



**Kuwait University**  
**College of Business Administration**  
**Information Systems & Operations Management**  
**Department**



## Course Syllabus

ISOM 220 – Principles of Business Statistics II – Spring 2025

Dr. Abdullah Alhauli

### *Lecture Time and Location:*

<b>Section (07A)</b>	Sunday-Tuesday-Thursday	3:00 PM – 3:50 PM	Room D2-1007
<b>Section (08A)</b>	Sunday-Tuesday-Thursday	4:00 PM – 4:50 PM	Room D2-1007

### *Contact Information:*

<b>Location:</b>	ISOM Department
<b>Email</b>	<a href="mailto:Abdullah.Alhauli@ku.edu.kw">Abdullah.Alhauli@ku.edu.kw</a>
<b>Office</b>	2nd Floor, Office: B2 – 1023
<b>Office Hours</b>	Sunday and Thursday: 2:00 PM – 2:45 PM, (or by appointment)

<b>Teaching Assistant</b>	TBA
<b>Email</b>	TBA

**Textbook** Bowerman, B., O'Connell, R., Murphree, E., & Orris, B. (2015). **Essentials of Business Statistics**. McGraw Hill.

**Course Website** [Moodle](#) + Microsoft Teams

**Course Description:**

Building on the foundational skills acquired in Business Statistics I (ISOM120), this course delves deeper into the realm of statistical analysis and its applications in business decision-making. Designed for students who seek a more advanced understanding of statistical techniques, Business Statistics II explores a range of topics essential for interpreting data and making informed business choices. The course covers advanced concepts such as hypothesis testing, confidence intervals, chi-square tests, and regression analysis, providing students with a robust set of statistical tools for complex data analysis in a business context.

**COURSE LEARNING OBJECTIVES (CLOS):**

This advanced course aims to deepen students' understanding of statistical methods and their application in business analytics and decision-making. The course continues to emphasize the use of computer-based tools for statistical analysis. By the end of the course, students should be able to:

- CLO1. Understand and apply the concept of continuous random variables in statistical modeling and business applications.
- CLO2. Develop and interpret confidence intervals for estimates and understand their utility in business decision-making.
- CLO3. Conduct hypothesis testing to evaluate business scenarios and compare statistical claims.
- CLO4. Perform statistical inferences based on two or more samples to make data-driven decisions in multi-variable contexts.
- CLO5. Utilize experimental design and Analysis of Variance (ANOVA) to understand the influence of different factors on business outcomes.
- CLO6. Execute chi-square tests to analyze categorical data and assess statistical significance.
- CLO7. Apply simple and multiple regression analysis techniques to build predictive models for business applications.
- CLO8. Continue to use statistical software for advanced data analysis, including regression, ANOVA, and chi-square tests.
- CLO9. Understand the ethical implications of advanced data analysis techniques and their potential impact on business decisions.

**COURSE OUTLINE**

<b>Topic</b>	<b>Key Topics</b>	<b>Readings</b>	<b>Midterms</b>	<b>Final Exam</b>
Continuous Random Variables	General Review	CH 6		
Sampling and Sampling Distributions	7.1 Random Sampling 7.2 The Sampling Distribution of the Sample Mean 7.3 The sampling Distribution of the Sample Proportion	CH 7	Midterm 1	
Confidence Intervals	8.1 Confidence Intervals for a Population Mean: $\sigma$ Known 8.2 Confidence Intervals for a Population Mean: $\sigma$ Unknown 8.3 Sample Size Determination 8.4 Confidence Intervals for a Population Proportion	CH 8		
Hypothesis Testing	9.1 The Null and Alternative Hypotheses Testing 9.2 z-Tests about a Population Mean: $\sigma$ Known 9.3 t-Tests about a Population Mean: $\sigma$ Unknown 9.4 z-Tests about a Population Proportion 9.6 The Chi-Square Distribution 9.7 Statistical Inference for a Population Variance	CH 9		
Statistical Inferences Based on Two Samples	10.1 Comparing Two Population Means (Independent Samples) 10.2 Paired Difference Experiments 10.3 Comparing Two Population Proportions 10.4 The $F$ Distribution 10.5 Comparing Two Population Variances	CH 10	Midterm 2	Final Exam
Experimental Design and Analysis of Variance	11.1 Basic Concepts of Experimental Design 11.2 One-Way Analysis of Variance	CH 11		
Chi-Square Tests	12.2 A Chi-Square Test for Independence	CH 12		
Simple Linear Regression Analysis	13.1 The Simple Linear Regression Model 13.2 Model Assumptions and the Standard Error 13.3 Testing the Significance of the Slope and y-Intercept 13.5 Simple Coefficients of Determination and Correlation 13.7 An $F$ -Test for the Model	CH 13		

Topic	Key Topics	Readings	Midterms	Final Exam
Multiple Regression and Model Building	14.1 The Multiple Regression Model 14.2 Model Assumptions and Standard Error 14.3 $R^2$ and Adjusted $R^2$ 14.4 The Overall $F$ -Test 14.5 Testing the Significance of an Independent Variable	CH 14		

## GRADING AND COURSE REQUIREMENTS

Weight	Category	Description
10%	Tutorials	You must register in the tutorial of this course on KU Portal and attend the tutorial sessions.
5%	Participation	Be prepared and active in class.
15%	Quizzes	We will have a total of six quizzes.
15%	Midterm 1	Date/Time: Wed. 19/3/2025 from 12:30 to 1:45 PM
15%	Midterm 2	Date/Time: Wed. 23/4/2025 from 12:30 to 1:45 PM
40%	Final Exam	Date/Time: Tue. 25/5/2025 from 11 AM to 1 PM
100%		

**Grade Distribution**

Grade	Range
A	$\geq 95$
A-	$\geq 90$ and $< 95$
B+	$\geq 87$ and $< 90$
B	$\geq 83$ and $< 87$
B-	$\geq 80$ and $< 83$
C+	$\geq 77$ and $< 80$
C	$\geq 73$ and $< 77$
C-	$\geq 70$ and $< 73$
D+	$\geq 65$ and $< 70$
D	$\geq 60$ and $< 65$
F	$< 60$

**Important Dates**

Date	Event
Wed. 19/3/2025	Midterm 1
Wed. 23/4/2025	Midterm 2
Mon. 15/5/2025	Last Day of Classes
Tue. 25/5/2025	Final Exam

*All dates (EXCEPT for the final) may change due to class circumstances and holidays. Always check online for the latest version of the syllabus and course calendar.*

**CLASS PARTICIPATION**

The quality of our classroom discussions in large part depends on you and your preparation for class. Successful preparation for the class includes, but is not limited to, (1) reading relevant book sections or other assigned readings prior to class, (2) thinking about how the discussed topic relates to other business functions, and (3) thinking about ethical issues that are relevant to the discussed topic (if any). Keep in mind that quality of your questions and comments is more important than quantity.

**TUTORIALS**

You must register in the tutorial of this course on KU Portal. Tutorial attendance is required, and your TA will assign you exercises and/or exams that are worth 5% of the total grade of this course.

**QUIZZES**

We will have a total of six quizzes in this course, given after finishing every chapter in the course. Quiz questions will include both conceptual and analytical questions, which will be a good reflection of what the analytical exam questions may look like. The conceptual questions will test your understanding of various topics covered in each of the chapters and may include a combination of multiple choice and/or essay type questions. The quizzes are worth a total of 10% of your final grade. I will drop the lowest quiz score you get from your total quizzes grade. The quizzes dates will be announced later.

## MIDTERMS

We will have a total of two unified midterms in this course. Each midterm is worth 15% (total of 30% of your final grade) and will have an examination time of 1.25 hour. Midterm 1 covers the contents of chapters 7, 8, and 9 from the book, while midterm 2 covers the contents of chapters 10, 11, and 12 from the book. The exams will consist of problems that require you to show the steps taken to arrive at the solution. Thus, **you will receive no points if you don't present your work, even if the final answer is correct.**

## FINAL EXAM

There is a unified final exam (worth 40% of final grade) in this course. The final exam will cover the contents of chapters 10, 11, 12, 13 and 14 from the book. The exam rules are as follows:

**Identification:** You must bring and display a valid Kuwait University student ID to the examination.

**Late Arrival:** If you arrive late for an examination, you will be given the remaining amount of time to complete your examination. However, after the first student hands in her/his examination, late students cannot start the examination. These late students will receive a FA grade in the course.

**Questions during the examination:** You are not allowed to ask questions about the exam content during the examination, unless you feel that there is a typographical error. Reading and understanding what the question is asking is part of the exam. If you need to make any assumptions, then make sure to clearly write those assumptions in your response.

**Other:** Working on your examination after time has expired is not allowed – this includes filling in answers on the answer sheet.

**Note for the final exam:** The exam will consist of problems that require you to show the steps taken to arrive at the solution. Thus, **you will receive no points if you don't present your work, even if the final answer is correct.**

**After a grade is posted (quizzes, midterm or final exam), you will have one week to discuss it with your instructor or teaching assistant (TA). After that, the grade is final and released.**

## ATTENDANCE

**Attendance in this class is required.** Absences and late attendance will negatively affect your in-class experience. At the beginning of each lecture, I will take attendance. It is your responsibility to seek out help from classmates to fill you in on missed materials. For online sessions, you are expected to attend the live meetings that we will have on MS Teams. Failing to do so will lead to counting you as absent for a given class session.

University regulations governing absenteeism are applied to all students. This involves a first warning after 3 hours, a second warning after additional 3 hours absence and a failure notice for any absence beyond the 6 hours.

Every student in this course must abide by the Kuwait University Policy on Attendance (published in the student bylaws). A copy of the student bylaws can be accessed online on:

[http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum\\_Regulations.pdf](http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum_Regulations.pdf)

## ACADEMIC INTEGRITY

The University's code of academic integrity is designed to ensure that the principles of academic honesty and integrity are upheld. All students are expected to adhere to this Code. All acts of academic dishonesty will be dealt with in accordance with the provisions of this code. Every student in this course must abide by the Kuwait University Policy on Cheating and Plagiarism (published in the student bylaws). A copy of the student bylaws can be accessed online on:

[http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum\\_Regulations.pdf](http://vpaa.ku.edu.kw/ar/documents/KU%20ByLaws/Students/Curriculum_Regulations.pdf)

In particular,

- You should neither give nor receive assistance from anyone in taking the quizzes, assignments, and final exam.
- You should immediately report to me any act of academic dishonesty that you may observe. Your anonymity will be protected.

Cheating includes (but not limited to):

- Using unauthorized notes during the examination.
- Using unauthorized devices during the examination
- Communicating with anyone besides instructor or exam proctor.
- Looking at another student's work during the examination.
- Copying another student's work.
- Having someone else take the exam on your behalf.

## OTHER COURSE POLICIES

Your fellow-students and I need 100% of your attention and mindshare while the class is in session. Toward this end:

- For each class, please arrive sufficiently ahead of the official start time in order to collect any handouts or prior quizzes that have been graded and get yourself ready with your notes and papers.
- Please do not walk around, or out of, the classroom, while class is in session.
- All electronic gadgets must be turned off (not turned to vibrate, but actually turned off!) while class is in session. For the purpose of this bullet, if your gadget has an on/off switch, it is an electronic gadget.

**Special Needs:** If you have a disability and/or special needs, you should bring this to my attention as soon as possible, but not later than the second week of class.

## CBA COMPETENCY GOALS

**1. Analytical Competency:** A CBA graduate will be able to use analytical skills to solve business problems and make a well-supported business decision.

**Student Learning Objectives:**

- 1.1. Use appropriate analytical techniques to solve a given business problem.
- 1.2. Critically evaluate multiple solutions to a business problem.
- 1.3. Make well-supported business decisions.

**2. Communication Competency:** A CBA graduate will be able to communicate effectively in a wide variety of business settings.

**Student Learning Objectives:**

- 2.1. Deliver clear, concise, and audience-centered presentations.
- 2.2. Write clear, concise, and audience-centered business documents.

**3. Information Technology Competency:** A CBA graduate will be able to utilize Information Technology for the completion of business tasks.

**Student Learning Objectives:**

- 3.1. Use data-processing tools to analyze or solve business problems.

**4. Ethical Competency:** A CBA graduate will be able to recognize ethical issues present in business environment, analyze the tradeoffs between different ethical perspectives, and make a well-supported ethical decision.

**Student Learning Objectives:**

- 4.1. Identify the ethical dimensions of a business decision.
- 4.2. Recognize and analyze the tradeoffs created by application of competing ethical perspectives.
- 4.3. Formulate and defend a well-supported recommendation for the resolution of an ethical issue.

**5. General Business Knowledge:** A CBA graduate will be able to demonstrate a basic understanding of the main business disciplines' concepts and theories.

**Student Learning Objectives:**

- 5.1. Acquire a fundamental understanding of knowledge from the main business disciplines (e.g. finance, accounting, marketing, and management information systems, among others).