FITCHBURG STATE UNIVERSITY
FITCHBURG , MASSACHUSETTS
COURSE SYLLABUS
SUMMER 2021

COURSE: MAT 3350 MULTIVARIATE CALCULUS
4 undergraduate credits

WEBASSIGN CLASS KEY: **mwcc.mass 5824 6231**

INSTRUCTOR: Festus Kiprono

OFFICE HOURS VIA ZOOM

A) **STUDENTS IN UNITED STATES**

MONDAY: **1– 2pm** Eastern Standard time https://us02web.zoom.us Meeting ID**: 849 2900 3443, PASSWORD** 122237

B) **STUDENTS IN CHINA**

TUESDAY: **10-11am** https://us02web.zoom.us Meeting ID**:882 7430 5012, PASSWORD** 307331

EMAIL/Phone : fkiprono@fitchburgstate.edu **or** f_kiprono@mwcc.mass.edu +1 978 652 8255(**whatsapp** calls)

- Students download **whatsapp** from your appstore.

COURSE DESCRIPTION: This course involves study of vectors, parametric equations, polar and cylindrical and spherical coordinates, quadric surfaces, multivariate functions, partial derivatives, directional derivate and multiple integrals.

Prerequisite(s):MATH 2400,MATH 2550(may be taken concurrently

TEXTBOOK: *Stewart, James. Calculus: Early Transcendentals, 8th Edition, Cengage Learning.*

NOTE: All Students MUST BUY WEBASSIGN ACCESS CODE.You don't need to buy the physical textbook above since you can access the book online using WebAssign www.webassign.net .Whereas the Physical textbook is optional, the WEBASSIGN ACCESS CODE IS NOT. The access code gives access to online assignments and ebook. If you are continuing from Calculus I, **I** on same textbook above, then you don't need to buy another code.

Students should know how to use a graphing calculator. TI-83/84 recommended.

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LEARNING OUTCOMES: A primary objective of this course is to parallel a university level Calculus III course. Upon completion of this course, the student will be prepared to continue with advanced courses in mathematics and courses in the physical sciences and engineering. Specific objectives include acquisition of the following skills:

1. An understanding of polar coordinates and parametric equations.
2. The ability to find limits, derivatives, and integrals of vector-valued functions.
3. The ability to apply techniques of integration to find arc length, curvature, and tangent and normal vectors.
4. An understanding of three-dimensional space.
5. The ability to find partial derivatives and apply partial derivatives to maximum/minimum value problems.
6. The ability to integrate two-variable and three variable equations.
7. An understanding of Vector Calculus
8. And understanding of Green's Theorem

METHODOLOGY: WEB

- All work will be done on webassign www.webassign.net -No work will be posted on blackboard
- I will post all announcements,videos on webassign

GRADING POLICY:

HOMEWORK – 20% (On Webassign).

Quizzes-10%(on Webassign)

EXAMS 1,2 = 40%(On Webassign)

FINAL EXAM =30%(On Webassign)

FITCHBURG STATE UNIVERSITY UNDERGRADUATE GRADING POLICY

4.0	**A**	**95 –100**
3.7	**A-**	**92 – 94**
3.5	**A-/B+.**	**89 – 91**
3.3	**B+**	**86 – 88**
3.0	**B**	**83 – 85**
2.7	**B-**	**80 – 82**
2.5	**B-/C+**	**77 – 79**

2.3	C+	74 – 76
2.0	C	71 – 73
1.7	C-	69 – 70
1.5	C-/D+	67 – 68
1.3	D+	64 – 66
1.0	D	60 – 63
0.0	F	0 – 59
-	IN	Incomplete
-	IP	In Progress
-	W	Withdrawn

HOMEWORK (Due every Sunday at 11.59pm)

Homework will be done on **"web assign"**. You MUST register on web assign using the following link https://www.webassign.net/login.html **There will be no make up for any homework.**

The class key is: mwcc.mass 5824 6231

QUIZZES

Quizzes will be done on **"web assign".** You MUST register on web assign using the following link https://www.webassign.net/login.html . **There will be no make up for any quiz**

The class key is: mwcc.mass 5824 6231

EXAMINATIONS

Exams will be done on "**webassign**".Two exams and one cumulative final exam will constitute 70% of the overall course grade. All exam dates are posted on syllabus below.There will be no make-up exams unless extreme extenuating circumstances can be documented with a doctor's note, police report, or equivalent documentation. **There are no make ups for exams**

Note- You cannot see exams in advance. Exams are only open on the days it's scheduled to be done.

CLASS POLICY

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-All students must do their own work. Any form of cheating will automatically be reported to the university and lead to an F

-Every student is responsible for completing all homeworks,quizzes and exams as per timeline on web assign

ATTENDANCE POLICY: All students must adhere to the timelines for readings, exams, homework and quizzes. I have a **NO MAKE UP POLICY** for all assignments.

STUDENTS WITH DISABILITIES: Statement on Disabilities:

At Fitchburg State University, we are committed to providing quality services to all students. Students with a diagnosed disability are entitled to receive services that promote academic success in their college experience. Under the mandates of the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act, any individual who has an impairment that substantially limits one or more major life activities such as seeing, hearing, learning, or walking; has a record of such impairment; and/or is regarded as having such impairment is ensured to have equal access and opportunities for success.

Qualified persons with documented disabilities have the right to receive reasonable accommodations that will facilitate full participation and inclusion in courses, examinations, and activities related to their educational and co-curricular experience. Approved accommodations depend upon the particular disability and are granted for the classroom and/or testing setting. Accommodations may include the use of assistive technology, electronic textbooks, audio recording of lectures, note taking, priority seating, reserved parking, ASL interpreting services, extended time for testing, and/or a low distraction setting for testing. A team of qualified professionals is available to every student who voluntarily discloses a disability. You can email disability services at disabilityserviceslist@fitchburgstate.edu **Phone 978 665 4020**

ACADEMIC SUPPORT CENTER INFORMATION:

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DISTANCE LEARNING & EXTENDED CAMPUS LIBRARY SERVICES

The Gallucci-Cirio Library at Fitchburg State University provides a full range of library services including borrowing privileges; document delivery (books and articles mailed to your home); Interlibrary Loan; reference assistance via: phone, email, IM, Blackboard's Collaboration and Elluminate tools, Skype and in-person; library instruction; research help and more. Any questions relating to library services should be directed to the Linda LeBlanc, Access Services Librarian, at 978-665-3062 or dllibrary@fitchburgstate.edu. There is also a special section for Distance Learning and Extended Campus Services at http://fitchburgstate.libguides.com/dlservices outlining the wide range of services available to you and how to access them.

Tutoring: Contact academic coaching and tutoring center 978 665 3499 or tutorcenter@fitchburgstate.edu

COURSE WEEKLY OUTLINE

Week	Week of	Topic covered during class	CHAPT/SECTIONS
1	July 12th ,2021	-Introduction,**Syllabus** -3D Coordinate Systems, Vectors - Dot Product, Cross Product - Equations of Lines and Planes, Cylinders and Quadratic Surfaces **NOTE DOWN EXAM DAYS	Chapter 12:12.1-12.6
July 17th ,2021---Hwk 1,2 and 3 due at 11.59pm on Webassign (Saturday)			
July 18th ,2021 --Quiz 1,2 and 3 due at 11.59pm on Webassign (Sunday)			
2	July 19th ,2021	-Derivatives and Integrals of Vector Functions	Chapter 13: 13.1-13.4

		- Arc Length and Curvature, Motion in Space - Functions of Several Variables, Limits and Continuity, Partial Derivatives	Chapter 14:14.1–14.3
July 24th,2021---Hwk 4, 5 and 6- due at 11.59pm on Webassign (Saturday)			
July 25th,2021---Quiz 4,5 and 6- due at 11.59pm on Webassign (Sunday)			
3	July 26th,2021	-Tangent Planes, The Chain Rule, Directional Derivatives and the Gradient Vector -Maximum and minimum values -Lagrange Multipliers - Double Integrals, Iterated Integrals - Applications of double integrals - Surface area, triple integrals	Chapter 14: 14.4-14.8 Chapter 15: 15.1-15.6
EXAM 1 ON CHAPT:12 & 13.EXAM 1 will open at 8am on July 27th,2021(Tuesday) and close July 28th,2021(Wednesday) 11.59pm attempt exam with one submission.Strictly NO MAKE UP			
July 31st,2021----- Hwk 7, 8 and 9 - due at 11.59pm on Webassign (Saturday)			

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August 1st,2021--- Quiz 7, 8 and 9 - due at 11.59pm on Webassign (Sunday)			
4	August 2nd ,2021	-Triple integrals in cylindrical ,spherical coordinates -Vector fields,line integrals ,Fundamental theorem for line integrals	Chapter 15:15.1-15.8 Chapter 16: 16.1-16.3
EXAM 2 ON CHAPTER 14 :EXAM 2 will open at 8am on August 3rd,2021(Tuesday) and close August 4th,2021 at 11.59 pm exam with one submission.Strictly NO MAKE UP			
August 7th,2021--Hwk 10 and 11 - due at 11.59pm on Webassign (Saturday)			
August 8th,2021--Hwk 10 and 11 - due at 11.59pm on Webassign (Saturday)			
5	August 9th,2021	-Green's theorem, Curl and divergence -Parametric surfaces and their areas -Surface integrals, Stoke's theorem -Divergence theorem	Chapter 16:16.4-16.9
FINAL EXAM ON CHAPTERS 12,13,14,15 & 16. FINAL EXAM will open at 8am on August 12th,2021(Thursday) and close August 13th,2021(Friday) at 5pm single attempt exam with one submission.Strictly NO MAKE UP.			

NOTE: The instructor reserves the right to adjust the syllabus in order to best meet the needs of the student