MATH-108-001 – Introductory Calculus with Business Applications (3 credits)
Fall 2020

Instructor:
> **Dr. Tyler M. White**

Contact Me:
> Email: twhite5@gmu.edu
> Discussion Board: Instructions on Blackboard.
>> This is a great place to go for questions on exam dates/times, math, or anything not grade related. Also a great place to ask questions about the mathematics in this course.

> GMU emergency closing info: 703-993-1000   Official emergency closing info

Office Hours & Location:
> By Appointment on Tuesdays and Thursdays in the evening via Blackboard Collaborate Ultra.

Discussions:

> I monitor the discussion board on a regular basis. Please login and ask away.

Prerequisites:
> For precise information goto 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.

> This course is offered as an online Asynchronous course, taught using Blackboard, with 3 proctored exams (two term exams and one final exam).

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 Items

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 Scientific or graphing calculator in this course. Please be aware that you are required to show evidence for graphing in this course. No credit is given for just drawing the graph that you see on your calculator.

Required Technologies:
1. You need regular and consistent access to a computer, connected to the internet for this course.
2. It is highly recommended that you have access to high speed Internet to watch video lectures.
3. This online course is taught via Blackboard Courses. To get to our course, login to http://mymason.gmu.edu, select the Courses Tab, and Math 108 can be found in the Course List.
4. You need access to your GMU email account. In order to ensure student privacy, I only correspond with you via your GMU email.
5. All videos lectures are posted on YouTube. You need to be able to access youtube to participate in this course

Required Meeting Dates:
This course is offered entirely online with no required synchronous meeting dates. Exams are given on specific dates, as listed in the schedule at the end of this syllabus. These will be taken online

Assignments

Grading:

I use a weighted average in this course. Here are the weightings:

MyMathLab Homework	20%
Quizzes (MML)	20%
Exam 1 (MML)	20%
Exam 2 (MML)	20%
Final Exam (MML)	20%

Grades are not curved, and the standard grade breakdown applies for overall course grades:

A	90% - 100%
B	80% - 90%
C	70% - 80%
D	60% - 70%
F	Below 60%

+/- added at instructor discretion

MyMathLab Homework and quizzes (accepted late with penalty):
> We will use MyMathLab in this course to complete homework and also to do some quizzes.

> See Start Here in Blackboard to sign up for the MyMathLab Homework system.

> MyMathLab is not operated by GMU. For technical difficulties: https://support.pearson.com/getsupport/s/contactsupport

> MyMathLab is a computer graded system. If you get problems right, they are marked correct. There is no partial credit on individual questions. The computer system, like most technical systems is picky about inputs, so please check your answers before submitting your work.

> MyMathLab homework and quizzes are due on the due date at 11:59 pm.

> MML Homework is accepted late for a 20% penalty up to certain deadlines. MML Quizzes are accepted late for a 20% penalty (also up to certain deadlines). Last day to turn in MML Homework and quizzes is outlined in the schedule on the last page.

Exams (including the Final Exam):

> There are 2 term exams in this course, and one comprehensive final exam. There are no make-up exams, unless you have a documented excused absence (that is an absence that I consider excused). Decisions about excused absences are solely at the discretion of the instructor.

> Exam dates are provided on the last page in the schedule. I reserve the right to change exam dates as the semester progresses (in this online course, this rarely happens except in extreme circumstances).

> All Exams will be taken completely online. There are no make-ups for the Final Exam.

> All exams are given to uphold strict academic integrity standards. The following policies are in place for each exam.

> 1. No collaboration is allowed on the exams. Any indication that you have worked together, used someone else's ideas, use someone else's work, copied, or allowed a fellow student to copy your work is a violation of the GMU Honor Code. The exam should be your work and your work only.

2. You may use a scientific calculator on the exam to do numerical computations only. Having access to a more advanced calculator does not change the work that you are expected to show in this course. You are expected to demonstrate your knowledge of Calculus and graphing in the course, not how to use a graphing calculator.
3. You may use your own notes and problems you have recorded by hand. No other resources may be used.

Late Work Policy:
- MyMathLab assignments: A 20% late penalty is deducted for any late work you turn in. This includes homework and quizzes.
- Exams: No exams may be taken late without an excused absence which is fully documented, and deemed to be excused by the professor. If you are going to miss an exam, you should contact the instructor prior to missing to check if your absence is excused. If you can't check prior, check in within 24 hours to avoid any miscommunication.

I don't want to get into the business of judging when adults are "excused" from assignments or not. So, this policy is out of respect for the fact that you are the best judge of when you need to skip assignments to get the other parts of your life done.

Help and Resources

Tutoring:

The Math Tutoring Center is operating during the summer online. For hours of operation see *http://math.gmu.edu/tutorcenter.htm*

Academic dishonesty and the GMU Honor Code:
You are expected to follow the GMU Honor Code *http://academicintegrity.gmu.edu/honorcode/*

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

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.

Math 108 Schedule Fall 2020 - Online

Weeks run from Monday to Sunday in this course and each week contains the following:

Ungraded Assignments:
1. Watch the video lecture posted on the Blackboard website and in MML.
2. Discussions – Post any questions you have to the discussion board.

Graded Assignments:
1. MyMathlab Homework: Due by 11:59 pm EDT on due dates listed below
2. MyMathLab quiz: Due by 11:59 pm EDT on due dates listed below
3. Exams are due in MML and Blackboard by 11:59 pm on dates listed below. Exams are online available on exam days, for limited time periods.

Course dates are tentative and subject to change.

Unit	Dates	Topic	Due Dates
0	Before Class	Get Ready for Class	August 24th • How to use MyMathLab and Syllabus Quiz • Self-Placement Quiz These are mandatory, and you cannot start on Unit 1 until these two are complete.
1	Aug. 24 – 31	Class Introduction Functions and Graphing	Aug. 31st • MML Homeworks • MML Quiz
2	Sept. 1 – Sept. 7	Finite limits and Infinite limits	Sept. 7th • MML Homeworks • MML Quiz
3	Sept. 8 – Sept. 14	Polynomials and Rational Functions	Sept. 14th • MML Homework • MML Quiz
4	Sept. 15 – 21	Exponential functions Log functions	Sept. 21th • MML Homework • MML Quiz
5	Sept. 22 – Sept. 28	Review and Exam 1	**Sept. 28th** • **Last day to turn in all MML work from Units 1, 2, 3, and 4.** **Sept. 28th** • **Exam 1 Review MML** • **Exam 1 (MML)**
6	Sept. 29 – Oct. 5	Rates of Change and the derivative	Oct. 5h • MML Homework • MML Quiz
7	Oct. 6 – Oct. 12	Exponential and Log derivatives	Oct. 12th • MML Homework • MML Quiz
8	Oct. 13 – Oct. 19	Product, Quotient and Chain Rules	Oct. 19th • MML Homework • MML Quiz •
9	Oct. 20 – Oct. 26	Implicit Differentiation and Applications	Oct. 26th

			• MML Homework • MML Quiz
10	Oct. 27 – Nov. 2	Review and Exam 2	**Nov. 2st** • **Last day to turn in all MML work from units 6, 7, 8, and 9** **Nov. 2st** • **Exam 2 Review MML** • **Exam 2 (MML)**
11	Nov. 3 – Nov. 9	Extrema and Concavity	Nov. 9th • MML Homework • MML Quiz
12	Nov. 10 – Nov. 16	Graphing using derivatives	Nov. 16th • MML Homework • MML Quiz
13	Nov. 17 – Nov. 23	Optimization and Absolute Max and Min	Nov. 23rd • MML Homework • MML Quiz • Post-course assessment
14	Nov. 24 – Dec. 5	Final Exam Review and Final Exam	**Dec. 5th** • **Last day to turn in all MML work from units 11, 12 and 13** **Dec. 5th** • **Final Exam Review MML** • **Final Exam (in MML)**