**Kuwait University**

**College of Business Administration**

**Quantitative Methods and Information Systems Department**

Course Syllabus

QMIS 110 – Business Mathematics

Dr. Basel M. Al-Eideh

# Lecture Time and Location

**QMIS 110 / 04A:** Mon Wed, 2:00 PM – 3:15 PM, Room C2-1005

**QMIS 110 / 05A**:Mon Wed, 3:30 PM – 4:45 PM, Room C2-1005

# Contact Information

**Location** :ISOM Department – 2nd Floor – Office No. A2-1025

**Email**: [basel.aleideh@ku.edu.kw](mailto:basel.aleideh@ku.edu.kw)

**Office**: 24986143

**Office Hours**: Sun Wed, 3:00 PM – 4:30 PM or by email appointment

**Social Media**: None

# Teaching Assistant

**Name**: Ms. Hana Al-Omar

**Location**:ISOM Department – 2nd Floor

**Email:** [hana.alomar@ku.edu.kw](mailto:hana.alomar@ku.edu.kw)

# Course Description

The course covers basic unvaried calculus with applications in business. Topics include an introduction to linear algebra, limits, differentiation with application and integration.

**Prerequisite:** QM-091 or passing the Math Level Test

# Course Learning Objectives (CLOs)

Upon successful completion of the course, students will be able to:

1. Understand the uses of derivatives
2. Perform derivations for different functional forms
3. Solve derivative based mathematical problems
4. Understand the fundamental theory of integrals
5. Perform integrations for different functional forms
6. Solve integral based mathematical problems
7. Apply matrix algebra to solve systems of linear equations

# CLO Mapping to CBA Skill Based Competency Goals[[1]](#footnote-2)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CLO | Competency Goal | | | | |
| Analytical | Communication | Information Technology | Business Ethics |
| 1 | I |  |  |  |
| 2 | I |  |  |  |
| 3 | I |  |  |  |
| 4 | I |  |  |  |
| 5 | I |  |  |  |
| 6 | I |  |  |  |
| 7 | I |  |  |  |

# Type of Emphases:

* **(I)ntroduce:** Students will be introduced to the skill and their grasp of it assessed in the course.
* **(A)pply:** The course will not cover the skill. Students should have a high-level grasp of the skill and are required to apply it in the course.
* **(R)einforce:** Students should have an introductory-level grasp of the skill and the course will improve their mastery to a higher level.

# Required Material

**Textbook**: Ernest F. Haeussler & Richard S. Paul , Introductory Mathematical Analysis 2, Prentice Hall

**Additional Material**: Other material is available on Blackboard

**E-Learning System**: Blackboard Learning Management System

**Course Website** : http://bb.kuniv.edu

# Course Requirements and Policies

* **Individual Assignments:** There are total 6 individual assignments. These individual assignments need to be submitted through **Blackboard** by **9:00 AM** on the due days. Late submission is accepted within 32 hours after the due time (5:00 PM on the next day) with a **25% loss of points**.
* **In-Class Tests:** There are total 6 in-class tests. These tests are scheduled on the due dates of the respective assignments and should be on the exact same material.
* **Participation:** The quality of our classroom discussions in large part depends on you and your preparation for class. Participation should include, among other things, (1) presenting case facts, (2) defining the problem, (3) exploring different alternatives, (4) persuasive, thoughtful, integrated analysis supported by the data given in the case, (5) Implementation plan for proposed actions. "Air time" is not nearly as important as meaningful analysis and recommendations supported by data. Remember, for most of these cases, there is no right or wrong answer.
* **Class Preparation – Readings, Videos, and Online Quizzes:** It is very important that students are prepared for each class period. For each class there will be a required reading (case or chapter course pack) or video. To ensure comprehension, a short, 15-minute quiz on the reading or video will need to be completed on **Blackboard** prior to **9:00 AM** **each class day**.
* **Attendance and Participation:** Every student in this course must abide by the Kuwait University Policy on Attendance (published in the Student Guide, Chapter 3, Section 13). A copy of the student guide can be accessed online on:

http://www.kuniv.edu/cs/groups/ku/documents/ku\_content/kuw055940.pdf

* This course has a significant seminar component and class participation is critical to the learning experience. Participation will be assessed in each class period. Your class participation and attendance will both contribute to your score of in-class performance.
* **Cheating and Plagiarism:** Every student in this course must abide by the Kuwait University Policy on Cheating and Plagiarism (published in the Student Guide, Chapter 3, Section 2). A copy of the student guide can be accessed online on:

http://www.kuniv.edu/cs/groups/ku/documents/ku\_content/kuw055940.pdf

Please carefully note all sources and assistance when you turn in your work. Under no circumstances should you take credit for work that is not yours. You should neither receive nor give any unauthorized assistance on any deliverable. If you have any questions about what constitutes “unauthorized assistance” please email me before the deliverable is submitted.

* **Writing Style:** Students must refer to MLA writing style for their assignments and report writing. Refer to the English Language Center for help.

# Grading

The scores in this course will be the weighted average of the following items:

|  |  |
| --- | --- |
| Weight | Description |
| 60% | CW and 2 to 3 Big Quizzes |
| 40% | Final Exam |
| 100% | TOTAL |

# Grade Distribution

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

# Course Outline

|  |  |  |
| --- | --- | --- |
| Title | Topics | Weeks |
| Chapter 11 | 11.1 The Derivative  11.2 Rules for Differentiation  11.3 The Derivative as a Rate of Change  11.4 Product and Quotient Rules  11.5 The Chain Rule. | 2 |
| Chapter 12 | 12.1 Derivatives of Logarithmic Functions  12.2 Derivatives of Exponential Functions  12.4 Implicit Differentiation  12.5 Logarithmic Differentiation  12.7 Higher-Order Derivatives | 1.5 |
| Chapter 13 | 13.1 Relative Extrema  13.4 The Second Derivative Test  13.6 Applied Maxima and Minima | 1.5 |
| Chapter 17 | 17.1 Partial Derivatives  17.4 Higher Order Partial Derivatives  17.6 Maxima and Minima for functions of Two Variables  17.7 Lagrange Multipliers | 2 |
| Chapter 14 | 14.2 The Indefinite Integral  14.3 Integration with initial Conditions  14.4 More Integration Formulas  14.5 Techniques of Integration  14.7 The Fundamental Theorem of Integral Calculus | 2 |
| Chapter 17 | 17.9 Multiple Integrals | 1 |
| Chapter 6 | 6.1 Matrices  6.2 Matrix Addition and Scalar Multiplication  6.3 Matrix Multiplication  6.4 Solving Systems by Reducing Matrices  6.5 Solving Systems by Reducing Matrices (continued)  6.6 Inverses | 2 |

# Important Dates

|  |  |
| --- | --- |
| Date | Event |
| 6 / 6 / 2022 | Final Exam 2:00-4:00 PM |

# 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. Use appropriate analytical techniques to solve a given business problem.
  2. Critically evaluate multiple solutions to a business problem.
  3. Make well-supported business decisions.

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

**Student Learning Objectives:**

* 1. Deliver clear, concise, and audience-centered presentations.
  2. Write clear, concise, and audience-centered business documents.

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

**Student Learning Objectives:**

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

1. **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:**

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

1. **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:**

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

1. CBA Competency Goals can be found at the end of this document [↑](#footnote-ref-2)