>
<td></td>
</tr>
<tr>
<td>Simple linear regression, model assumptions, meaning of $s^2$</td>
<td>Hawkes 13: 13.1-13.5 Fit linear model</td>
<td></td>
</tr>
<tr>
<td>CASE 3: Chi-Square test - Excel Quiz 3 (Marketing)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Week 5 (June 27-July 3rd)**

<table>
<thead>
<tr>
<th>Simple linear regression: hypothesis test and C.I. for slope</th>
<th>Coefficient of determination, danger of assuming causality. <strong>Exclude t-test for rho</strong></th>
<th>Hawkes 14: 13.8 Regression I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient of determination, danger of assuming causality.</td>
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<tr>
<td>Estimation/Prediction</td>
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<td>Residual analysis</td>
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<tr>
<td>Dummy variables</td>
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<tr>
<td>Multiple regression <strong>using Excel</strong></td>
<td>Hawkes 15: 14.5a Multi regression</td>
<td></td>
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<tr>
<td>Global F- test vs individual t-tests</td>
<td>Hawkes 16: 14.5b ANOVA regression</td>
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<tr>
<td><strong>Catch up and Review</strong></td>
<td><strong>Wednesday between 5-7pm</strong></td>
<td></td>
</tr>
<tr>
<td>(A zoom session – will be on Wednesday between 5-7pm)</td>
<td><strong>FORTH FOURTH SET OF Hawkes Lessons due</strong></td>
<td></td>
</tr>
</tbody>
</table>

**July 3rd, 2020**

******* FINAL EXAM *******

(75 minutes, Exam will be open for 5 hour time window between 4-9pm. If you want to take the exam at a different time, contact instructor directly)

During the exam time, access to Hawkes website and Canvas site will be restricted with only materials required for the exam
Assignment Due dates: Due dates for Hawkes lessons are shown in your Hawkes To Do List. All modules are due by 11:59 pm of the slated due date.

(16 x 25 pts. = 400 pts)

<table>
<thead>
<tr>
<th>No.</th>
<th>Module #</th>
<th>Module Name</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.4a</td>
<td>Hyp. test for μ (Z-value)</td>
<td>June 11th</td>
</tr>
<tr>
<td>2</td>
<td>10.4b</td>
<td>Hyp. test for μ (t-value)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10.4c</td>
<td>Hyp. test for μ (p-value)</td>
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</tr>
<tr>
<td>4</td>
<td>11.1</td>
<td>Comparing two means (sigma known)</td>
<td></td>
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<tr>
<td>5</td>
<td>11.2</td>
<td>Comparing two means (sigma unknown)</td>
<td></td>
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<tr>
<td>6</td>
<td>11.3</td>
<td>Comparing means (depend n)</td>
<td></td>
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<tr>
<td>7</td>
<td>12.2-12.4</td>
<td>ANOVA</td>
<td>June 18th</td>
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<tr>
<td>8</td>
<td>10.7a</td>
<td>Hyp. test for proportions (Z-value)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10.7b</td>
<td>Hypothesis test for proportions (p-value)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>11.4</td>
<td>Comparing 2 proportions (large independent samples)</td>
<td></td>
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<tr>
<td>11</td>
<td>15.3</td>
<td>Chi-sq. test for association</td>
<td>June 25th</td>
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<tr>
<td>12</td>
<td>4.8</td>
<td>Scatter plots and Correlation</td>
<td>July 1st</td>
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<tr>
<td>13</td>
<td>13.1-13.5</td>
<td>Fit linear model</td>
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<tr>
<td>14</td>
<td>13.8</td>
<td>Regression analysis I</td>
<td></td>
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<tr>
<td>15</td>
<td>14.5a</td>
<td>Multiple Regression</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>14.5b</td>
<td>ANOVA regression</td>
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</table>

Late certifications are accepted for full credit but no bonus points. If you certify but have any technical issues, send an email describing the problem to your instructor within 24 hours of the system error. Any issue related to tardy/late submission of modules are to be taken care of within one week of their respective due dates. No late modules are taken after July 3, 2020.

Quizzes: Your grade on the case is based on the quiz: 4 x 25 pts. = 100 pts.

<table>
<thead>
<tr>
<th>No</th>
<th>Topic</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excel CASE 1</td>
<td>Comparing population Means (Multicultural)</td>
<td>June 11th</td>
</tr>
<tr>
<td>Excel CASE 2</td>
<td>1 way ANOVA (Marketing/ Management)</td>
<td>June 18th</td>
</tr>
<tr>
<td>Excel CASE 3</td>
<td>Chi-Square test (Marketing)</td>
<td>June 25th</td>
</tr>
<tr>
<td>Excel CASE 4</td>
<td>Multiple Regression (Real-Estate)</td>
<td>July 1st</td>
</tr>
</tbody>
</table>

Excel case details are available through the Materials tab of your Hawkes account. (View Course → Materials)

Each excel case is evaluated using a short quiz based on it, given using WEBTEST on the due date. The quiz contains 5 questions (25 points) and students need to use their own analysis printout to answer the questions. You get two attempts and the higher grade counts.