

EASTERN UNIVERSITY Faculty of Business Administration, BBA Program Course Title: Business Mathematics-II

	Course Code: BMT201		Section: 2		
Instructor: Mohammad Kamrul Arefin		Class Time: MW 2:00 PM – 3:30 PM			
Office Room: 320		Office hour	r: MW 12:20	PM – 1:50 PM	
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COURSE DESCRIPTION & OBJECTIVES:

This course will help students to develop their problem solving skills so that they can think analytically, critically and enhance their ability to communicate mathematically. Here you will learn diverse applications of matrix algebra, calculus and linear programming in your day to day decision making process as a business leader.

TEACHING APPROACH:

The class will meet for a total of 36 hours divided into 24 x 1.5 hours lectures. The classes will be conducted through lectures, and presentations. Students are required to take notes, answer questions, and participate actively in the class.

Students are strongly encouraged to communicate with the lecturer through email or phone and meet lecturer during office hour (outside office hour by prior appointment) for any questions they may have.

TEXT BOOK: Prichett G.D. and Saber J. C. (2005). *Mathematics with Applications in Management and Economics*. 7th Edition, Irwin.

Supplementary Text: Chiang A.C. (1984). *Fundamental Methods of Mathematical Economics*. 3rd Edition, Mcgraw-Hill.

Lecture	Topics			
Lec 1-3 Chapter 7	Introduction to Differential Calculus (why study calculus, functional and delta notation, limits, continuity, def. of the derivative, first principle of differentiation, successive dif. partial dif. etc.)			
Lec 4-8 Chapter 8	Applications of Differential Calculus (increasing and decreasing function, concavity, critical points, point of inflection, maxima and minima of functions, first and second derivative test of optimality etc.)			
	Mid Term 1			
Lec 9 Chapter 9	Additional Topics in Differential Calculus (derivatives of exponential functions, marginal propensity to consume and the multiplier etc.)			
Lec 10-14 Chap 10	Matrix Algebra (introduction, types of matrices, properties of matrices, operations of matrices, the determinant, properties of determinants, inverse of a matrix, solving systems of linear equation, business and economics applications of matrix.			

LECTURE OUTLINE:

	Mid Term 2			
Lec 15-20 Chapter 2	Introduction to Integral Calculus (anti-derivatives, integration by substitution, integration by parts, the definite integral, area and the definite integral, area between two curves, consumer and producers' surplus, other applications in business.			
Lec 21-24 Chapter 9	Introduction to Linear Programming and the Simplex Method (systems of two linear inequalities, non-negativity constraints, maximization problems, minimization problems, equality constraints, linear prog with more than two variables, sensitivity analysis using Microsoft Excel Solver Application.			
Final Exam TBA				

EXAMS:

There will be a class tests at the end of every class and 3 exams (two midterm and one final exam).

COURSE GRADING COMPONENTS:

Component/Coverage	Weights (%)
Class Attendance	10
Class Tests	20
Mid Term (Average of Mid 1 and Mid 2)	30
Final Exam	40

Grading Scheme:

According to Eastern University grading policy, the following is a suggested conversion scheme:

A+	А	A-	B+	В	B-	C+	С	D	F
80	75	70	65	60	55	50	45	40	<40

COURSE POLICY:

- It is important that you attend classes regularly. In-class participation is a key component of the course. If you fail to achieve 80% attendance in the class you will not be able to sit for the final exam. If your attendance is below 70%, you will receive no marks on attendance.
- Please bring scientific calculator with you in every classes.
- You will not be allowed to take any make-up exam unless you provide evidence of a valid reason. You are expected to inform the lecturer at least 12 hours prior the exam about your incapacity. The make-up diet of the exam will be harder than the regular exam and it may be comprehensive.
- Any type of plagiarism will result in F (Fail) grade in the course. Please do not use cell phones in the exam. If you get caught having cell phone switched on during exam then you will be convicted for plagiarism.
- Please turn off all cell phones before entering the class.
- The instructor and university reserve the right to modify elements of the course during the term. It is the responsibility of the student to check their emails, university website and instructor' website regularly during the term to note any changes.

14 Tips for Your Academic Success

- 1. **Meet Your Academic Supervisor**: Advisors know ins and outs of your program. They can help you in planning your study, progress and also in course selection.
- 2. Never Miss a Lecture: No matter how boring the lecture may be or even when the material is available on-line or in text book, it is important to attend lectures because they will help you to draw connections between different contents, and/or provide valuable insights and suggestions for exam preparation.
- 3. **Be Punctual and Never Miss a Deadline**: Treat University like a professional job- you need to mature, must be on time, never miss deadlines and late to lectures. Always aim to reach early for a meeting and for a deadline. Traffic congestions become quite common in Dhaka now-a-days and you should plan ahead (use off-peak hours and/or start 2/3 hours early).
- 4. **Ask Question**: If you are confused about a concept, or failed to get the point of a slide, or discussion, you must ask for clarification. If you are confused, it is highly likely that other students are also confused. You are helping yourself, and your peers, when you put your hand up and ask question.
- 5. Get Help When You are Struggling: Don't hesitate to seek help when you need it- visit University health services, talk to your academic advisor if you are having difficulties with your health and studies.
- 6. **Test Preparation**: Many students "Cram" or "Procrastinate" or try to study everything the night before an exam. This leads to poor performance in exam. In order to perform well in exam, you need to organize the material, make it meaningful to you, and allow time for memory consolidation. Stretch you studying out over the term before the exam, and get a good night sleep before exam.
- Don't Leave it for Tomorrow: Review your class notes as soon as possible after class- students forget 50% of what they learn if they don't review within 24 hours and 65% if they don't review within a week.
- 8. **Manage Your Time Effectively:** Effective management of time is a key to success at University and beyond that in your career. Develop a calendar system with tasks and follow it regularly for class schedule, assignments, exams, important dates and meetings, emails and visiting social networks. You can assign alarm or ringtone for each task in your mobile calendar.
- Bad Days will be Over Soon: Your University career is not defined by a single moment of failure- keep the bigger picture ahead and don't sweat the small failures. Keep calm, work hard, aim for excellence, but don't panic when things go wrong.

- 10. **Stay Healthy** It is important to have a healthy immune system and that includes proper nutrition and sound sleep. Good health and sound mind will facilitate better assimilation of the course content.
- 11. **Start ASAP**: Do a little work on an assignment the day it's given, preferably mapping out a plan or outline for its completion. Starting a project often proves the hardest part; starting early gets you over this high hurdle with plenty of time to develop your work.
- 12. **Help Your Friend:** Explain a difficult idea, concept, problem or a passage to a friend. Research shows that one of the most effective ways to learn is to teach. If you try to explain what you have been studying to others, you will transfer the information from short to long term memory, and you will more clearly see what you understand and what you don't.
- 13. Use the time between Your Classes: Do you have ten minutes between classes? Get to your next class early and spend five minutes reviewing the notes from last lecture. Do you have an hour? Do some study or work on assignment.
- 14. **Pay Attention in Class:** At the end of a class your teacher may ask you to write a few sentences about what you have learned that particular day in class. It is important to interact with teacher and others in the class to understand the course clearly. So pay attention.

GOOD LUCK