

Math 2415 – Calculus III
Odessa College Fall 2012
Dr. Christopher Walker

Course Information:

- Course: Calculus III
- Day/Time: MTWR 9:00am – 9:50am
- Room: ET 109
- Start Date: August 27th, 2012
- End Date: December 14th, 2012

Professor Information:

- Office: ET 107
- Office Hours: MW 11:00am-12:00pm and 3:30pm-5:30pm, TR 2:00pm-3:00pm.
- Phone: 432-335-6637
- Email: cwalker@odessa.edu

Course description: Continues MATH 2414. Addresses solid analytic geometry, vector calculus in 2-space and 3-space, partial differentiation, and multiple integrals. **Prerequisite: MATH 2414 with a “C” or better.**

Learning outcomes: Upon successful completion of this course, students will:

1. Solve problems in three dimensional geometry using vectors.
2. Find equations for spheres, lines, and planes and describe quadric surfaces.
3. Use cylindrical and spherical coordinates to describe three dimensional geometry.
4. Use the Calculus of vector valued functions to describe the geometric properties of curves in space.
5. Solve problems involving motion in space and find the velocity, speed, tangential and normal components of acceleration.
6. Evaluate limits and partial derivatives of functions of several variables.
7. Use the chain rule or total differential to solve various application problems.
8. Use the gradient of a function to find directional derivatives, tangent planes and normal lines.
9. Solve extremum problems using the Second Partial Test and Lagrange Multipliers.
10. Set up and evaluate double integrals to find areas, volumes, and surface areas.
11. Set up and evaluate triple integrals to find volume, mass, and center of mass.
12. Solve problems using integrals in polar, cylindrical, and spherical coordinates.

Text: Calculus. By Larson and Edwards, 9th ed. *This Text is Required.*

Homework: Homework will be assigned for each section covered in lecture. Homework will be collected on a weekly basis, usually on Monday at the beginning of class. I encourage you to work with other student on homework assignments and to seek help from the instructor or a tutor, but the final write-up is the responsibility of each student and should be done individually. More information will be provided in class on how each assignment should be formatted.

Exams: There will be 5 chapter exams for the class (Chapters 11-15) and 1 final exam which will cover all 5 chapters. The exam schedule will be as follows:

- Chapter 11 Exam: Monday, September 17th

- Chapter 12 Exam: Monday, October 8th
- Chapter 13 Exam: Monday, October 29th
- Chapter 14 Exam: Monday, November 19th
- Chapter 15 Exam: Monday, December 3rd
- Final Exam: Wednesday, December 12th 8:00am-10:30am

Students will be given sufficient notice of any date changes for these exams.

Course Grades: Grades will be given based on the percentage of total possible points earned during the class. Each part of the class is weighted as follows:

Homework: 25%	Project: 10%	Chapter Exams: 40%	Final Exam: 25%
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Tutoring: There are tutoring services available through the Math Lab in ET 120, and through the Student Service Center (SSC) in the Learning Resource Center.

Special Needs: Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Learning Resource Center (The Library): The Library, known as the Learning Resources Center, provides research assistance via the LRC's catalog (print books, videos, e-books) and databases (journal and magazine articles). Research guides covering specific subject areas, tutorials, and the "Ask a Librarian" service provide additional help.

Student Email: Please access your [Odessa College Student E-mail](http://www.odessa.edu/gmail/), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support: For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Important School Policies: For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or students' and instructors' right to academic freedom can be found in the Odessa College Student Handbook.

Student Success Coaches: The Odessa College Student Success Coaches will help you stay focused and on track to complete your educational goals. If an instructor sees that you might need additional help or success coaching, he or she may submit a Retention Alert or a Starfish Alert. A Student Success Coach will contact you to work toward a solution.

Expectations for Engagement – Face to Face Learning

To help make the learning experience fulfilling and rewarding, the following Expectations for Engagement provide the parameters for reasonable engagement between students and instructors for the learning environment. Students and instructors are welcome to exceed these requirements.

Reasonable Expectations of Engagement for Instructors

1. As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will
 - provided my contact information at the beginning of the syllabus;
 - respond to all messages in a timely manner through telephone, email, or next classroom contact; and,
 - notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of emergencies during the time I'm unavailable.
2. As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will
 - provide clear information about grading policies and assignment requirements in the course syllabus, and
 - communicate any changes to assignments and/or to the course calendar to students as quickly as possible.
3. As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will
 - return classroom activities and homework within one week of the due date and
 - provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

Reasonable Expectations of Engagement for Students

1. As a student, I understand that I am responsible for keeping up with the course. To help with this, I will
 - attend the course regularly and line up alternative transportation in case my primary means of transportation is unavailable;
 - recognize that the college provides free wi-fi, computer labs, and library resources during regular campus hours to help me with completing my assignments; and,
 - understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my personal computer equipment or internet service is unreliable.
2. As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to,
 - missing class when a major test is planned or a major assignment is due;
 - having trouble submitting assignments;
 - dealing with a traumatic personal event; and,
 - having my work or childcare schedule changed so that my classroom attendance is affected.
3. As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will
 - seek out help from my instructor and/or from tutors;
 - ask questions if I don't understand; and,
 - attend class regularly to keep up with assignments and announcements.