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

Instructor:
Joanna Jauchen

Contact Me:
Email: jjauchen@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:
M 7:30 – 9:30 pm
F 1:30 – 2:30 pm (online)

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. https://science.gmu.edu/academics/departments-units/mathematical-sciences/mathematical-sciences-testing-center
- 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). You must be able to take exams at GMU or at an approved proctoring facility.

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.* At the bookstore, this is listed as *Required*. See blackboard for more information about MyMathLab.

   OR

   Calculus for Business, Economics, Life Sciences and Social Sciences Plus NEW MyMathLab ($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	20%
Exam 1	20%
Exam 2	20%
Final Exam	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.
3. You may use your own notes and problems you have recorded by hand. No other resources may be used on any assignments in te course.

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.

In this course, I allow late MyMathLab Homework and quizzes (with penalty) as a blanket "life happens to people" policy. This covers sickness, having work, have a computer break, having a cruddy day where somehow stuff just didn't get done, etc.

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 postpone 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 *https://science.gmu.edu/academics/departments-units/mathematical-sciences/math-tutoring/tutoring-center-hours-and*

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: https://registrar.gmu.edu/calendars/summer-2020/

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

Student Support and Advocacy Center:

SSAC provides guidance to students experiencing hardship or trauma, or otherwise encountering barriers to success.
https://ssac.gmu.edu/

703-993-3686

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

Each unit 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 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	Aug 31 • 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 31 • MML Homeworks • MML Quiz
2	Sep 1 – Sep 7	Finite limits and Infinite limits	Sep 7 • MML Homeworks MML Quiz
3	Sep 8 – Sep 14	Polynomials and Rational Functions	Sep 14 • MML Homeworks MML Quiz
4	Sep 15 – Sep 21	Exponential functions Log functions	Sep 21 • MML Homework • MML Quiz
5	Sep 22 – Sep 28	Review and Exam 1	**Sep 28** • **Last day to turn in all MML work from Units 1, 2, 3, and 4.** **Sep 28** • **Exam 1 Review MML** • **Exam 1**
6	Sep 29 – Oct 5	Rates of Change and the derivative	Oct 5 • MML Homework • MML Quiz
7	Oct 6 – Oct 12	Exponential and Log derivatives	Oct 12 • MML Homeworks MML Quiz
8	Oct 13 – Oct 19	Product, Quotient and Chain Rules	Oct 19 • MML Homework • MML Quiz •
9	Oct 20 – Oct 26	Implicit Differentiation and Applications	Oct 26 • MML Homeworks MML Quiz
10	Oct 27 – Nov 2	Review and Exam 2	**Nov 2** • **Last day to turn in all MML work from units 6,**

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