MATH-108-DL1 – Introductory Calculus with Business Applications (3 credits)
Spring 2022

Instructor:
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Office Address:
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Contact Me:
Email: jjauchen@gmu.edu
Most math questions are not good to ask over email. I reserve email in this course for questions about grades, or private discussions (not relevant to everyone in the course). I answer emails once a day (Monday – Friday).
Discussion Board: Instructions on Blackboard.
This is the best place to go for questions on exam dates/times, or anything not grade related.
Office Hours:
This is the best place to go for help with Math. Most math questions are too complex to cover via email. Unless it's very simple, I'll probably just ask you to come by my office hours.

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

Office Hours & Location:
TBA
Also by appointment – if you want to meet me in-person, please just set up an appointment. I just don't want 6-8 people in my office during the pandemic, but I'm happy to meet with you.

We also have several undergraduate assistants in this course who will hold office hours as well. I'll post those once I know what they are.

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). 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*

   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.

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:

Exams will be proctored online on specified dates, as listed in the schedule at the end of this syllabus. They will be taken online. More details in Blackboard.

Assignments

Grading:

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

MyMathLab Homework Average	20%
Quiz Average	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 quizzes.

See Week 0 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.

Homework is accepted late for a 20% penalty. Quizzes are accepted late for an 20% penalty. Last day to turn in all Homework and quizzes is outlined in the schedule on the last page.

Penalties are applied for late work are regardless of excused or unexcused absence.

Exams (including the Final Exam):

There are 2 term exams in this course, and one comprehensive final exam. If you have a cruddy day on Exam 1 or 2, there is a makeup exam given on April 23 and 25. This makeup can replace one exam (either Exam 1 or 2) but not both. No makeup exams are offered for the makeup. You can take the makeup if you missed the exam due to excused absence, technical issues, if you accidentally left the room during the exam, etc. But the makeup is the only option if something (anything goes wrong) on Exam 1 or 2. If you are absent for both exams and one of them is unexcused, you will only be able to use the makeup exam for the excused absence.

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).

We will be taking the exam online, but using proctors, so there should be a window of time available to you to take your exam on those dates. I'll post this window as soon as the test proctoring schedule is set.

The final exam date is also given in the schedule on the last page of the syllabus. There are no make-ups for the Final Exam. No Final Exams are given early

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, 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. You may not use a graphing calculator on the exam. No other books, notes, cell phones, computers or aids may be used. Having access to any unauthorized materials, calculators or devices while you are in possession of the exam is a violation of the academic honesty code.
3. Once you receive the exam, you are not allowed to leave the exam room (in front of your computer) until you are ready to turn the exam in.

Exams are given during the exam week on Saturday, sometimes Sunday, and Mondays. Once I know exam times, I post them and you sign up for a time. Times on Mondays are quickly filled, so I suggest you sign up early. The Wednesday before the exam, your exam time is set and you would need to contact me to change it. Once it is set, your exam time is considered your official exam time in this course. If you ask to change it after Wednesday, that's considered an absence. I am sometimes unable to change exam times based on student preference. These are treated as any other college absence and you will be asked to provide documentation of your reason to move your exam

Late Work Policy:

- MyMathLab assignments: A 20% late penalty is deducted for any late work you turn in. This includes homework and quizzes. This penalty is applied to excused and unexcused absences.
- 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. If you miss an exam, or have a rough exam, there is a makeup exam given later in the semester that can replace Exam 1 or Exam 2 (not both).

In this course, I have the 20% penalty (outlined above) 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 skip assignments to get the other parts of your life done. This also means that I do not give extensions or allow late work outside of this policy.

Help and Resources

Study Groups (EXTRA CREDIT)

This semester, I am offering extra credit for coming to office hours.

Extra credit will be awarded on the following basis:

1. You have to attend the office hours for a full hour to get credit for attending. This is one hour all at one time. So you can't come 15 min one day and 10 min another day, etc. Come at least once during the week and stay for at least an hour. You also need to have a working mic/video for attendance to count. Your cell phone should work. If this is a major hurdle, please email me.

   During these office hours, the Learning assistants will be online to answer any questions you have. If you don't have questions, just login, work on your homework and you can ask questions when they pop up. Your camera should be on.

2. We just track your attendance each week. So if you attend 3 times in one week, that's great, but that's also just one week (not 3 weeks). The goal here is regularly getting your questions answered.

   If you attend 4-7 weeks, you get 1 point added to your overall grade.
   If you attend 8-10 weeks, you get 2 points added to your overall grade.

If you attend 11 or more weeks you get 3 points added to your overall grade.
These are added at the end of the term. I calculate your grade and then add points. There's no excused absences for this.

3. You must follow the Learning assistants' instructions on how to get credit for attending. Without following these, you will not get credit for attending.

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*

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:

- Posting the contents of exams to any website or giving them to any person
- Communicating with another person during an assessment
- Copying material from another person/website 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
- Having a cell phone in your possession 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 Spring 2022 - Online

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

Ungraded Assignments:

1. Watch the video lecture posted on the Blackboard website. These are all in "Video Lecture and Written Work"
2. Discussions – Post any questions you have to the discussion board.

Graded Assignments: All Assignments due Mondays this semester.

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
2. Written Work is due (uploaded) to Blackboard by 11:59 pm EDT on due dates listed below.

Course dates are tentative and subject to change.

Unit	Dates	Topic	Due Dates
0	Before the Semester	Get Ready for Class	
1	Jan 24 – Jan 31	Class Introduction Functions and Graphing	Jan 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. • MML Homeworks • MML Quiz
2	Feb 1 – 7	Finite limits and Infinite limits	Feb 7 • MML Homeworks • MML Quiz
3	Feb 8 – 14	Polynomials and Rational Functions	Feb 14 • MML Homeworks • MML Quiz
4	Feb 15 – 21	Exponential functions Log functions	Feb 21 • MML Homeworks • MML Quiz
5	Feb 22 – Feb 28	Review and Exam 1	**Feb 28** • **Last day to turn in all MML work from Units 1, 2, 3, and 4.** • **Exam 1 Review MML** • **Exam 1**
6	Mar 1 – 7	Rates of Change and the derivative	Mar 7 • MML Homeworks • MML Quiz
7	Mar 8 – 14	Exponential and Log derivatives	Mar 14 • MML Homeworks • MML Quiz
	Mar 15 – 21	Spring Break	
8	Mar 22 – 28	Product, Quotient and Chain Rules	Mar 28 • MML Homeworks • MML Quiz

9	Mar 29 – Apr 4	Implicit Differentiation and Applications	Apr 4 • MML Homeworks • MML Quiz
10	Apr 5 - 11	Review and Exam 2	**Apr 11** • **Last day to turn in all MML work from units 6, 7, 8, and 9** • **Exam 2 Review MML** • **Exam 2**
11	Apr 12 – 18	Extrema and Concavity	Apr 18 • MML Homeworks • MML Quiz
12	Apr 19 – 25	Graphing using derivatives/Makeup Exam	Apr 25 • MML Homeworks • MML Quiz **Apr 23 & 25** • **Makeup for any missed exams/technical difficulties/issues during Exams 1 and 2**
13	Apr 26 – May 2	Optimization and Absolute Max and Min	May 3 • MML Homeworks • MML Quiz
14	May 3 – May 14	Final Exam Review	**May 14** • **Last day to turn in all MML work from units 11, 12 and 13** **May 14** • **Final Exam Review MML**
15	May 14 and 16	Final Exam	**Final Exam due no later than May 16.**