MATH 108-A02/108-A03 Summer 2023 Syllabus

Instructor: Scott Carson

The Basics:

Lesson Times + Location: Online, due dates for work will be as posted on Blackboard each week.

Email: scarson4@gmu.edu. Expect replies to emails within 24 hours if sent on weekdays and on Mondays if sent over the weekend.

Office hours: Mondays, Wednesdays and Fridays from 11am – 12pm. These will be held virtually by Zoom, a link for each which will be posted on Blackboard. Online appointments can also be made to meet at an alternative time (email me a day in advance to set-up a time).

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 online using a lockdown browser and a second device running zoom.

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 Centre.

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 Goals: Below is an summary of the learning outcomes and goals of the course:

- This course satisfies GMU's Quantitative Reasoning Foundation Requirement.
- The learning outcomes that we will achieve to meet that requirement are:
    - Students are able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
    - 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.
    - Students are able to evaluate logical arguments using quantitative reasoning.
    - Students are able to communicate and present quantitative results effectively.

- The course itself seeks to satisfy the following goals:
    - Students improve and solidify their algebraic skills.
    - Students understand and apply derivatives as a tool to analyze change in quantified models.
    - Students analyze and interpret results in the context of Business and IT applications.
    - Students understand and compute integrals and their relationship to derivatives.

Required Items:

Required Materials: Below are the required materials and items that are necessary to complete this course online:

- Access Code to access the ebook and MyMathLab (abbrv. MML) for *Calculus for Business, Economics, Life Sciences and Social Sciences, 14th edition.* You can buy the book from Pearson directly, by following the directions after clicking the 'MyMathLab' option on the left-hand menu in Blackboard. Alternatively, you are also welcome to buy the book from the bookstore. You can always look at both options to decide which is better for you! Although if you buy a used book, please be sure you have an access code. It is required for this course.
- Calculator: You may use a standard scientific calculator. Suggested: TI 30X IIs.
- Calculators *that are not allowed*: Advanced Scientific Calculators: TI 36X Pro, and more. Graphing Calculators: Ti:83, 84 TI-89, TI-92, or TI-Nspire. Any calculators that perform integration/differentiation, either algebraic or numeric.
- We take tests via the Pearson lockdown browser. Your computer needs to be able to run that, or you need to be able to come to campus for exams. In addition to that computer, you'll need a second device to run zoom for exams (like a tablet or phone). More detailed exam information can be found in Blackboard under "Exam Information." Please read that before you decide if you can take this course or not.

Required Technologies: Below are the required technology to complete this course online:

- You need regular and consistent access to a computer, connected to the internet for this course.
- It is highly recommended that you have access to high speed internet to watch video lectures and to take exams.
- 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-A02/108-A03 can be found in the Course List.

- You need access to your GMU email account. In order to ensure student privacy, I only correspond with you via your GMU email.
- All videos lectures are posted on Blackboard.
- We take tests via the Pearson lockdown browser. Your computer needs to be able to run that, or you need to be able to come to campus for exams. In addition to that computer, you'll need a second device to run zoom for exams (like a tablet or phone). More detailed exam information will be given on Blackboard before the exams.

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. You need a computer that will run the Pearson lockdown browser and a second device to run zoom. More details will follow in Blackboard.

Grading and Assignments:

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

Assignment	Weight
MyMathLab Homework Average	20%
MyMathLab Quiz Average	20%
Midterm Exam 1	20%
Midterm Exam 2	20%
Final Exam	20%

The grading scale will be: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60%.
(+ or – may be attached to the grade for the upper or lower 2 points in each range).

No make-up tests or extra credit will be given. Within 1 week of receiving graded work back, it is your responsibility to check that the grade has been calculated correctly and to email me with any issues or questions. Otherwise, the grade will not be changed. Grades are not curved, and the standard grade breakdown applies for overall course grades.

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

- Information is provided on Blackboard for how to do access MyMathlab.
- MyMathLab is not operated by GMU. For that reason, if you experience any technical difficulties use 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 midterm exams in this course, and one comprehensive final exam. 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. You will need a computer that can work the Pearson lockdown browser and also a second device that will run zoom for the online proctoring. The final exam date is also given in the schedule on the last page of the syllabus. 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:

- 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.
- 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.
- 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 as stated in the schedule at the end of the syllabus. Once I know exam times, I post them and you sign up for a time. I suggest you sign up early. A couple days 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 it is set, 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.

- Midterm 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 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.

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Help and Resources

Diversity, equity and inclusion: George Mason University is an intentionally inclusive community that promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability. Please email me if you have any concerns about any feeling of inequity in this course.

Religious Holidays: GMU is accommodating to all religious holidays observed by its students and faculty. It is each student's responsibility *during the first two weeks of the semester* to inform instructors the dates of any major religious holidays on which the student will be absent or unavailable due to religious observances. https://ulife.gmu.edu/religious-holiday-calendar/

Disability statement: If you are a student with a disability and you need academic accommodations, please contact Disability Services at 703-993-2474. All academic accommodations must be arranged through that office. Your accommodations sheet must be submitted on Blackboard at least one week prior to any assessment that you are requesting accommodations for https://ds.gmu.edu/.

GMU Math Tutoring Centre: The Math Tutoring Centre will be offering online tutoring services to students currently enrolled in undergraduate Math courses at GMU. More information can be found at: https://science.gmu.edu/academics/departments-units/mathematical-sciences/math-tutoring/tutoring-centerhours-and

Academic Integrity: In your application to GMU, you signed an agreement to adhere to the Honor Code, which states that you must not "cheat, steal, plagiarize, or lie in matters related to your academic work." **University Honor Code:** You are expected to follow the GMU Honor Code: https://oai.gmu.edu/.

Student Privacy/FERPA: The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law that governs the education records of eligible students. It grants students continuous access to their education records upon request, allows students to amend their records if they feel they're inaccurate, and restricts how and when their education records can be disclosed. https://registrar.gmu.edu/ferpa/

Netiquette: Craft your messages carefully to avoid misinterpretation. Keep these online communication strategies in mind:

- Avoid vague words, jargons, and sarcasm—any rude or disrespectful posts will result in a grade deduction.
- Edit meticulously.

Additional Resources/Student Services:

- Keep Learning, Learning Services https://learningservices.gmu.edu/keeplearning/
- Counseling and Psychological Services https://caps.gmu.edu/
- University Libraries https://library.gmu.edu/
- See a longer list of Mason student support services posted on The Stearns Center website: https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-supportresources-on-campus/

Schedule: Here is the schedule for this class. Please note that this is a tentative plan only and any may be subject to change. Any changes will be announced through Blackboard in advance. Each Unit contains the following:

Ungraded Assignments:

- Watch the video lectures posted on the Blackboard website. These can be watched from each Week folder.
- Discussions – Post any questions you have to the discussion board.

Graded Assignments:

- MyMathlab Homework: Due by 11:59 pm EDT on due dates listed below
- MyMathLab Quiz: Due by 11:59 pm EDT on due dates listed below

Unit:	Dates:	Topics:	Due Dates:
1	22nd – 24th May	Functions and Graphing	24th May • MML Homework • MML Quiz
2	25th – 26th May	Finite limits and Infinite limits	26th May • MML Homework • MML Quiz
3	27th – 28th May	Polynomials and Rational Functions	28th May • MML Homework • MML Quiz
4	29th – 31st May	Exponential functions and Log functions	30th May • MML Homework • MML Quiz
5	**29th May – 2nd June**	**Review and Exam 1**	**2nd June** • **Last day to turn in all MML work from Units 1, 2, 3, and 4.** **2nd June** • **Exam 1 Review MML** • **Exam 1**
6	3rd – 4th June	Rates of Change and the derivative	4th June • MML Homework • MML Quiz
7	5th – 7th June	Exponential and Log derivatives	7th June • MML Homeworks

			MML Quiz
8	8th – 9th June	Product, Quotient and Chain Rules	9th June • MML Homework • MML Quiz
9	10th – 11th June	Implicit Differentiation and Applications	11th June • MML Homeworks MML Quiz
10	**10th – 13th June**	**Review and Exam 2**	**13th June** • **Last day to turn in all MML work from units 6, 7, 8, and 9** **13th June** • **Exam 2 Review MML** • **Exam 2**
11	14th – 16th June	Extrema and Concavity	16th June • MML Homework • MML Quiz
12	17th – 18th June	Graphing using derivatives	18th June • MML Homeworks MML Quiz
13	19th – 21st June	Optimisation and Absolute Maximum and Minimum	21st June • MML Homework • MML Quiz • Post-course assessment
14	**20th – 24th June**	**Final Exam Review and Final Exam**	**24th June**

			• **Last day to turn in all MML work from units 11, 12 and 13** **24th June** • **Final Exam Review MML** • **Final Exam**