# McLennan

## C O M M U N I T Y

# C O L L E G E

### WACO, TEXAS

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# COURSE SYLLABUS

# AND

# INSTRUCTOR PLAN

**Calculus I**

**Math 2413. 05**

**Peter Blaskiewicz**

**NOTE:  This is a 6-week (Summer I session) course.**
**NOTE:  This is a blended/online course, with class meetings**
**face-to-face and using Zoom.**

AN EQUAL OPPORTUNITY INSTITUTION                    Summer I  2021

Calculus I

MATH 2413.05

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**Course Description**:

Topics: Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

**Prerequisites**:

Precalculus (Math 2412) or else both College Algebra (Math 1314) and Trigonometry (Math 1316), or by consent of the Division Chair

**Course Notes and Instructor Recommendations:**

Success in this course requires a prior working knowledge of precalculus concepts, obtained in the prerequisite courses. These basic skills are not retaught in this class, but they are applied in the processes throughout. If it has been more than three years since the prereqs were completed, or if the student knows that his/her algebra or trigonometry skills are weak, he/she is strongly encouraged to spend this semester on those topics instead.

*MyMathLab* (*MML*) will be used extensively for posting course notes, assignments, grades, testing, and other communications. Students are expected to check their *MML* and MCC email accounts often.

*** Note about this summer version of the class ***

I will be holding class sessions in Zoom each TTh morning from 10:15 a.m. till 1:00 p.m. The URL will be posted in this course's Brightspace shell. I strongly encourage you to attend and be an interactive class, for several reasons. For one thing, it will help make the material more immediate and relevant, and you can get your questions resolved right away if you are there 'as it happens.' Also, I will be able to tailor the lessons to your level of understanding if I have an audience to 'read.'

On days we don't meet in Zoom, we will have class face-to-face in Math room 205 from 10:15 a.m. till 1:00 p.m.

A few of you have let me know that you occasionally have to work at that time. The Zoom sessions will be recorded, and links to each video will be posted in Brightspace soon after the class meeting is over (hopefully within 15 minutes or so, but in any case by mid-afternoon). If you miss a class meeting, it is expected that you will watch the video later that day and try your hand at the homework assignment, so that you are ready for the next lesson and don't get behind. (The material does build on itself.)

I will be available for individual Zoom chat sessions / 'office hour' by arrangement, especially if you cannot come to one of the regular class sessions. I request that you first watch the video over the missed class, so that we are not reinventing the wheel. The best way to arrange a Zoom

meeting is by emailing me with a suggestion of a time or two that would work for you; if you call me, a voice message would go to my email box anyway.

## Instructor Information:

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|---|---|
| Instructor Name: | Peter Blaskiewicz |
| MCC E-mail: | pblaskiewicz@mclennan.edu |
| Office Phone Number: | (254) 299-8869 |
| Office Location: | MATH 213 |
| Office/Teacher Conference Hours: | MTWTh 1:30 – 2:30 p.m.; other times by arrangement via email |
| Zoom Office Meeting ID: | 254 299 8869  ( https://mclennan.zoom.us/j/2542998869 ) |

## Required Text & Materials:

MyMathLab electronic access from the publisher (Pearson) using the textbook listed below (or a code to obtain access if you do not have access linked to this text).  The course ID will be given to you in Brightspace, or you may email the instructor after you have registered for the course.

The printed version of the text is optional:

| | |
|---|---|
| Title: | Thomas' Calculus - Early Transcendentals (14th Edition) |
| Author: | George Thomas, Maurice Weir, Joel Hass |
| Edition: | Fourteenth (2018) |
| Publisher: | Pearson – AddisonWesley |
| ISBN: | 978-0-13-443902-0 (for optional printed text) |

A graphing calculator.  The TI-84 or TI-83.  (The TI-89 or TI Nspire or any other calculating device with a computer algebra system will **not** be allowed in this course.)

## MCC Bookstore Website:  http://www.mclennan.edu/bookstore/

## Methods of Teaching and Learning:

Lecture online using Zoom alternating with face-to-face classroom meetings, with student participation in example problems; lecture preparation available through LiveScribe pdf documents posted in MyMathLab; homework submitted online through MyMathLab; tests and a final exam in MyMathLab.

## Course Objectives and/or Competencies:

Upon successful completion of this course, students will be able to:
1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and

differentiability at a point.
3. Determine whether a function is continuous and/or differentiable at a point using limits.
4. Use differentiation rules to differentiate algebraic and transcendental functions.
5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.
7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

## **Course Outline or Schedule:**

*The schedule is subject to change. Should a change become necessary, students will be notified about changes verbally, during class. In the event unforeseen circumstances prevent a class from occurring as scheduled, either make-up lecture material will be posted in Brightspace or the calendar schedule will be adjusted and announced. If something on the school's end or the publisher's end prevents a test from taking place as scheduled, the test window will be moved forward to the next available day.*

| Date | Section | Topic |
|---|---|---|
| June 1 (T) | 2.1 – 2.2 | Intro; Rates of Change and Tangents to Curves; Limits of a Function and Limit Laws |
| June 2 (W) | 2.3 – 2.4 | The Precise Definition of a Limit; One-Sided Limits |
| June 3 (Th) | 2.5 – 2.6 | Continuity; Limits Involving Infinity; Asymptotes of Graphs |
| June 7 (M) | 3.1 | Tangents and the Derivative at a Point |
| June 8 (T) | 3.2 | Test 1 (Ch 2) The Derivative as a Function |
| June 9 (W) | 3.3 – 3.4 | Differentiation Rules; The Derivative as a Rate of Change |
| June 10 (Th) | 3.5 – 3.7 | Derivatives of Trigonometric Functions; The Chain Rule; Implicit Differentiation |
| June 14 (M) | 3.8 – 3.10 | Derivatives of Inverse Functions and Logarithms; Inverse Trigonometric Functions; Related Rates |
| June 15 (T) | 3.11 | Linearization and Differentials |
| June 16 (W) | 4.1 | Test 2 (Ch 3) Extreme Values of Functions |
| June 17 (Th) | 4.2 – 4.4 | The Mean Value Theorem; Monotonic Functions and the First Derivative Test; Concavity and Curve Sketching |
| June 21 (M) | 4.5 – 4.6 | Indeterminate Forms and L'Hopital's Rule; Applied Optimization |
| June 22 (T) | 4.7 – 4.8 | Newton's Method; Antiderivatives |
| June 23 (W) | 5.1 | Review Area and Estimating with Finite Sums |
| June 24 (Th) | 5.2 | Test 3 (Chapter 4) Sigma Notation and Limits of Finite Sums |
| June 28 (M) | 5.3 – 5.4 | The Definite Integral; The Fundamental Theorem of Calculus |
| June 29 (T) | 5.5 – 5.6 | Indefinite Integrals and the Substitution Method; Definite Integral Substitutions and the Area Between Curves |

| June 30 (W) | | Test 4 (Ch 5) |
| July 1 (Th) | | Review for Final Exam |
| July 6 (T) | | Final Exam – cumulative |

**Course Grading Information:**

Your course grade will be based on homework, chapter tests, and a cumulative exam. All will be submitted online in MyMathLab.  The relative weights of each of these factors is as follows:

| | |
|---|---|
| Homework | 20% |
| Classwork and Participation | 5% |
| Tests        projected 4 @ 15% (if other, the weights will total 60%) | 60% |
| Final Exam  (cumulative) | 15% |

Homework will be assigned and worked online using MyMathLab.  The deadline for each set of homework will be the scheduled time of the test over the sections covered by the homework.

We will be covering chapters 2 through 5 of the text.  There will be a test over approximately each chapter.  They will have a time limit, and they must be completed within a specified window (a day or a couple of days).  The tests will all be weighted equally, with all the test weights equal to 60% of the course grade.

**NOTE**:  In order **to take a test** (or the final), each of the **homework** sets covered on the test **must be completed with** a grade of **at least 80**%.  Otherwise MyMathLab will not allow you to open the test.  Deadlines for tests will not be extended for those who can't access the test due to unfinished homework.

The final exam will be cumulative.  It is scheduled for Tuesday, July 6.  Please plan accordingly.  Your grade on the final may also count in place of your one lowest test grade, if that is to your advantage.

Your course grade at any time may be found in MyMathLab, which will keep a running average of all your tests and the homework sections that you have attempted.  Caution: since it is possible to work homework after the due date (for a penalty), the homework grade in MyMathLab will not include 0's for homework not yet attempted, until the very end of the course.  If a student has past-due homework sets, the homework and course average will appear higher than they really will be if the work is not done by the semester's end.

The 'classwork and participation' part of your grade is a bit subjective, but it will generally be either 5 or 0.  You earn these points by being present and interacting in the Zoom and face-to-face lessons.  If at the end of the semester the only thing I know about you is that your name showed up in a silent black box in Zoom and that you quietly sat there during face-to-face class meetings, then no participation credit is due you.  Please come (webcam and mic ready on Zoom days), and comment or ask questions as appropriate.  Be an active member of the class.

The letter grade received in this course will be based on the customary 90-80-70-60 scale.

**Late Work, Attendance, and Make Up Work Policies:**

Homework over a unit (chapter or group of chapters) is due the day of the test over those chapters. Since one of the primary purposes of the homework is to prepare you for the test, late homework will be penalized 5% per day of the credit on the problems submitted late. (The penalty will not be applied to any problems in a set that are submitted on time, but only to problems in the set that are submitted late.)

Your attendance will be based on your activity in MyMathLab and participation in Zoom class sessions and face-to-face class meetings. If seven consecutive days elapse with no activity from a student, that student will be dropped from the course for non-attendance. If there is sporadic activity in MyMathLab, and the student falls more than a week behind in assignments, that will also be taken as an indication that the student does not intend to pursue the course to completion, and the student will be dropped for non-attendance. If a situation arises that requires you to be inactive for more than just a day or two, please contact the instructor and discuss the situation, so that you are not otherwise dropped for non-attendance.

If you miss taking one chapter test during its announced window, the grade on the final exam can count to replace that missing test grade. (It will also count as the final.) If you have missed more than one test, only one of those missing grades can be replaced by the final. If you miss the final, the course grade will be calculated with a 0 in its place. (Please do not miss the final!)

**Student Behavioral Expectations or Conduct Policy:**

Students are expected to be courteous and respectful of their classmates and of instructors at all times. This includes, but is not limited to, the following.

For Zoom meetings:
- Familiarize yourself with Zoom's features
- Please do participate in the class meetings. It's fine to have your mic on and ready for interaction, but mute yourself if the dog or children or other background noise would disrupt us.
- Please use your webcam if you have one. Let me, as well as your fellow classmates, know who is in this course with us. But be mindful of your surroundings when your webcam is on. If necessary or desirable, use a non-distracting virtual background; Zoom provides that option.
- Dress appropriately for class.
- Once the lecture gets going, stick to the topic at hand, just as you would for a face-to-face lecture class. Avoid doing other tasks, checking email, being on the phone, or the like.
- Do not use coarse or foul or offensive language, nor offensive or questionable imagery. Violation of this would be grounds for disciplinary action, including (but not limited to) being dropped from the course.
- Remember that the session is being recorded.

For face-to-face meetings:

- Masking and social distancing will be practiced in our classroom.  Even if requirements on campus become relaxed over the semester, in our classroom we will continue to follow the masking and social distancing guidelinesthat have been in place for the past several months.
- If you are ill or have any symptoms of any illness (not limited to Covid), do not come to school.
- Arrive in the classroom on time; be as unobtrusive as possible if tardy.
- Silence or turn off cell phones and other communication devices during all regular class periods. (During tests, these devices should not be present at all. If you access your phone during a test, you are automatically finished with your test and must turn it in immediately.)
- Save private conversations with other students for before/after class lectures.
- Do not bring children to class nor leave them unattended on campus. To do so is contrary to school policy.
- Do not use excessive amounts of fragrance. Doing so is grounds for being required to leave.
- You may not share calculators on a test.

MCC Academic Integrity Statement:

The Center for Academic Integrity defines academic integrity as "a commitment, even in the face of adversity, to five fundamental values: honesty, trust, fairness, respect, and responsibility. From these values flow principles of behavior that enable academic communities to translate ideals into action." Individual faculty members determine their class policies and behavioral expectations for students.  Students who commit violations of academic integrity should expect serious consequences.  For further information about student responsibilities and rights, please consult the McLennan website and your Highlander Student Guide.

For more information, see https://www.mclennan.edu/academic-integrity

Collaboration on out-of-class assignments is encouraged, but at no time should work belonging to one student be in the possession of another student. Likewise, students are not to engage in cheating in any form during or in preparation for tests or the final exam. All students involved in a cheating incident, whether in providing or receiving assistance, will receive grades of 0 for that assignment, be reported to Student Development, and find their names placed in the MCC database for cheating incidents. If there is a second incident, all students involved will be dropped from the course with grades of F and listed as repeat offenders in the database.

## **MCC Attendance Policy:**

Regular and punctual attendance is expected of all students, and each instructor will maintain a complete record of attendance for the entire length of each course, including online and hybrid courses. Students will be counted absent from class meetings missed, beginning with the first official day of classes. Students, whether present or absent, are responsible for all material presented or assigned for a course and will be held accountable for such materials in the determination of course grades.

**[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)**
**(https://www.mclennan.edu/highlander-guide/policies.html)**
Click on the link above for the college policies on attendance and absences.

# McLennan
## C O M M U N I T Y
# C O L L E G E

# ACADEMIC RESOURCES/POLICIES

**Student Support/Resources:**
MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at http://www.mclennan.edu/campus-resource-guide/

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact a Success Coach by calling (254) 299-8226 or emailing SuccessCoach@mclennan.edu. Students may visit the Completion Center Monday-Friday from 8 a.m.-5 p.m. to schedule a meeting with a Success Coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff based on household size. Text (254) 870-7573 to schedule a pantry appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

**MCC Foundation Emergency Grant Fund:**
Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html to find out more about the emergency grant. The application can be found at https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf.

**Minimum Technical Skills:**
Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

**Backup Plan for Technology:**
In the event MCC's technology systems are down, you will be notified via your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

**Minimum System Rquirements to Utilize MCC's D2L|Brightspace:**
Go to https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

**Email Policy:**
McLennan Community College would like to remind you of the policy (http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are expected to read and, if needed, respond in a timely manner to college emails.

**Instructional Uses of Email:**
Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

**Email on Mobile Devices:**
The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

**Forwarding Emails:**
You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

**MCC Academic Integrity Statement:**
Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating.

**Accommodations/ADA Statement:**
Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. For additional information, please visit www.mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:
        disabilities@mclennan.edu
        254-299-8122
        Room 319, Student Services Center

### Title IX:
We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling Dr. Drew Canham (Chief of Staff for Diversity, Equity & Inclusion/Title IX) at (254) 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC at (254) 299-8210. The MCC Student Counseling Center is a confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting http://www.lighthouse-services.com/mclennan/.

Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence, or domestic violence.

### Disclaimer:
The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.