



MAT 111

Spring 2019

Business Calculus

Class Time: Sun-Tues-Thurs at 1-2

Prerequisite: Precalc MAT100

Office: SG.38

Email: statar@alfaisal.edu salihatat@gmail.com

Office Hours: Sunday, Tuesday, Thursday: 10-11, 12-1

Class Location: S1.36

Instructor: Dr. Salih TATAR

Phone: +966-1-215-7644

Text Books:

Applied Calculus for Business, Economics, and the Social and Life Sciences, by Hoffmann, Bradely, Sobecki and Price, 10th Ed.

Course Description:

The main objective of this course is to help the student in understanding the basic concepts of calculus on the one hand, and to develop the skills needed for using calculus as a viable tool to solve problems that arise in the study of business and economics. Topic covered include, limits, types of functions (polynomial, rational, exponential and logarithmic), their derivatives, anti-derivatives and their various applications.

Course Objectives:

Upon completion of this course, students will be able to:

- Find limits of functions
- Graph polynomial, rational, exponential and logarithmic functions
- Find derivatives of functions
- Find anti-derivatives of functions
- Utilize mathematical knowledge effectively to model and solve business and economic problems

Grading Scheme:

Quizzes	20%
Homework	10%
Midterm Exams	40 %
Final Exam: Comprehensive (closed book)	30 %
TOTAL	100 %

A	95-100 %	A-	90-94 %
B+	86-90 %	B	83-86 %
B-	80-83 %	C+	76-80 %
C	73-76 %	C-	70-73 %
D+	66-70 %	D	60-66 %
F	< 60 %		

All quizzes and exams will be closed book and closed notes. A successful student will prepare by reading the text book, attending lectures, participating in class discussions and questions, and by doing homework and practice problems.

Attendance Policy

- **Policy related to missing classes:** Regardless of the reasons, a student missing 15% or more of classes will be denied (DN) from the course. The 15% absences are intended to accommodate for medical



emergencies¹ and cases of bereavement of an immediate family member². Only in these cases will the student be allowed to make up missed class work or missed exams

- **Arriving late to class:** Coming to class 5 minutes after the start of class time is considered late, and 3 lates will count as 1 absence. Coming to class 10 minutes late will be considered as an absence.

¹Medical emergency counts for only verifiable communicable diseases and unforeseen, beyond the student's control, hospitalization. It needs to be documented by the hospital (not a clinic, much less a private practice doctor) and will be verified.

²Bereavement document from the Ministry of Health will be required in case, God forbid, of a death in your immediate family. In such a case, you will be excused for three days.

Cell Phone/ Laptop/ iPad Policy

All electronic devices are not allowed during the exams (except calculators under the instructor permission). Most notably **cell phones are not allowed even in off mode. An irrevocable score zero (0) will be assigned to any student caught with a cell phone and may be subject to further disciplinary measures.** Students are not allowed to use their mobile phones, iPads or laptops during regular classes. Any student caught using any of these devices will be instructed to leave the classroom and will be given a full absence for that particular lecture.

Academic Integrity

Students are expected to maintain academic integrity at all times and to seek assistance from the instructor when uncertain. Students who engage in activities which misrepresent their academic work through plagiarism, cheating, and falsification infractions of academic integrity will be subject to serious disciplinary measures, ranging from a zero grade in that assessment to the dismissal from the university altogether. All aspects of the course are covered by these rules, including homework, lab reports, course reports, quizzes, and exams.

Consequences of Misconduct

When discipline and misconduct issues become apparent, a student will initially receive a verbal warning as a reminder to respect the professor's authority during class time. If this misconduct during class time occurs few more times, the student will be terminally dismissed from the particular course or from the university altogether. Any student disrupting an examination may be instantly dismissed from the examination room and risk taking an F grade.

Assignments, Quizzes and Exams

Late assignments will not be accepted; they must be completed on the day they are due to receive credit. There is no provision to make-up for missed homework assignments, quizzes, midterm or final exams except under reasons deemed acceptable by your professor (*refer to attendance policy section*).

The professor is expected to **return promptly** the grades of homework assignments, lab reports, quizzes, and midterm exams and to go over them with proper feedback and solutions. Grades will be posted within a maximum of one week after the day on which the assessment was offered.

Students must always present their Alfaisal ID cards during exam times.

Lines of Communication

If you have any concern or suggestion, it is imperative to follow the following steps in the order they are listed:

1. First, talk to your professor to resolve your issue.
2. Second, if your issue has merit and was not resolved by your professor in a reasonable time frame, you may then contact the Chair of the Department.



MAT 111

Spring 2019

3. Third, if your issue has merit to be escalated further along the hierarchy, you may then contact the Vice Dean for Academic & Student Affairs. The Vice Dean will address your issue on time.
4. Failure to give due chance and time to resolving your issue with your professor, your Department Head, and your Vice Dean, and going above their heads straight to the Dean or to the Provost, will certainly invite disciplinary measures for not adhering to the institutional lines of communication outlined above.

Notes:

1. If your issue has no merit, learn to take **NO** for an answer; do not expect a miracle from the Department Chair nor from the Vice Dean.
2. Students are discouraged from nagging their professors to extract undeserved higher grades. Students who engage in this behavior will be automatically barred from consideration when their professors study borderline cases for possible slight grade improvement at the end of the semester.

Students are expected to read each assigned chapter before class.

Suggested Problems

Week 1 6-10 Jan	Syllabus 1.1 Functions	chapter 1 P. 91-92: 1, 2, 4, 6, 9, 10, 11, 12, 13, 14, 15, 16 P. 56-59: 3, 45, 46, 48, 52 P. 74: odd numbers from 1→36 P. 87: from 9→17, 21, 24, 25, 39, 41
Week 2 13-17 Jan	1.2 The Graph of a function 1.3 Lines and Linear Functions	
Week 3 20-24 Jan	1.4 Functional Models 1.5 Limits	
Week 4 27-31 Jan	1.6 One sided Limits and Continuity Quiz1	
Week 5 3-7 Feb	2.1 The derivative 2.2 Techniques of differentiation	
Week 6 10-14 Feb	2.3 Product and quotient rule Midterm 1	chapter 2 P. 112: 5, 6, 9, 11, 18, 20, 22 P.125: odd numbers from 1→34 P. 138: odd numbers from 1→26, odd numbers from 42-47
Week 7 17-21 Feb	2.4 The Chain Rule	
Week 8 24-28 Feb	2.5 Marginal Analysis 2.6 Implicit Differentiation	
Week 9 3-7 March	3.1 Increasing and Decreasing functions. Relative Extrema 3.2 Concavity and inflection points Quiz 2	chapter 3 P. 210-211: 9, 11, 15, 23, 25 P. 228-230: 5, 7, 1, 13, 15, 27, 29, 43 P. 244-245: 17, 19 P. 254-255: 1, 3, 5, 17, 23, 25, 39
Week 10 10-14 March	3.3 Curve sketching 3.4 Optimization. Elasticity of Demand	
Week 11 17-21 March	3.5 Additional Applied Optimization 4.1 Exponential Functions 4.2 Logarithmic Functions	
Week 12 24-28 March	4.3 Derivatives of Exponential and Logarithmic functions Midterm 2	chapter 4 Page: 364→365 7, 9, 11, 12, 13, 15, 16, 17, 18, 20, 25, 29, 43, 45 chapter 5 Page: 469→472 1, 3, 5, 12, 17, 21, 31, 35, 37, 47, 73, 74, 80
Week 13 31 March- 4 April	5.1 Indefinite integrations 5.2 Integration by substitution	
Week 14 7-11 April	5.3 Definite integrations 5.4 Applying definite integration: distribution of wealth and average value	
Week 15 14-18 April	Revision	

- Jan 31st is the Last day to drop classes with no grade reported in the transcript and without financial obligation
- March 7th is the Last day to withdraw from a class with a grade of "W" in transcript