

McLennan

C O M M U N I T Y

COLLEGE

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

Calculus III

Math 2415. 01

Peter Blaskiewicz

NOTE: This is a 6-week (Summer II session) course.

COVID 19 Notice:

McLennan Community College is committed to providing you with every resource you need to reach your academic goals including your safety. We will continue to monitor the evolving situation with COVID 19 and adjust our safety guidelines to make sure we offer a safe environment for you and our faculty. Please make sure to consult your faculty and the MCC website at <https://www.mclennan.edu/crisis-management/coronavirus-updates/index.html> on any changes to these guidelines.

Calculus III
MATH 2415.01

Course Description:

Develops concepts of vectors, vector-valued functions, partial derivatives, Lagrange multipliers, multiple integrals, Jacobians, applications of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

Prerequisites:

Math 2414 (Calculus II) with a grade of C or better

Course Notes and Instructor Recommendations:

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.

Instructor Information:

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 2:30 – 3:30 p.m. Other times by arrangement
Zoom Office Meeting ID by arrangement:	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.

Having a printed copy of the text is completely optional. The textbook to which MyMathLab will be connected (and which will be available electronically inside MyMathLab) is:

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-89 or TI N-Spire are the models of choice for this course

MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

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Methods of Teaching and Learning:

Lecture with face-to-face classroom meetings, with Zoom running; student participation in example problems; 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:

1. Perform calculus operations on vector-valued functions, including derivatives, integrals, curvature, displacement, velocity, acceleration, and torsion.
2. Perform calculus operations on functions of several variables, including partial derivatives, directional derivatives, and multiple integrals.
3. Find extrema and tangent planes.
4. Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the Divergence Theorem, and Stokes' Theorem.
5. Apply the computational and conceptual principles of calculus to the solutions of real-world problems.

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
July 11 (M)	12.1 – 12.4	Three-space; Vectors; Dot Product; Cross Product
July 12 (T)	12.5 – 12.6	Lines and Planes in Space; Cylinders, Quadric Surfaces
July 13 (W)	13.1 – 13.2	Test – Chapter 12 Space Curves and their Tangents; Integrals of Vector Functions
July 14 (Th)	13.2 – 13.5	Projectile Motion; Arc Length, Curvature, Normal Vectors; Components of Acceleration
July 18 (M)	13.6 – 14.1	Velocity and Acceleration in Polar Coordinates; Functions of Several Variables
July 19 (T)	14.2 – 14.3	Test – Chapter 13 Limits and Continuity; Partial Derivatives
July 20 (W)	14.4 – 14.5	The Chain Rule; Directional Derivatives, Gradients
July 21 (Th)	14.6 – 14.7	Tangent Planes and Differentials; Extreme Values and Saddle Points
July 25 (M)	14.8 – 14.9	Lagrange Multipliers; Taylor's Formula for Two Variables

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July 26 (T)	14.10	Partial Derivatives with Constrained Variables Test – Chapter 14
July 27 (W)	15.1 – 15.4	Double Integrals in Rectangular and Polar Coordinates; Area
July 28 (Th)	15.5 – 15.7	Triple Integrals; Cylindrical and Spherical Coordinates; Moments and Mass
August 1 (M)	15.8 – 16.1	Substitutions and Jacobians; Line Integrals
August 2 (T)	16.2	Test – Chapter 15 Vector Fields; Work, Circulation, Flux
August 3 (W)	16.3	Path Independence, Potential Functions, Conservative Fields
August 4 (Th)	16.4 – 16.5	Green's Theorem; Surface Integrals
August 8 (M)	16.6 – 16.7	Parametrized Surfaces; Stokes' Theorem
August 9 (T)	16.8	Divergence Theorem
August 10 (W)		Test – Chapter 16 Review for Final Exam
August 11 (Th)		Final Exam – cumulative

Course Grading Information:

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

Homework (online using MyMathLab)	20%
Classwork and group problems	5%
Tests (projected 5@ 12% -- if other, the weights will total 60%)	60%
Final Exam	15%

Homework will be assigned and worked online using MyMathLab (<http://www.mymathlab.com/>). The deadline for each set of homework will be the scheduled time of the test over the sections covered by the homework. As students who have successfully completed other mathematics courses in the past, you should know the value and necessity of practicing these exercises outside of class time. Note: If the usual access to MyMathLab at <http://www.mymathlab.com/> is down for any reason, try using this alternate URL to get directly to the homework: https://www.mathxl.com/login_mml.htm (No other functionality except homework access is available here, but at least you'll meet homework deadlines.)

We will be covering chapters 12 through 16 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, 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.

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The final exam will be cumulative. It is scheduled for Thursday, August 11 at regular class time. 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 class. If at the end of the semester the only thing I know about you is that your name showed up on the roster and attendance sheet, then no participation credit is due you. Please 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.)

Attendance is taken daily. Ideally, a student is not absent unless necessary; the school requires that your absences not reach 25% of the scheduled time for the course (five days, or the equivalent in parts of days). If a situation arises that requires you to be gone 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 face-to-face meetings:

- Masking and social distancing are not required in our classroom at the start of the semester. I reserve the right to change this at my discretion if I believe the situation warrants. In any case, be respectful of the personal space of others
- 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.

For Zoom meetings, if any occur:

- 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.

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.



ACADEMIC RESOURCES/POLICIES

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.

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.

MCC Academic Integrity Statement:

Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

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

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.

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. For more information about your student email account, go to www.mclennan.edu/student-email.

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.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](https://support.microsoft.com/en-us/office/set-up-an-outlook-account-in-the-ios-mail-app-b2de2161-cc1d-49ef-9ef9-81acd1c8e234?ui=en-us&rs=en-us&ad=us) (<https://support.microsoft.com/en-us/office/set-up-an-outlook-account-in-the-ios-mail-app-b2de2161-cc1d-49ef-9ef9-81acd1c8e234?ui=en-us&rs=en-us&ad=us>)
- [Email Setup for Androids](https://support.microsoft.com/en-us/office/set-up-email-in-android-email-app-71147974-7aca-491b-978a-ab15e360434c?ui=en-us&rs=en-us&ad=us) (<https://support.microsoft.com/en-us/office/set-up-email-in-android-email-app-71147974-7aca-491b-978a-ab15e360434c?ui=en-us&rs=en-us&ad=us>)

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.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email helpdesk@mclennan.edu.

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.