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

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

Calculus III

Math 2415. 10

Peter Blaskiewicz

NOTE: This is a 16-week course.

AN EQUAL OPPORTUNITY INSTITUTION   Spring 2022

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,* Brightspace, and MCC email accounts often.

Please do not, under any circumstances, come to class if you are even slightly sick or have any symptoms that make you think you might possibly be sick, no matter what type of illness. Let me know, and I will make arrangements for you to be able to get the material that is being covered on the day that you are out due to illness.

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 any available 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:

Instructor Name: Peter Blaskiewicz
MCC E-mail: pblaskiewicz@mclennan.edu
Office Phone Number: (254) 299-8869
Office Location: MATH 213
Office/Teacher Conference Hours:
        MW 9:45-10:45 a.m.; TTh 1:30-2:30 p.m.; other times by arrangement
        (Office Zoom: https://mclennan.zoom.us/j/2542998869 by prior email arrangement)

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/

Methods of Teaching and Learning:
Lecture (face-to-face classroom meetings), with student participation in example problems; lecture preparation available through e-text and publisher videos posted in MyMathLab; homework submitted online through MyMathLab; tests and a final exam in MyMathLab with proctoring, or else with pencil and paper.

Course Objectives and/or Competencies:
Uopn 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.

Week (Dates)	Section	Topic
1 (Jan 10-16)	12.1 – 12.4	Three-space; Vectors; Dot Product; Cross Product
2 (Jan 17-23)	12.5 – 12.6	Lines and Planes in Space; Cylinders, Quadric Surfaces Test – Chapter 12
3 (Jan 24-30)	13.1 – 13.2	Curves in Space and their Tangents; Integrals of Vector Functions; Projectile Motion
4 (Jan 31-Feb 6)	13.3 – 13.6	Arc Length, Curvature, Normal Vectors; Components of Acceleration; Velocity and Acceleration in Polar Coordinates
5 (Feb 7-13)	14.1 – 14.2	Test – Chapter 13 Functions of Several Variables; Limits and Continuity
6 (Feb 14-20)	14.3 – 14.6	Partial Derivatives; The Chain Rule; Directional Derivatives, Gradients; Tangent Planes and Differentials
7 (Feb 21-27)	14.7 – 14.9	Extreme Values and Saddle Points; Lagrange Multipliers; Taylor's Formula for Two Variables
8 (Feb 28-Mar 13)	14.10	Partial Derivatives with Constrained Variables Test – Chapter 14
9 (Mar 14-20)	15.1 – 15.5	Double and Triple Integrals in Rectangular and Polar Coordinates; Area
10 (Mar 21-27)	15.6 – 15.8	Moments and Mass; Cylindrical and Spherical Coordinates; Substitutions and Jacobians
11 (Mar 28-Apr 3)	16.1 – 16.2	Test – Chapter 15 Vector Fields; Work, Circulation, Flux
12 (Apr 4-10)	16.3 – 16.4	Path Independence, Potential Functions, Conservative Fields; Green's Theorem
13 (Apr 11-17)	16.5 – 16.7	Parametrized Surfaces and Area; Surface Integrals
14 (Apr 18-24)	16.7 – 16.8	Stokes' Theorem; Divergence Theorem
15 (Apr 25-May 1)		Test – Chapter 16 Review for Final Exam
16 (May 2)		Final Exam – cumulative

Calculus III

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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 Participation	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.

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. If any of the chapter tests are pencil-and-paper in class, you must meet the same homework completion criterion to be givn a test. Deadlines for tests will not be extended for those who can't access the test due to unfinished homework.

For any test that is online, you are to work out the problems on paper, neatly and legibly, just as though you were taking a pencil-and-paper test in class. Within fifteen minutes of completing the test online, you are to have uploaded a scanned copy or good jpg of your work in the designated area in Brightspace. For any correct problems in MyMathLab for which you do not have correct supporting work, you will receive half credit at the most. For any incorrect problems in MyMathLab, correct work could result in partial credit being given back.

The final exam will be cumulative. It is scheduled for Monday, May 2. 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 untouched 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 face-to-face lessons (and Zoom sessions, if we need to go online). If at the end of the semester the only

thing I know about you is that you quietly sat there during face-to-face class meetings (or that your name was in a black box on Zoom), then no participation credit is due you. Please come, help us solve problems, 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.

Tentative Schedule:

The following dates are tentatively scheduled as our testing dates. The first date is if it is in the classroom, and the second is if online. The Chapter 16 test will be online.

Test 1 (Chapter 12) – Monday, January 24, or Sunday, January 23
Test 2 (Chapter 13) – Monday, February 7, or Sunday, February 6
Test 3 (Chapter 14) – Wednesday, March 2, or Sunday, March 6
Test 4 (Chapter 15) – Monday, March 28, or Sunday, March 27
Test 5 (Chapter 16) – (online) Sunday, April 24

Our pace will generally be to cover two sections per class period. Please plan accordingly in preparing for class. In those rare, rare instances when you must be absent, use this as a guideline to know about how much material you would need to make up.

In the event that the school closes for illness or weather or other unscheduled situations, be prepared for each of these possibilities: either the next class period we will do whatever was planned for the class period that was canceled, or we will hold our class online in Zoom at its regularly scheduled time.

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 2% 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 any scheduled classroom meetings, your activity in MyMathLab and participation in any Zoom class sessions (if any) and face-to-face class meetings. If two consecutive weeks, or else four individual weeks, elapse with no attendance and no activity in MyMathLab from a student, that student will be dropped from the course 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 at its regular class time or during its announced online 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 will be ***highly*** encouraged in our classroom. Not taking other people around you into consideration and respecting their expectations of a safe environment will be grounds for you being rerquired to leave. It would be best if you would continue to follow the masking and social distancing guidelines that 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.

For Zoom meetings, if we have any:
- 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)
Click on the link above for the college policies on attendance and absences.

McLennan
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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.

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.

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.