MATH-108-DL1 – Introductory Calculus with Business Applications (3 credits)
Fall 2019

Instructor:
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Office Address:
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Contact Me:
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Most math questions are not good to ask over email. Math questions should be asked in the discussion board. I reserve email in this course for questions about grades, or private discussions (not relevant to everyone in the course). Anything else, post to the discussion board. 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, 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:
Wednesday 11:15 am – 1:15 pm in Exploratory 4403
Friday 1:30 – 2:30 pm in Exploratory 4403

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*

   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.

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. YouTube requires Adobe Flash player to be installed on your device. There's a test video on the website under Week 0, so you can try out your system.

Required Meeting Dates:

Although the course is offered online, all exams are proctored at the George Mason Fairfax Campus. If you are more than 50 miles from the GMU campus, you may find an alternate proctoring facility and request that proctor be approved by the instructor. Alternate proctor approval is solely at instructor discretion. Exam dates are provided on the last page in the schedule.

Assignments

Grading:

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

2 Unit Tests	40%
MyMathLab Homework and Quizzes	20%
Written Work Quizzes	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.

Discussions:

Most math questions are best asked in the discussion board. Please login and ask away. I monitor the discussion board on a regular basis.

Written Work Practice and Quizzes (no late work accepted)

Written Work Practice:

Practice written work is not turned in. I give you these example problems, with all solutions posted so you can use them to help understand how to do the quizzes. If you are having trouble on the quizzes, please take a look at the practice problems for help.

Written Work Quizzes (Grading is very strict):

Due by 11:59 pm on the dates listed on the calendar. The purpose of this is so I can see the work that you are doing and give you feedback before the exam.

Written work must be submitted to the appropriate unit, in Blackboard in a **single PDF file** (PDF only). No images or Word files will be accepted. **Multiple files are not accepted.** No late written work accepted.

See Unit 1 in Blackboard for more detailed information about submitting your written work.

Written work is graded out of 10 points, and the point allocation varies depending on the problem. In general, I am looking for:

- Follows "Expectations for Written Work" laid out in the Written Work information and "Graphing using point plotting" (Lesson 1).
- Format is correct (one pdf file). Submissions are not accepted in any other format.
- Work is submitted in a professional, screen-readable way (right-side up, legible. Not sideways or upside down)
- All work is handwritten. No typed work is accepted. No computer generated graphs are accepted.
- Solution is correct, with all relevant steps and supporting work shown.
- Solution is clear, well organized and easy to follow.
- Student uses sentences appropriately to fully explain the solution and/or to interpret the results of the analysis.

See my solutions to the written work practice for examples of what I am looking for on written work.

Viewing your graded work: Please click on "My Grades" in Blackboard. I make comments and notes on the work you turn in and upload corrected versions. To see these corrections, click on "My Grades" and then on the assignment you want to view. You should see your work with my comments. My solutions to the written work are posted under "Solutions" on Blackboard.

Practice written work problems are provided so you can have more to practice on for the written work portion of the class and exams. These are not collected.

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, like being in the hospital). 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).

We will be using a test proctoring center on the GMU campus to take exams, 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 earlly

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. Seats are assigned during each exam. Once you receive the exam, you are not allowed to leave the exam room until you are ready to turn the exam in.

If you are living more than 50 miles away from the GMU Fairfax campus, you may arrange for an alternate proctor. Alternate proctors are located at official proctoring facilities. These are usually community colleges, universities or for-profit test proctoring locations. You are responsible to find a facility, and to provide contact information to the instructor so she can contact them. The instructor must approve facilities before they can be used for proctoring and final decisions about approval is solely at instructor discretion. All alternate proctors for all exams must be approved prior to Sept 5.

Late Work Policy:

- Written work: No late work is accepted. Two low written work grades dropped to account for excused and unexcused absences.

- 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.

In this course, I drop written work grades (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

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:

- 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 2019 - 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	Aug 26 – Sep 2	Class Introduction Functions and Graphing	Sep 2 • How to use MyMathLab • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz • Syllabus quiz
2	Sep 3 – Sep 9	Finite limits and Infinite limits	Sep 4 • Last day to arrange for alternate exam proctor for any exam Sep 9 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz •
3	Seep 10 – 16	Polynomials and Rational Functions	Sep 16 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
4	Sep 17 – 23	Exponential functions Log functions	Sep 23 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
5	Sep 24 – Sep 30	Review and Exam 1	**Sep 30 (Monday)** • **Exam 1 Review MML** • **Exam 1 (on campus)**
6	Oct 1 – 7	Rates of Change and the derivative	Oct 7 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
7	Oct 8 – 14	Exponential and Log derivatives	Oct 14 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz

8	Oct 15 – 21	Product, Quotient and Chain Rules	Oct 21 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
9	Oct 22 – 28	Implicit Differentiation and Applications	Oct 28 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
10	Oct 29 – Nov 4	Review and Exam 2	**Nov 4** • **Exam 2 Review MML** • **Exam 2 (on campus)**
11	Nov 5 – 11	Extrema and Concavity	Nov 11 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
12	Nov 12 – 18	Graphing using derivatives	Nov 18 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
	Nov 19 – 25	Thanksgiving Break	
13	Nov 26 – Dec 2	Optimization and Absolute Max and Min	Dec 2 • MML Homeworks • MML Quiz • Written Work Practice • Written Work Quiz
14	Dec 3 – Dec 9	Final Exam Review and Final Exam	Dec 9 • Final Exam Review MML
	Dec 9		**Last Day to turn in all MML Homework and quizzes.**
	Dec 9 – 12	**Cumulative Final Exam**	**Final Exam:** **Take the exam Dec 9, 10, 11, 12 (Mon – Thurs)**