George Mason University
MATH-124 – Calculus I (3 credits)
Spring 2018

Instructor:	**Joanna Jauchen**
Email:	**jjauchen@gmu.edu** Email is the best way to reach me after you have exhausted these options: 1. Read the syllabus. 2. Look at the announcements on Blackboard. 3. Listen carefully when I'm making announcements in class. This means you have to be on time. 4. If you miss class, ask another student what you missed. This is not a reason for emailing me. All math questions should be asked in person after class, during office hours or with Learning assistants.
Instructor Policies:	1. Work should be done in pencil. 2. I do not accept late work. 3. No computers or cell phones are allowed to be used during class. Please turn your phone off/silent and put it away upon entering class.
Office Address:	Exploratory Hall, room 4403
Office Hours & Location:	Tuesday/Thursday 9:30 – 10:30 near/in Krug Hall 210 (before class) Friday 3 – 4 pm Exploratory Hall 4403
Class Meeting Time and Location:	Krug 210 TR 10:30 am – 11:45 am
Required Materials:	1. *Calculus: Early Transcendentals*, 2nd edition, by Briggs, Cochran and Gillett. If you already have a book, or had mml access previously, you do not need to buy another one. 2. Access Code for MyMathLab (included with the purchase of a new book) Code with ebook included (http://www.mymathlab.com). If you had MML access before, you do not need to purchase this again. 3. We sometimes will use scientific calculators in class. They will not be allowed on exams, and I suggest you get used to not using one.
Course Description:	This is the second part of a two semester sequence that covers algebra through basic calculus covered in Math 113. Math 124 will review basic differentiation and applications and then proceed to cover integration including transcendental functions. You must have received a minimum of a C in Math 123 in order to take this course. We generally cover Chapters 3 – 6 in the text. A comfortable working knowledge of Appendix A and Chapters 1 -3 is assumed. The course requires a serious time commitment, both in attendance and outside time for homework and studying.

During this class, I want you to:

1. Students are able to interpret quantitative information (i.e., formulas, graphs, tables, models, and schematics) and draw inferences from them.
    a. Students will understand how functions are represented by graphs.
    b. Students will sketch graphs of polynomial, exponential and trigonometric functions, and interpret graph parameters.
    c. Students will understand the relationship between the graph of a function and its inverse.
    d. Students will identify the graph of the derivative of a function from the graph of the function itself, and do the same for the antiderivative of a function.
2. Given a quantitative problem, students are able to formulate the problem quantitatively and use appropriate arithmetical, algebraic, and/or statistical methods to solve the problem.
    a. Students will find the rate-of-change of a function (e.g., velocity) from the function itself (e.g., position) and find the function (e.g. position) from its derivative (e.g. velocity)
    b. Students will find relative maxima and minima of a function (e.g., maximize profit or area)
    c. Students will solve for the zeros of the derivative of a function
    d. Students will evaluate areas under curves and compute the net change in a function between two values of the independent variable.
3. Students are able to evaluate logical arguments using quantitative reasoning.
    a. Students will interpret quantitative solutions to problems for plausibility and accuracy
    b. Students will understand how to use various formulas for computing derivatives, and know why these formulas hold.
4. Students are able to communicate and present quantitative results effectively.
    a. Student exams will be graded in part on clarity of presentation of work and not just on the final answer.
    b. Students may from time to time be asked to explain concepts qualitatively on exams and quizzes.
    c. If students are involved in group work they will be required to explain concepts to peers.

Attendance:

The best chance of passing this course comes from 1) attending class, and 2) doing the work.

If you miss class, you miss the opportunity for help on the material presented, discussed and worked on that day in class. Regardless of whether you are present or absent from class, **you** are responsible for everything that happens in class (assignments, homework, quizzes, etc).

I take attendance every class. You get one attendance grade per week, counted In-Class quiz grades. The grading is done on an all-or-nothing scale as follows:

- Present for all classtime for two classes – 10 points
- Absent for part or all of either class – 0 points

I understand that sometimes people are sick or have conflicts with class. A reasonable number of absences should not adversely affect your grade. I do not track excused or unexcused absences in this course.

School Closure

In case of school closure, late start, or canceled class, you will have video lecture from me and assignments, so check your email. I try to keep this class on schedule as best I can. This early start time tends to get canceled most often, but we will keep the course moving forward.

Homework:

Working homework is the most important part of the learning process in this course. Please be sure you have allocated enough time for this course.

Homework is assigned in MyMathLab.

MyMathLab:

MyMathLab is an online software system that accompanies your textbook. MyMathLab homework for the week is due Monday at 11:59 pm. See MyMathLab for dates for specific assignments.

If you had a code for 123, you should be automatically given access to 124 through the signup process. If you have trouble registering, do not buy a new code. Just go through Peason support to get the access you already paid for.

To sign up:

1. Login to our blackboard course at mymason.gmu.edu
2. Click on "MyMathLab" on the left.
3. If you have a Pearson account, then login. Otherwise, sign up for a new account.
4. Select an option
    a. Use an access code (if you bought a new book, you got one of these).
    b. Buy access online with a credit card
    c. Get 17 days of temporary access (look for the tiny blue link at the bottom of the page)

MyMathLab Technical Support: http://247pearsoned.custhelp.com (available 24 hours a day)
Pearson Customer Service and Technical Support: 800-677-6337.

MML is a computer graded system. If you get problesm 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 is accepted late for a 20% penalty.

In-Class /Quizzes/ Preparation:

You need to prepare for every class. This includes reading the material that we will be covering in lecture, taking notes over your reading and working the examples, and doing any other problems I assign. You will turn something in to me every day in class. Sometimes these are pop-quizzes given randomly in class throughout the semester. I also give "quizzes" that are things like checking if you did the preparation work, asking you to work with other people etc. No make-up quizzes are given. Two quiz grades are dropped to account for late-adding the course, illness, car trouble, or any other excused or unexcused absences.

Tests & Final Exam:

There are 2 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.The final exam date is given in the schedule on the last page of the syllabus. 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, 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. No calculator is allowed on exams except where noted. 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.

Requirements and Grading:

2 Unit Tests	40%
MML	15%
In Class Quizzes/Prep/Attendacne/Etc	20%
Comprehensive Final Exam	25%

Scale:

100-90	A
89-80	B
79-70	C
69-60	D
59-0	F
+/-	Added at Instructor discretion

Withdraw & Audit

See the GMU website for important add/drop deadlines: http://registrar.gmu.edu/calendars/

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*

The Volgenau School of Engineering also offers peer tutors.
http://volgenau.gmu.edu/undergraduates/peer-mentors

MyMathLab is also a resource available for this class. In MML there are lecture videos, and step - by-step instructions on how to complete homework problems.

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 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 during an assessment

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.

MATH-124 - Calculus (3 credits) Course dates are tentative and subject to change.

Week	Class	Topic
1	1/23	Class Introduction/Syllabus/Grade Policy Discussion 3.1 – 3.6 Review
	1/25	3.1 – 3.6 Review of Derivatives
2	1/30	3.7 The Chain Rule
	2/1	3.8 Implicit Differentiation
3	2/6	3.9 Derivatives of Logarithmic and Exponential Functions
	2/8	3.10 Derivatives of Inverse Trig Functions
4	2/13	3.11 Related Rates
	2/15	Makeup Day
5	2/20	Review
	2/22	**Exam 1**
6	2/27	4.1 Maxima and Minima
	2/29	4.2 What Derivatives Tell Us
7	3/7	4.3 Graphing Functions
	3/8	4.4 Optimization Problems
8	**3/12 – 3/18**	**Spring Break**
9	3/19	4.5 Linear Approximation and Differentials
	3/22	4.6 Mean Value Theorem
10	3/27	4.7 L'Hopitals Rule
	3/29	4.8 Newton's Method
11	4/3	4.9 Antiderivatives
	4/5	Review
12	4/10	Exam 2
	4/12	5.1 Approximating Areas under Curves
13	4/17	5.2 Definite Integrals
	4/19	5.3 Fundamental Theorem of Calculus
14	4/24	5.4 Working with Integrals
	4/26	5.5 Substitution Rule
15	5/1	Makeup Day
	5/3	Final Exam Review
16	**5/15**	**Cumulative Final Exam 10:30 am – 11:45 am**