U296-241 Business Statistics

Course Format: Online

Course Author/s: Nancy J. Burnett, PhD

Course credits: 3

Course Level: Intermediate

Prerequisites: Completion of a college-level mathematics course (including Algebra) with a C or better, or the equivalent.

Course Description: This course is designed to give you the ability to analyze data in a useful way. It should also provide you with the capacity to understand how you and others use (and abuse!) data and the information available from it. Topics include the description of both nominal and quantity data, probability distributions, statistical inference (estimation and hypothesis testing), and regression analysis. This course will provide you with the practical skills needed in business, science, the public sector, and other areas of society, where analysts and decision-makers need to draw conclusions from data, which will in turn better inform the decisions they must make. In essence, we will learn to analyze, collect, and organize data and how to use it for practical decision making.

Required Course Materials
- Access to Excel

Hardware Requirements
You will need a webcam, speakers, and a microphone. You will complete your exams through an online proctor, requiring all three components.

Course Learning Objectives
- Summarize data with traditional summary statistics and visual techniques such as pie charts, line and scatter plots and frequency distributions to understand the variable(s).
- Use and understand the concepts of probability, including both the classical approach (counting) and the subjective approach (probability distributions such as Normal, Binomial, and Hypergeometric).
- Make a statement about the population from a data sample, using sampling distributions, hypothesis testing, and regression analysis.

Course Overview

<table>
<thead>
<tr>
<th>Unit #</th>
<th>TOPIC</th>
<th>EVALUATED ACTIVITIES</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>Connect (Chapter Review): Ch. 1 and Ch. 2</td>
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<td>Connect Quizzes: Ch. 1 and Ch. 2</td>
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<tr>
<td>2</td>
<td>Describing Data</td>
<td>Connect (Chapter Review): Ch. 3 and Ch. 4</td>
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<tr>
<td></td>
<td></td>
<td>Connect Quizzes: Ch. 3 and Ch. 4</td>
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</tbody>
</table>
| 3 | Probability | Connect (Chapter Review): Ch. 5, Ch. 6, and Ch. 7  
Connect Quizzes: Ch. 5, Ch. 6, and Ch. 7  
Homework: Ch. 5, Ch. 6, and Ch. 7  
Test 2 (Chapters 5–7) |
| 4 | Sampling and Confidence Intervals | Connect (Chapter Review): Ch. 8  
Connect Quizzes: Ch. 8  
Homework: Ch. 8 |
| 5 | Hypothesis Testing | Connect (Chapter Review): Ch. 9 and Ch. 10  
Connect Quizzes: Ch. 9 and Ch. 10  
Homework: Ch. 9 and Ch. 10  
Test 3 (Chapters 8–10) |
| 6 | Regression | Connect (Chapter Review): Ch. 12 and Ch. 13  
Connect Quizzes: Ch. 12 and Ch. 13  
Homework: Ch. 12 and Ch. 13  
Test 4 (Chapters 12–13)  
Unit 6 Project |

**Evaluation Methods**

Your final grade will be based on your performance on the following:

1. Connect (Online Chapter Reviews) Ch. 1–10 and Ch. 12–13 (30 points each)  
2. Connect Quizzes (Online Chapter Quizzes) Ch. 1–10 and Ch. 12–13 (50 points each)  
3. Homework Ch. 3–10 and Ch. 12–13 (60 points each)  
4. Tests (Tests #1 and #2, 200 points each; Test #3, 300 points; Test #4, 125 points)  
5. Project Unit 6 (55 points)

**Connect Chapter Review (360 points in total)**

These assignments are chapter review questions, through the CONNECT software designed as reading and topic comprehension.

**Quizzes (600 points in total)**

These quizzes are designed to demonstrate student mastery of important chapter material, through the CONNECT software.

**Homework (300 points in total)**

These assignments, submitted through Canvas “Assignments”, are graded by your instructor and concentrate on applications of the course material.
Project (55 points in total)

This assignment, submitted through Canvas “Assignments” is graded by your instructor and is a regression project where you (the student) choose, run, and analyze a regression using data provided through Canvas.

Tests (825 points in total)

The periodic examinations are designed to demonstrate student mastery of important material and are graded by your instructor.

Exam Method: Online with Proctoring

This course requires all students to complete 4 exams online with a proctoring service. Students receive one attempt on each exam.

Grading Scale

The following grading scale is used to evaluate all course requirements and determine your final grade:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93–100</td>
</tr>
<tr>
<td>AB</td>
<td>88–92.9</td>
</tr>
<tr>
<td>B</td>
<td>83–87.9</td>
</tr>
<tr>
<td>BC</td>
<td>78–82.9</td>
</tr>
<tr>
<td>C</td>
<td>70–77.9</td>
</tr>
<tr>
<td>D</td>
<td>60–69.9</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
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</tbody>
</table>

Pass/Fail Option

Students who enroll in an Independent Learning (IL) course under the pass/fail option will receive a final grade of S in place of a final grade equivalent to an A, AB, B, BC, or C and a final grade of U in place of a final grade equivalent to a D or F.