

Baruch College
Department of Mathematics
MTH 2009 Course Syllabus

Textbook:

Gordon, Wang & Materwoski, Applied Calculus for Business, Economics and Finance, 2nd Ed.

Grading Policy

1. As per the policy of the Department of Mathematics, any student who scores less than 50% on the final examination will be assigned a grade of F.
2. Homework will be on the MyMathLab homework system. Students must access MyMathLab through the Blackboard site for their section. Students must by an access code for MyMathLab to complete the homework. To purchase the course material: Go to http://www.mypearsonstore.com/deals/promo_login.asp?promo=141967
The username is **pearson**
The passwork is **welcome**
Choose one of the top two items on this page for Math 2009.
3. The table below indicates the recommended composition of the overall course grade.

ASSESSMENT TYPE	GRADE PERCENTAGE
Homework	10%
Quizzes	12%
In-Class Exams	48%
Final Exam	30%
TOTAL	100%

TOPIC(S)		MML ASSIGNMENTS	VIDEO LINKS
1.1	Basic Properties of Linear Equations	Section 1.1	Full Lesson Horizontal/vertical lines Finding equations Graphing Parallel and perpendicular lines
1.2	Applications of Linear Equations	Section 1.2	Full Lesson Linear cost/revenue/profit Linear cost/revenue/profit example Linear depreciation

TOPIC(S)		MML ASSIGNMENTS	VIDEO LINKS
1.5	Graphs of Quadratic Functions	Section 1.5	Full Lesson Graphing parabolas Graphing parabolas in standard form example Graphing parabolas in vertex form example Projectile motion Minimize cost
1.4	Functions: Basic Properties	Section 1.4	Full Lesson Part 1 Full Lesson Part 2 Domain of rational function example Domain of square-root function example
1.4	Functions: Compositions & Decompositions	Section 1.4	Difference quotient example Composition of functions
1.6	Functions: Symmetry & Transformations	Section 1.6	Full Lesson Part 1 Full Lesson Part 2 Intervals where a function is positive/negative Even/odd functions
1.7	The Circle	Section 1.7	Full Lesson Completing the square to obtain standard form of a circle
1.3	Regression	Section 1.3	Full Lesson Linear regression on TI-89
1.8	Economic Functions	Section 1.8	Full Lesson Market equilibrium example Maximize revenue/profit

TOPIC(S)		MML ASSIGNMENTS	VIDEO LINKS
2.3	Limits by Substitution and One-Sided Limits	Section 2.3	Limit examples
2.3	Continuity and Differentiability	Section 2.3	Removable discontinuity example (factoring) Removable discontinuity example (conjugate)
2.4	Limits at Infinity	Section 2.4	Full Lesson Limits at infinity/horizontal asymptotes More limits at infinity examples
2.4	Horizontal and Vertical Asymptotes	Section 2.4	Vertical asymptotes Finding horizontal asymptotes
2.1	Slope of a Curve	Section 2.1	Full Lesson Part 1 Full Lesson Part 2 Limit definition of derivative examples
2.2	Basic Derivative Rules	Section 2.2	Full Lesson Power Rule Power Rule (additional examples) Tangents of polynomials
2.5	Derivatives: The Product Rule	Section 2.5	Full Lesson Part 1 Full Lesson Part 2 Product Rule
2.5	Derivatives: The Quotient Rule	Section 2.5	Quotient Rule
2.6	Derivatives: The Chain Rule	Section 2.6	Full Lesson

TOPIC(S)		MML ASSIGNMENTS	VIDEO LINKS
2.6	Derivatives: The Chain Rule (CON'T)	Section 2.6	Chain Rule examples (beginning-4:11, 9:11-end)
2.7	Marginal Functions	Section 2.7	Full Lesson Marginal cost, revenue, profit Physics Average rate of change example
2.8	Implicit Differentiation	Section 2.8	Full Lesson Implicit differentiation examples
2.10	Related Rates	Section 2.10	Area of a circle Area of a rectangle
2.10	Related Rates (CON'T)	Section 2.10	Falling ladder

Course Requirements and Policies

Attendance:

Attendance and class participation are crucial for learning the material for this course. All students are expected to be ON TIME. If you have four or more unexcused absences, you may receive a grade of WU or F for the course.

In addition to attending lecture three times per week, students will participate in a weekly recitation session. The purpose of the weekly recitation is to give you the opportunity for hands-on practice under the guidance of a trained recitation leader. Please bring your class notes and textbook to every recitation session. Most students will have the electronic (“e-book”) version of the textbook, accessible through MyMathLab. Students who don’t have a tablet or a laptop may want to borrow one from the kiosk on the second floor of the Vertical Campus near the main elevators to access the e-book during recitation. Attendance at recitation is mandatory. Absence from recitation counts the same as absence from class.

Students who miss class are responsible for all material and assignments covered during missed lecture(s).

Academic Honesty:

The Department of Mathematics and the course instructor fully support Baruch College’s policy on academic honesty, which states in part:

“Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism, and collusion in dishonest acts undermine the college’s educational mission and the students’ personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned.”

Academic sanctions in this class will range from an F on the assignment to an F in this course. A report of suspected academic dishonesty will be sent to the Office of the Dean of Students.

Additional information and definitions can be found at

www.baruch.cuny.edu/academic/academic_honesty.html and the Student Guide to Academic Integrity www.baruch.cuny.edu/facultyhandbook/documents/StudentGuideOct06.pdf

Conduct:

Cell phones should be turned off during class and MUST be turned off and put away during all examinations.

Laptops should be used only for taking or reading lectures notes.

To do well in this course, it is essential to study on a daily basis and to work out homework problems as soon as they are assigned. Merely attending lecture is not enough: in order to pass this class, you will need to read the assigned sections and work on the suggested homework problems on your own.

Each class will consist of a lecture explaining the concepts and showing examples from that day's section(s), which you should have read prior to class. After class, you should complete the homework problems related to that day's lecture, and before the next class, you should read the next assigned sections from the textbook. Read the corresponding sections from your notes and the textbook before you start doing the homework. You may discuss difficult homework problems with others, but make sure you try them first.

If you need help with the material, talk to the instructor as soon as possible. Work extra homework problems. Do not stop working when you think you understand the material. Instead, stop when going through the problems is a matter of routine, and you have a high level of confidence that your answers are correct.

You are strongly urged to take full advantage of office hours if you have any questions or course-related concerns.

Statement for Students with Disabilities:

Students with disabilities may be eligible for reasonable accommodations to enable them to participate fully in courses at Baruch College. Any student needing accommodation is requested to speak directly to the Office of Services for Students with Disabilities (VC 2-271; 646-312-4590) and to the instructor as early as possible in the semester (preferably during the first week of class). All discussions will remain confidential.

Evaluation:

Each week, a quiz or homework, or both, will be given. All quizzes will be announced at least a week beforehand. No extensions will be granted on any homework assignments.

Four in-class tests will be given during the semester. A cumulative final exam will be given at the time and date assigned to this course. There are no make-up examinations! Absence from two examinations will result in an automatic failure for the course.

Per department policy, any student who receives a grade below 50% on the final exam will receive a failing grade for the course.

Course Grade Components:

The final grade will be computed according to the following distribution:

- In class exams (4): 48% total;
- Homework: 10% total;
- Quizzes: 12% total;
- Final Exam: 30%

Course letter grades will be assigned based on the overall percentage as described [here](#).

LEARNING GOALS OF COURSE: Upon completion of this course, students will be able to:

- Represent functions algebraically and graphically.
- Compute limits of functions, and use limits to determine the derivative of a function.
- Use appropriate theorems to determine derivatives of algebraic functions.
- Interpret the derivative as a rate of change, and apply this interpretation to other disciplines.
- Use a graphing calculator to perform various calculations occurring in precalculus and calculus.

PATHWAYS LEARNING OUTCOMES: This course satisfies the Mathematical and Quantitative Reasoning requirement for the Pathways Required Core. Upon completion of this course, students will be able to:

- Interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.
- Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.
- Represent quantitative problems expressed in natural language in a suitable mathematical format.
- Effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.
- Evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.
- Apply mathematical methods to problems in other fields of study.