MATH-108-005 – Introductory Calculus with Business Applications (3 credits)
Fall 2018

Instructor: Samah Mahmoud
Class Time/Location: MW East Building, Room 201
Contact Me: Email: smahmou1@masonlive.gmu.edu
Office Hours & Location:
Monday/Wednesday 6:30pm–7:10pm in Exploratory Hall
Friday 12:00pm – 1:40pm Exploratory Hall

Prerequisites:
For precise information go to http://catalog.gmu.edu/ And click on "Courses" on the left, then select Prefix: "MATH" and Code: "108".

Either one of the following requirements will suffice.

- Specified score on the Math Placement Test for Math-108. http://math.gmu.edu/placement test.htm
- Successful completion of self-paced algebra program offered by the Math Literacy Center.

Those who have problems registering should talk to Christine Amaya, the Senior Secretary of the Department of Mathematical Sciences, camaya@gmu.edu, phone (703)-993-1460.

Course Description:
To provide a basic and firm understanding of elementary calculus, with a view towards applications in business as well as other discipline.

Goals:
Quantitative Reasoning: This course satisfies GMU's Quantitative Reasoning Foundation Requirement.

The learning outcomes that we will achieve to meet that requirement are:

1. Students are able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
2. Given a quantitative problem, students are able to formulate the problem quantitatively and use appropriate arithmetic, algebraic, and/or statistical methods to solve the problem.
3. Students are able to evaluate logical arguments using quantitative reasoning.
4. Students are able to communicate and present quantitative results effectively.

Course Goals: The course itself seeks to satisfy the following goals:

1. Students improve and solidify their algebraic skills.
2. Students understand and apply derivatives as a tool to analyze change in quantified models.
3. Students analyze and interpret results in the context of Business and IT applications.
4. Students understand and compute integrals and their relationship to derivatives.

Required Materials:

1. Access Code only ($90 online) to access the ebook and MyMathLab (this is my recommendation) for *Calculus for Business, Economics, Life Sciences and Social Sciences, 14th edition*
   OR
   Calculus for Business, Economics, Life Sciences and Social Sciences Plus NEW MyMathLab
   ISBN: 9780321925718 ($150 new) - at the bookstore website this says "CALCULUS F/BUS., ECON…(LOOSE) – W/ACCESS"

   If you buy a used book, please be sure you have an access code. It is required for this course.

2. Calculator: You may use a *simple* Scientific Calculator. Suggested: TI 30X IIs.
   Not allowed:
   Advanced Scientific Calculators: TI 36X Pro, and more.
   Graphing Calculators: Ti:83, 84 TI-89, TI-92, or TI-Nspire.
   No calculators are allowed that perform integration/differentiation, either algebraic or numeric.

Grading: Students Grades will be based on personal performance in-class and on submitted material. All work submitted should be the student's genuine work. Students have *Homework assigned through MyMathlab* as well as *in class and MyMathLab quizzes.* *In class quizzes* will be given at the beginning of class. The two lowest quiz scores will be dropped. There will be *Three Exams* covering the chapters covered in the text. The lowest exam grade will be replaced with the final exam grade if it is higher. There are no make-up quizzes or exams unless previously excused and discussed with instructor. Any missed quiz, homework, or exam is given a zero score.
*****Instructions for MyMatLlab registration can be found in blackboard and will also be emailed as an attachment*****

Grades will be averaged and hold the following weight:

3 Chapter Tests	45%
MyMathlab Homework	15%
MyMathlab and in classs Quizzes	15%
Final Exam	25%

Grade Ranges: A- 100-90 B- 89-80 C- 79-70 D- 69-60 F- 59-below

Students with Disabilities

It is university policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities. Students are encouraged to contact Student Disability Services to discuss their individualized needs for accommodation. If you have a documented learning disability or other condition that may affect academic performance in this course you should: 1. Make sure this documentation is on file with the Office of Disability Services (SUB I, Room 2500; 993-2474, ods.gmu.edu) to determine the accommodations you will need; and 2) talk with me to discuss your accommodation needs.

Technology **Requirements***:*

This course requires the use of computer technologies in and out of class. Students must check their email. Students must use their Mason email accounts to receive important University information, including messages related to this class. The instructor will only send emails to a Mason email account. See http://masonlive.gmu.edu for more information. Recording this class is not allowed without permission.

Honor Code and Academic Honesty

By choosing to take this course, you agree to uphold the George Mason University Honor Code, which is discussed at length in your other coursework. All George Mason University students have agreed to abide by the letter and the spirit of the Honor Code. All violations of the Honor Code will be reported to the Honor Committee for review. Should a student cheat, lie, steal, or plagiarize after this discussion of academic honesty, in keeping with the University's Honor Code, any work considered being in violation of the Code due to integrity issues will be reported to the University Honor Committee. A failing grade on any assignment resulting from an Honor Committee process will result in a failing grade for the course.

No collaboration is allowed on graded assignments, quizzes or tests. Any indication that you have worked together, used someone else's ideas, copied, or allowed fellow student to copy your work is a violation of the GMU Honor Code.

Some of the behaviors that will be considered cheating are:

- Communicating with another person during an assessment
- Copying material from another person from any assignment being graded
- Allowing another person to copy from any assignment being graded
- Use of unauthorized assistance on any assignment being graded
- Use of unauthorized notes or books during an assessment
- Providing or receiving a copy of a quiz or exam used in the course
- Use of a cell phone or pager during an assessment

Help and Resources

Tutoring: The Math Tutoring Center is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see *http://math.gmu.edu/tutorcenter.htm*

Withdraw & Audit See the GMU website for important add/drop deadlines:
http://registrar.gmu.edu/calendars/2014spring/

Learning Differences & Special Needs:

If you have a learning or physical difference that may affect your academic work, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu . All academic accommodations must be arranged through the ODS.

Efforts have been made to make this course accessible for students with learning and physical differences. If you find you have additional needs beyond those that have been provided, again, please contact me and ODS so I can be sure that the course is meeting your needs.

Counseling and Psychological Services:

Counseling and Psychological Services are available for GMU students.
http://caps.gmu.edu
703-993-2380

University Policies

The University Catalog, http://catalog.gmu.edu, is the central resource for university policies affecting students, faculty and staff conduct in university academic affairs. Other policies are available at http://universitypolicy.gmu.edu/. All members of the university community are responsible for knowing and following established policies.

Schedule : Course dates are tentative and subject to change.

Unit	Dates	Topic	Due Dates
1	August 27th/29th	Class Introduction Chapter 1: Section 1, 3 Functions and Graphing	
2	September 3rd/5th	Chapter 1: Section 4, 5 Exponential functions Log functions Polynomials and Rational Functions	
3	September 10th/12th	Chapter 1: Section 6 Chapter 2: Sections 1 Finite limits and Infinite limits	
4	September 17th/19th	Chapter 2: Sections 2 Finite limits and Infinite limits Exam Review	
5	September 24th/25th	Exam 1 Chapter 2: Sections 3 Rates of Change and the derivative	Exam 1-September 24th
6	October 1st/3rd	Chapter 2: Sections 4, 5 Rates of Change and the derivative	
7	October 8th/10th	Chapter 2: Sections 7 Chapter 3: Sections 1 Exponential and Log derivatives	
8	October 15th/17th	Chapter 3: Sections 2, 3 Product, Quotient and Chain Rules	
9	October	Chapter 3: Sections 4	

	22nd/24th	Quotient and Chain Rules Exam Review	
10	October 29th/31st	Exam 2 Chapter 3: Section 5 Implicit Differentiation and Applications	Exam 2-October 29th
11	November 5th/7th	Chapter 3: Section 7 Chapter 4: Sections 1 Extrema and Concavity	
12	November 12th/14th	Chapter 4: Sections 2, 4 Graphing using derivatives Extrema and Concavity	
	November 19th/21st	Chapter 4: Sections 5, 6 Optimization and Absolute Max and Min Exam 3 Review	
13	November 26th/28th	Exam 3 Chapter 5: Section 1, 2 Integration	Exam 3-November 26th
14	December 3rd/5th	Chapter 5: Section 4, 5 Integration Final Exam Review and Final Exam	
15	**December 10-11**	Reading Days	
16	**December 12**	**Cumulative Final Exam** **Wednesday 7:30pm-10:15pm**	**Final Exam**