# MATH 2415 (4:3:2)

# CALCULUS III

# MATHEMATICS DEPARTMENT

Division of Arts & Sciences

South Plains College

SPRING 2025

Shirley Davis

# Table of Contents

I. Instructor Info	3
II. Course Info	3
III. Attendance Policy	4
IV. Equipment	4
V. Coursework Policies	5
VI. Responsibilities & Consequences	7
VII. Questions:	8
VIII. Objectives:	8
IX. SPC Policies & Procedures	9
X. Course Outline	11
Index	13
ACKNOWLEDGMENTS	13

# Table of Figures

Table 1 - Office Hours	3
Table 2 - Grading Scale	. 5
Table 3 - Notebook Material	6
Table 4 - Video Recordings of Prerequisites	6
Table 5 - Special Dates	6
Table 6 - Course Outline	11

"Of all the intellectual hurdles which the human mind has confronted and has overcome in the last fifteen hundred years the one which seems to have been the most amazing in character and the most stupendous in the scope of its consequences is the one relating to the problem of motion." — Herbert Butterfield

# South Plains College

# MATH 2415 – Calculus III

Section 001, **M** W 8:30 – 10:35 am

Math Bldg., Rm. 105

### I. Instructor Info

# A. Instructor:

- 1.) Professor: Miss S. Davis
- 2.) **Office:** 103 MATH Bldg.
- 3.) **Phone:** (806) 716 2699
- 4.) E-mail address: <a href="mailto:sdavis@SouthPlainsCollege.edu">sdavis@SouthPlainsCollege.edu</a>
- SPC email address
- Not Bb email address

a.) Any questions or comments should be sent using **Blackboard email** (i.e., Course Messages) not your SPC email. SPC email will be used as a secondary communication tool.

b.) Response Times

I will do my best to respond to your email within the primary office hour availability zone posted on Blackboard. If the emails are overwhelming in volume then please allow me 72 hours = 3 business days of receipt Monday through Thursday throughout the regular business day Monday through Thursday to respond to your email. If I do not respond within 72 hours please email again. <u>Response times are dependent on whether my proposed method of emailing is respectively followed</u>. In other words, if you decline to follow my instructions for emailing me through Blackboard and email me through my SPC email account then response times could take weeks.

5.) Messaging/Announcements: Blackboard email and postings will be used as our primary virtual means of communication. SPC Email will be used as a secondary communication instrument since student emails can be overwhelmed by administrative emails. Your course will be contained within Blackboard. The instructor will post general announcements in Blackboard.

#### You must check Blackboard homepage on a regular basis preferably daily.

### **B. Office Hours:**

Table 1 - Office Hours Wednesday Monday Tuesday Thursday Friday 8 – 8:30am 2 hours 10:35 - 11am 2:15 - 4:15pm 10:35 – 11am 2:15 - 2:45pm (Designated time 3:05 - 3:35pm 3:05 - 4:05pm posted weekly) or by appointment At these designated times, I will be available in my office to help you. You **do not** need an appointment for the physical (f2f) office hours. When you come by, I may be assisting another student, but please wait patiently, and I will attend to you eventually.

### **II. Course Info**

A. <u>Course Description</u>: Parametric equations and polar coordinates, functions, derivatives, & integrals; vector analysis; quadrics & surfaces functions and graphs; multivariable functions, partial derivatives, & their applications; multiple integration in rectangular, polar, cylindrical, & spherical coordinates with application; Jacobian; and vector fields analysis including Green's & Stoke's Theorem.

B. Text: <u>Calculus</u>, 10<sup>th</sup> edition by Larson & Edwards (ISBN: 978-1-285-05709-5)

**C.** Supplies: Computer access, Computer laptop (recommended), large 3-ring notebook binder, dividers, notebook paper, hole punch, stapler, a staple puller, pencils, erasers, a ruler, scientific calculator (preferably a TI-85 or higher).

**D. Purpose:** To provide a transferable course in Calculus III, to lay a foundation for the study of Differential Equations, and other more advanced mathematics &/or engineering courses.

E. Prerequisites: MATH 2414 (Calculus II) and, strategically, Analytical Geometry

# III. Attendance Policy

#### A. Attendance:

Lectures, effort, engagement, and Q&A are the most important activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. Maintaining a time management schedule for the online video lectures is crucial to avoid lagging in this class. The student is expected to attend at least eighty percent (80%) of the total class meetings and submit at least eighty percent (80%) of the total class meetings and submit at least eighty percent (80%) of the total class meetings and submit at least eighty percent (80%) of the total class meetings and submit at least eighty percent (80%) of the total class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

#### **B.** Withdrawal:

If you wish to withdraw yourself from this class for any reason, you must initiate the appropriate steps on your own.

#### **IV.** Equipment

#### A. Online Essentials:

- 1.) Internet access
  - Working, reliable internet access with the ability to participating in online conferences via Blackboard or Zoom.
     Libraries, school and public communities, are a great source to computer accessibility.
- 2.) Computer (laptop highly recommended) and Webcam

#### 3.) Blackboard (Bb)

> The online course management system that will be used for this course.

A wealth of information is provided to you for this class in the Cal 3 Blackboard. All the information for this class will exist on Blackboard including but not limited to syllabus & compendium, homework assignments, worksheets supplements, videos, & etc., but additional material involves Classroom Conduct, Technological & Equipment info & assistance, Tutoring opportunities, previous semester student evaluations, and miscellaneous administrative information. Please be responsible to log in to Blackboard and visit Cal 3 Blackboard page and peruse through it to become familiar with all the items.

Login at <u>http://southplainscollege.blackboard.com</u>. The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID

Password: Original Campus Connect Pin No. (located on SPC acceptance letter)

- Technical Support: Student support is available by emailing <u>blackboard@southplainscollege.edu</u> or calling 716-2962. When emailing a request for help, include your full name, course(s) enrolled in, name of instructor(s) and a phone number where you can be reached.
- 4.) Calculator
  - > You will need a scientific calculator for this course.
  - ≻ Recommended: TI-89 Titanium (for STEM majors) or TI-92.
  - Acceptable: TI-83, TI-83+, TI-84, TI-84+, or TI-84+ Silver Edition but many others are also acceptable.
  - Any other graphing calculator, you will need to read you manual to determine how to make the processes work.
  - > The TI graphing calculator model is not allowed in this class: TI-Nspire.

> Cell phones and similar devices may NOT be used as calculators and no sharing of calculators is allowed.

#### 5.) Other Resources

- You are expected to keep up with the schedule set forth by the due dates of the video lectures, homework assignments, and the exams. If you need help, please ASK! Here are some other good resources online:
  - Your instructor is your first and BEST resource for any help!!!!
  - Free online math videos at <u>www.khanacademy.org</u>, <u>www.patrickjmt.com</u>, <u>www.mathtv.com</u>, & MIT Opencourseware.

#### 6.) Troubleshooting

Computer Issues

• If your personal computer becomes "disabled", then you will need to seek an alternate computer source.

#### V. Coursework Policies

#### A. Assignments:

Homework will be assigned for each class meeting (**located on Cal 3 Bb**). <u>You are expected to work all problems assigned in each</u> <u>assignment and to seek help when you do not understand</u>. You are responsible for keeping up to date and prepared. <u>Homework is to be</u> <u>completed and be kept in a notebook that must accompany you to each (f2f) class session</u>. Late homework is <u>not</u> accepted.

# **B.** Assessments:

There will be quizzes given over the assigned homework and online lecture videos in which no make-ups will be allowed. The total number of quizzes for the semester is unpredictable (unknown number at this moment) but only a portion will count as the quiz grade (implying the few lowest will be dropped).

# C. Tests:

There will be four tests (possibly five) and a comprehensive final exam. Exams will be f2f unless there exist <u>verified extenuating</u> <u>circumstances</u> in which the exams will be conducted online through Zoom meetings. Zoom invitations will be delivered through Blackboard via announcements and/or Bb email on or before exam days.

If the final exam score is greater than any non-zero major exam score then the final exam score replaces the major exam score. In other words, the major exam score will be deleted, and the final exam score will count two times (an exception is the Honest Effort Rule (**H.E.R.**) policy). See your OUTLINE for the approximate date for each test.

#### 1.) Make-up Policy:

There is no automatic provision for making up exams. Only under <u>verified extenuating circumstances</u> (e.g., death in the family, hospitalization, +COVID test) will make-up exams be inevitable. These situations will be dealt with on a trial-by-trial basis. If at all possible, the instructor should be notified prior to missing an exam.

#### **D.** Maximizing Potential

- 1.) Login to Blackboard daily;
- 2.) Watch the lecture videos and take notes on them;
- 3.) Attend each face-to-face class session;
- 4.) Practice the exercises in each lesson until you have full mastery of them;
- 5.) Complete each set of homework exercises;

#### E. Grading Policy:

Your final grade will be based solely on major exam scores, quiz average, notebook score (homework average), and a comprehensive final.

1.) Grading Score: Final score =  $\frac{\text{Test } 1 + \text{Test } 2 + \text{Test } 3 + \text{Quiz Average + Notebook Score + Final Exam score}}{6}$ 

**NOTE:** If the final exam score is greater than the least non-zero major exam score (excluding the Notebook score & Quiz average) then the final exam score replaces the least non-zero major exam score. In other words, the major exam score will be deleted and the final exam score will count two times.

#### 2.) Grade Scale:

Table 2 - Grading Scale			
A:	90 and above	D:	60 - 69
B:	80 - 89	F:	59 or below
C:	70 - 79		

3.) Borderline Grades: These grades will be evaluated with regard to attendance and mature conduct in class.

4.) Blackboard Gradebook: Your grades will be accessible in Cal 3 Bb Gradebook. However, I consider Bb Gradebook the UNOFFICIAL grade because, at any time, it may not contain all your grades for the course. For your final score in this course, you will obtain at the end of the semester through Texan Connect &/or Colleague.

**F. STUDY:** You should normally spend approximately 2-3 hours outside of class in study for each hour of lecture. Some material will require more time than other material. Also, your mathematical background is a major factor in the time spent completing the homework. Try to study the assigned lesson as soon after the class meets if possible. With your greatest effort, try not to get behind on the homework! Refer to the "How to Study" sheet for further detailed studying suggestions.

#### 1.) Methods of Learning Assessment:

a.) Handwritten notes for video lectures. This helps both of us to be diligent in keeping your skills on pace.

2.) **Notebook:** Homework, quizzes, tests, and other useful material should be kept in a notebook in which the notebook will be used as a reference and study guide. The following material will be placed in the notebook in the order listed:

f.) Work,

g.) Ouizzes,

h.) Tests, &

i.) Miscellaneous

- a.) Cover sheet including Name, Class, and Semester,
- b.) Syllabus,
- c.) Procedure pages,
- d.) Assignment sheet,
- e.) Notes,

Table 3 - Notebook Material

(1.) \*To print all the material for your notebook, please visit the the Cal 3 Bb page. All printed material needs to be read at least once during the term of this course.\*

3.) **Tutoring:** Free tutoring is available in the Math-Engineering building (room M116) and online. For the Math-Engineering

building tutor, please remember to sign in when you seek help from a tutor. For free online tutoring, please refer to Cal 3 Bb. 4.) Video Tapes:

Video Review Recordings for many topics in this course are available at the following web address College Algebra: <u>http://www.youtube.com/playlist?list=PLXbDWrtfFWZFyJsxoTSmTO\_0J7vBDTuRy</u> Analytical Geometry: <u>http://www.youtube.com/playlist?list=PLXbDWrtfFWZGwa3ES0fuMGOJ0EgEtO3DE</u>

Table 4 - Video Recordings of Prerequisites

Таре	Торіс
	Analytical Geometry
310	Parabolas
320	Ellipses
325	Hyperbolas
	Parametric Equations
335	Polar coordinates
	Calculus III
85	Double Integration
490	Double Integration with Polar Equations

# G. Critical Dates:

Table 5 - Special Dates			
Jan 20	Martin Luther King, Jr. Holiday	April 11	NEB Pre-registration for Summer & Spring Interim 2025
March 17 – 21	Spring Break		Final Exams
March 29	EASTER	Mar 5	(9 10 - Mars 1)
April 24	Last Day to Drop	may 5	(8 – 10a, Monday)

# VI. Responsibilities & Consequences

# A. Student Responsibilities:

- 1.) Attend class, be aware of announcements made in class and on Blackboard, and ask questions when necessary.
- 2.) Work homework problems early enough to seek help if needed.
- 3.) Form (virtual) study groups.
- 4.) Work extra problems as required to understand each topic.

5.) All students are encouraged to implement good hygiene measures such as washing hands regularly, using hand sanitizer, and covering coughs/sneezes. Hand sanitizing stations are available across all SPC locations.

- 6.) \*\* Cell phones, laptops, and pagers during class! \*\*
  - a.) Cell phones and laptops are required to use in class in order to upload class work documents.

(1.) If the instructor determines that activation of a cell phone, pager, PDA, or laptop irrespectively interrupts the lecture or classroom discussion or impedes the progress of any student then the instructor will ask the student to leave either temporarily or permanently.

(2.) No technologic devices such as cell phones, PDA's, etc. are to be used during tests or in-class quizzes but, at the instructor's discretion, may be used at the completion of tests and/or in-class quizzes. If due to technological disruption, the instructor may grant permission for a student(s) to use such devices for a test or in-class quiz.

# 7.) Follow the classroom policy, no food or drink allowed in the classroom if posted (located in DE Blackboard, under SUPPLEMENTARY category and tab, *Notebook Material*).

8.) In addition to the No Food or Drink classroom policy and in accordance to campus policy, no tobacco products are to be permitted and consumed in class.

#### 9.) You will obtain your final grade for the class through Texan Connect &/or Colleague.

#### **B.** Cell Phone Policy:

All students will, during each class period and for its duration, place and keep their cell phone in its deactivated state, provided that they are at the present time in possession of said device, face-down in the right-hand corner and on the top surface of their desk <u>unless the cell phone is used as a laptop function</u>. If a student's cell phone activates and/or the student engages in text messaging during class at anytime during the semester, the student, by the instructor's discretion, could be permanently dismissed from the class for the remainder of the semester. If a student's cell is activated during class and/or the student engages in text messaging determined by the instructor, and **the student chose not to place their phone on top of their desk as mentioned above** then the stu<u>dent will be dismissed</u> from the class by the instructor permanently.

#### C. Academic Integrity:

The attempt of any student to present as his or her own any work which he or she has not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possibly suspension. For more detail, see "Academic Integrity" and "Student Conduct" in the South Plains College General Catalog.

- 1.) You are expected to work alone on all quizzes and tests. You are not allowed to use any electronic device other than your
- calculator during a quiz or test. If you choose to cheat, you will be withdrawn immediately from this class with a grade of "F." **D.** Academic Misconduct:

Complete honesty is required from students in all facets of course work including homework assignments, tests, and the final exam. See the South Plains College Catalog for more detail.

#### E. Sanctions for Cheating or Plagiarizing:

A grade of "F" in the course will be assigned to any student caught cheating or plagiarizing; additional sanctions may also be considered. Students are responsible for understanding the meanings of the words <u>cheating</u> and <u>plagiarizing</u>. (Refer to page 9 of the syllabus for specific details of the definitions of cheating and plagiarizing.)

#### VII. Questions:

**A.** I invite all your questions **except** the following:

1.) I wasn't able to make it to class. Did I miss anything? (Yes.)

2.) Is this going to be on the test? (Perhaps, not directly, but if the ideas were not important, I would not be discussing them in class.)

3.) Do you have the tests graded? (I put forth my best effort to have the tests graded so as to return them the next class session. However, there are times due to uncontrollable factors that this may not be possible.)

#### **B.** Verified Extenuating Circumstances

1.) Death in the family, hospitalization, +COVID test, etc. with written proof.

#### VIII. Objectives:

Upon completion of this course and obtaining a passing grade, the student will have mastered at least 70% of the course objectives. The course objectives provide that the student be able to:

1.) Describe graphically and interpret parametric, conic, and polar equations. (The use of a graphing calculator is required).

2.) Calculate the derivatives & antiderivatives of parametric and polar equations and solve applications such as maximum & minimum stated problems as well as area and solids of revolutions of parametric and polar equations.

3.) Use vector analysis to perform operations on vectors such as the Dot and Cross products and write equations of lines & planes in space.

4.) Work vector-valued functions and motion in space (TNB frame).

5.) Describe surfaces in space, their maximum, minimum, and level curves.

6.) Analyze and apply concepts of continuity and differentiation (partial derivatives) to multivariable functions and find their limits, directional derivatives, and gradients.

- 7.) Apply the derivative rules to optimize multivariable functions.
- 8.) Evaluate area, volumes, surface area, and arc length by double and/or triple integration.
- 9.) Apply the concepts of multiple integrals to solve application problems.

<u>Return to Table of Contents</u>

# IX. SPC Policies & Procedures A. COVID:

If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or get tested for COVID-19.

- Fever or chills
- Cough, shortness of breath, difficulty breathing
- Sore throat
- Congestion or runny nose
- Muscles or body aches
- New loss of taste and smell
- Fatigue
- Headache
- Nausea or Vomiting
- Diarrhea

Please also notify DeEtte Edens, FNP-C, Associate Director of Health & Wellness, at <u>dedens@southplainscollege.edu</u> or 806-716-2376

- 1. SPC will follow the recommended 3-day isolation period for individuals that test positive.
- a.) Please note that day 0 is the date of positive test. Day 1 begins the first full day after the date of positive result.
- 2. COVID reporting
  - a.) Please have students and employees notify DeEtte Edens, FNP-C if they have tested positive to verify dates before returning to class or work.
  - b.) The home tests are sufficient but students need to submit a photo of the positive result. The date of test must be written on the test result and an ID included in the photo. If tested elsewhere (clinic, pharmacy, etc.), please submit a copy of the doctor's note or email notification. Results may be emailed to DeEtte Edens, FNP-C at dedens@southplainscollege.edu.
  - c.) A student is clear to return to class without further assessment if they have completed:
    - The 3-day isolation period, symptoms have improved and
    - they are afebrile for 24 hours without the use of fever-reducing medication.
  - d.) HEATH SCIENCE PROGRAMS ONLY: Due to clinical requirements, students in health science programs returning to class or clinical from a positive test will be required to wear a mask in the health sciences areas including offices, hallways, and classrooms, as well as in the clinical setting for a 10-day period from date of positive test.
- 3. Please instruct students and employees to communicate with DeEtte Edens prior to their return date if still symptomatic at the end of the 3-day isolation.
- 4. Exposed individuals will not be required to quarantine. If exposed, SPC does request individuals closely monitor themselves. If an individual does become symptomatic, please do not attend class or work and be tested.

# **B.** Diversity:

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world, and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

### C. Disability Statement:

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Lubbock Centers (located at the Lubbock Downtown Center) 806-716-4675, or Plainview Center (Main Office) 806-716-4302.

#### **D.** Nondiscrimination Policy:

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

# E. Sexual Misconduct:

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or <a href="mailto:leavinger@southplainscollege.edu">leavinger@southplainscollege.edu</a> or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

#### F. Title IX Pregnancy Accommodations Statement:

If you are pregnant or parenting (paternal or maternal) with children under the age of 18 per <u>Texas Education Code 51.982</u> and Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a <u>Title IX pregnancy and parenting accommodations request</u>, along with specific medical documentation, to the Health and Wellness Center. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Health and Wellness Center at 806-716-2529 or email <u>rcanon@southplainscollege.edu</u> for assistance.

# G. Campus Concealed Carry:

Texas Government Code 411.2031, et al. authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <a href="http://www.southplainscollege.edu/campuscarry.php">http://www.southplainscollege.edu/campuscarry.php</a>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

H. AI use: Artificial Intelligence (AI) Policy

<u>Return to Table of Contents</u>

# X. ReCourse Outline

	Table 6 - Course Outline			
	Course Outline			
		This schedule is tentative and subjective to change. Changes will be announced in class.		
Week		Topics and Sections Covered		
1	1/13, Mon	Introduction Review: Conic Sections and Quadratic Equations – Parabolas, Ellipses, & Hyperbolas Review: Parametric Equations – Graphing, Derivatives and Tangents, Relative Extrema, Area, Volume, Arc Length, Surface Area, & Centroids		
	1/15, Wed	11.1 Vectors Trigonometric (Polar) Form of Complex Numbers 11.2 Vectors in Space		
	1/20, Mon	MLK, Jr.		
2	1/22, Wed	11.3 Dot Product 11.4 Cross Product		
2	1/27, Mon	Resultant Vectors		
3	1/29, Wed	11.5 Lines and Planes in Space		
4	2/3, Mon	12.1 Vector-Valued Functions 12.2 Vector-Valued Functions – Calculus 12.3 Velocity & Acceleration		
	2/5, Wed	TEST 1 (Vectors, Ch 11)		
-	2/10, Mon	12.3 Velocity & Acceleration contd. 12.4 Tangent & Normal Vectors (AcceleraTioN)		
5	2/12, Wed	12.4 Tangent & Normal Vectors (AcceleraTioN) contd. 12.5 Arc Length & Curvature		
6	2/17, Mon	<ul><li>12.5 Curvature Contd.</li><li>(Torsion &amp; TNB frame)</li><li>11.6 Surfaces in Space (Cylinders and Quadric Surfaces)</li><li>Space Coordinates &amp; Surface of Revolution</li></ul>		
	2/19, Wed	Review: Polar Equations – Coordinates, Equations, and Graphing 11.7 Cylindrical and Spherical Coordinates		
7	2/24, Mon	<ul> <li>13.1 Functions of Several Variables</li> <li>13.3 Partial Derivatives</li> <li>13.5 The Chain Rule: Implicit Differentiation (only)</li> <li>13.6 Directional Derivatives &amp; Gradients</li> </ul>		
,		TEST 2 (Vector-Valued Functions, Ch 12)		
	2/26, Wed	<ul><li>13.6 Directional Derivatives &amp; Gradients contd.</li><li>13.7 Tangent Planes &amp; Normal Lines</li></ul>		
8	3/3, Mon	<ul><li>13.8 Extrema of Functions of Several Variables</li><li>13.9 Applications of Extrema of Multivariable Functions</li></ul>		
0	3/5, Wed	<ul><li>13.9 Applications of Extrema of Multivariable Functions contd.</li><li>13.10 Lagrange Multipliers</li></ul>		
9	3/10, Mon	<ul> <li>14.1 Area in the Plane (Double Integrals)</li> <li>14.2 Double Integrals &amp; Volume</li> <li>14.3 Polar Coordinates – Double Integrals</li> </ul>		
	3/12, Wed	TEST 3 (Multi-Variable Functions, Ch 13)		
	3/17 – 3/21	Spring Break		
	3/24, Mon	14.3 Polar Coordinates – Double Integrals contd. 14.4 Centers of Mass & Moments of Inertia		
10	3/26, Wed	14.6 Triple Integrals in Rectangular Coordinates 14.7 Triple Integrals in Cylindrical and Spherical Coordinates		
	3/29, Fri	EASTER		

		Course Outline contd.		
		This schedule is tentative and subjective to change. Changes will be announced in class.		
Week		Topics and Sections Covered		
11	3/31, Mon	14.8 Jacobian 14.5 Surface Area		
	4/2, Wed	15.1 Vector Fields		
12	4/7, Mon	TEST 4 (Multiple Integration, Ch 14)		
12	4/9, Wed	15.2 Line Integrals		
13	4/14, Mon	15.3 Conservative Vector Fields & Independence of Path		
15	4/16, Wed	15.4 Green's Theorem		
14	4/21, Mon	15.5 Parametric Surfaces		
14	4/23, Wed	15.6 Surface Integrals		
	4/25, Fri	UIL – No office hours		
15	4/27, Mon 15.7 Divergence Theorem			
15	4/30, Wed	15.8 Stoke's Theorem		
16	5/5, Mon	FINAL EXAM: 8 – 10 a		

Return to Table of Contents

•

# Index

Academic Integrity8
Assessments6
Attendance4
Blackboard (Bb)5
Blackboard Gradebook7
Calculator5
COVID Statement 10

Critical Dates	8
Student Responsibilities	8
STUDY	7
Supplies	3
Tutoring	7
Video Tapes	7

# ACKNOWLEDGMENTS

I owe a debt of gratitude to Charlene Perez, Professor of CIS, at South Plains College for tolerating my incessant number of questions and ideas all the while being at my disposal during the semester I attended BCIS 1305 – Business Computer Applications which primarily aided in the shape and refinement of this syllabus in terms of all its bells and whistles.