

Course:	MAT 221 CALCULUS III
Term:	SPRING 2012
Instructor:	Name: T. H. KWAN Email Address: tkwan@wilberforce.edu Phone Number: (937) 708-5680
Catalog Description:	Exploration and applications of topics in three – dimensional Cartesian, cylindrical and spherical coordinate systems; vector operations and functions; multivariable functions; partial and directional derivatives; gradient; maxima/minima of functions of several variables; multiple integrals; infinite and power series
Prerequisites	MAT 121 CALCULUS II
Course Level Learning Outcomes:	<ul style="list-style-type: none"> • Be able to work with parametric and polar representation of curves and do calculus in these modes • Be able to work with rectangular, cylindrical and spherical coordinate systems of space • Be able to work with vectors and vector – valued functions for curves and trajectories in space, with calculus topics • Be able to work with functions of more than one variable in the different modes • Be able to work with multivariable differential calculus and their applications • Be able to work with multivariate integral calculus topics and their applications • Be able to work with topics on infinite series and power series
Materials:	<p>Textbook: CALCULUS by Larson and Edwards (9th Edition) Publisher: Brooks/Cole ISBN-13: 978-0-547-16702-2</p> <p>Graphic Calculator: (e.g. TI – 84)</p>

<p>Grading:</p>	<p>Grading Scale on Tests/Exam</p> <p>90 - 100% = A 78 - 89% = B 66 - 77% = C 55 - 65% = D Below 55% = F</p> <p>The grade earned in this course will reflect the student's efforts and the understanding and proficiency achieved in the topics covered. There will be five tests and a final examination. Determination of the grade will be made according to the following factors:</p> <p>Four test scores ----- 50% Final Examination ----- 25% Assignments ----- 15% Attendance/Participation – 10%</p>
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	<p>A student's proficiency in course work is measured in terms of the following Alphabetical symbols. Minuses and pluses are not accepted.</p> <p>A: Excellent</p> <p>B: Good</p> <p>C: Satisfactory (Grade C or better required in major courses).</p> <p>D: Poor (passing, except in major courses).</p> <p>F: Earned Failure. (Removed only by repeating the course). Upon successfully passing the course, the first grade is "excluded" from grade point average. The second grade is "included in the recalculation of the grade point average.</p> <p>I: Incomplete (student performing satisfactorily, but unable to complete coursework due to valid reason).</p> <p>N: Used in cases where grades are not yet submitted.</p> <p>W: Withdrew before course drop deadline.</p>
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	<p>WP: Student withdraws from University. Withdrew passing after course drop deadline (2 weeks after mid-term).</p> <p>WF: Student withdraws from University. Withdrew failing after course drop deadline (2 weeks after mid-term. WF is treated as an F (punitive grade).</p> <p>CR: Credit/pass</p> <p>NC: No credit/fail</p> <p>Z: Failed course for non-attendance/unofficial withdrawal (treated the same as an F grade). Last date of attendance is reported by faculty.</p>
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<p>Activities:</p>	<ol style="list-style-type: none"> 1. Consistent attendance and being prepared to participate in class. 2. Complete a substantial portion of the assigned problems showing detail along with the answers. 3. There will be five tests to be taken at the scheduled time. There will be no individual make-up, but the lowest test score is omitted. 4. The Final Examination will be at the scheduled time.
<p>Policy Statements:</p>	<p>Any student who feels that accommodations based upon the impact of a disability are needed should contact the instructor privately to discuss specific needs. Additionally, it is the responsibility of the student to contact the Office of Academic Support Services at 937-708-5648 in the Learning Resources Center (LCR), Room 102 to meet with the Director to discuss and coordinate reasonable accommodations for students with documented disabilities.</p>
<p>University Policies:</p>	<p><u>Academic Honesty:</u> Plagiarism and cheating are completely unacceptable in an institution of higher education and learning. Such behavior</p>

deprives the student involved of the desired education and development of an appropriate value system. It is extremely unfair to other students, and it severely diminishes the value and integrity of a University degree.

Plagiarism occurs whenever another's work is submitted as one's own. This includes the use of information from an Internet site or from a published author's ideas and words without proper attribution or documentation. It also includes the copying of term papers, other unpublished works, homework, case reports, computer programs and spreadsheets, and any other course assignments which are submitted for course credit as the student's own effort.

Each instructor shall state the specific penalties for plagiarism and cheating in the course syllabus. The instructor has final responsibility for assessing the penalty in such cases regarding the course grade.

All cases of plagiarism and cheating will be referred to the Vice President for Academic Affairs for possible further action. Additional penalties may be imposed for the egregious cases of plagiarism and cheating.

Drops and Withdrawals

Dropping Courses:

A course may be dropped up through the end of the second week of the semester without any record on the transcript. After this date, a course may be dropped up to two weeks after mid-term grade reports are due, with a **W** appearing on the transcript. Withdrawals after mid-terms must be approved by the Vice-president of academic Affairs.

In certain General Studies core courses, students' assignments to course sections may be changed by faculty with written notification given to the Registrar. In all other cases, a student wishing to move from one section of a course to another must accomplish this by using a drop-add form to drop the old section and add the new section.

Withdrawal/Grading Policies

The following procedures will apply to all students withdrawing from the University. Grades will be given in regard to the time of withdrawal. Contact the Registrar's Office for forms and assistance.

- **W** (official withdrawal initiated by the student): To be given when a student withdraws between the first day of class/registration and the last day to drop courses, this is two weeks after mid-term exams.
- **AW** (unofficial withdrawal not initiated by the student): The student does not inform anyone that he/she is leaving campus (the student walks out). The university may also administratively withdraw a student for disciplinary reasons, academic legal anytime during the semester.

Special Accommodations:

A student who is ill or who has or develops medical conditions including but not limited to illness, physical or other disability or pregnancy must notify the Director of Health Services immediately.

<p><u>Classroom Conduct:</u> State your requirements about cell phone use, text messaging and other related technology in your class. Include your expectations about class interruption, disruption and inconsiderate behavior.</p> <p><u>Contact Hours:</u> Specify all classes meet for the full-time stated on schedule. Classes cannot be shortened or cancelled without prior permission. Cancelled classes must be rescheduled.</p>	<p>Turn off your mobile phone while in class or turn to vibrate if really necessary. Texting or just fiddling with your phone during class period will be considered as an absence.</p> <p>Classes meet daily 9:00 – 9:50 in KING 214</p>
<p>Course Policies :</p>	<p>It comes down to the policy that the instructor will treat students as responsible and accountable adults, and expects students to behave accordingly.</p>
<p>Weekly Schedules:</p>	<p>Wk 1 Overview of prerequisite material and course content; l’Hopital’s Rule; Improper integrals</p> <p>Wk 2 Parametric Curves; Polar Coordinates</p> <p>Wk 3 Calculus in parametric and Polar modes</p> <p>Wk 4 Vectors in space; Operations</p> <p>Wk 5 Curves and surfaces in space; Cylindrical & Spherical Coordinate systems</p> <p>Wk 6 Vector –valued functions with Applications</p> <p>Wk 7 Functions of several variables; Limits and continuity</p> <p>Wk 8 Partial Derivatives; Differentials; Chain Rule</p> <p>Wk 9 Directional Derivatives; Tangent Plane and Normal Line</p> <p>Wk 10 Extrema of functions of two variables; Applications</p> <p>Wk 11 Double integral; Volume; Change of Variables</p> <p>Wk 12 Triple integrals in rectangular, Cylindrical and spherical modes</p> <p>Wk 13 Line and surface integrals</p> <p>Wk 14 Sequences and Infinite Series; Convergence tests</p> <p>Wk 15 Power series; Taylor Series; Applications</p> <p>Wk 16 Review and Final Examination</p>

Advising & Tutorial Support:	Faculty Office Hours are: 11 – 12 and 2 – 3 MTWF or by appointment. My office is: Walker 209