

**MATH 2210:  
MULTIVARIABLE CALCULUS  
3 CREDIT HOURS  
SUMMER SEM. 2011  
CLASSROOM: NIB 133**

**INSTRUCTOR: MORTENSEN  
OFFICE: NIB 133  
PHONE: 652-7764  
OFFICE HOURS: TBA**

**TEXTBOOK: CALCULUS; CONCEPTS AND CONTEXTS; STEWART.**

**MATERIALS NEEDED: Scientific Calculator. Graphing Calculator is required. The instructor will use the TI-89**

**MATHEMATICS AT DIXIE COLLEGE.** All classes in mathematics at Dixie College support the general education goal of the college. Within the limitations imposed by the nature of mathematics (i.e. the dependency on prior learning and the need for content fluency), each class will:

- Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations and or calculus techniques
- Provide students with application problems that use a variety of methods including arithmetical, algebraic and geometric methods.
- Challenge students to make inferences from mathematical models that include formulas, graphs and tables.
- Provide students with real-life applications that use a variety of mathematical functions

Upon successful completion of Math 2210, a student will demonstrate through testing the ability to:

1. Use contour diagrams to analyze the behavior of a function of several variables
2. Use partial derivatives to solve optimization problems
3. Set up and compute double and triple integrals in order of integration using rectangular coordinates.
4. Set up and compute double and triple integrals using polar, cylindrical, and spherical coordinates.
5. Use line integrals to compute the work done by a vector field along a curve.
6. Use surface integrals to compute the flux of a vector field through a surface.
7. Use multiple integrals to calculate some line and surface integrals.

**CLASS ATTENDANCE:** In order to be successful in mathematics, you must choose to attend class on a regular basis. Statistics have definitely shown that grades improve with better attendance.

**CLASS PARTICIPATION:** Be willing to be involved in the class as an active participant. Ask questions, contribute toward solutions, and be interested in the class activities. In order to be successful, you must be involved as a participant, not on the sidelines as a spectator.

**PREVIEWING NEW MATERIAL:** Before going to class each day, take a few minutes to look over the sections in your textbook, which are scheduled to be covered that day. You do not necessarily need to study and learn the material on your own, but a survey of the new ideas makes them seem more familiar as the instructor presents them.

**MAKING A FRIEND IN THE CLASS:** Attempt to make a friend in your class. You may find you enjoy sitting together and drawing support and encouragement from one another. Study together whenever possible!!

**GETTING HELP:** Getting the right kind of help at the right time can be a key ingredient to being successful in math. When you have gone to class on a regular basis, taken careful notes, read your text carefully, diligently done your homework, thus making every effort possible to learn the mathematical skills, you may find that you are still having difficulty. If this is the case, then you need to seek help. Make an appointment with the instructor to find out what help is available to you in the form of instructor time, tutoring service, math labs and computer software.

**HOMEWORK ASSIGNMENTS:** Keep in mind that math is a skill that can only be learned and mastered by doing it yourself with lots and lots of practice. **There is no other way!** Set aside some time each day for doing homework assignments. Do not attempt to do a whole chapter's assignments at one sitting. That is a disaster! **A minimum of two hours** spent studying outside of class for each hour in class is usually required for college courses.

**GRADING:** During the quarter, three tests will be given. They will be worth approximately 100 points each. The homework is graded on completion and is worth 20 points each.

**GRADING SCALE:**

94%-100%=A

90%-93%=A-

87%-89%=B+

83%-86%=B

80%-82%=B-

75%-79%=C+

70%-74%=C

65%-69%=C-

60%-64%=D+

55%-59%=D

50%-54%=D-

0%-50%=F

**CODE OF CONDUCT:** Dishonesty, including, but not limited to, cheating, plagiarism, or knowingly furnishing false information to the college, will result in expulsion from the class.