

# Reedley College

## Math 6

### Spring '14 Syllabus

**Course:** Math 6 Math Analysis III (3<sup>rd</sup> Semester Calculus)

**Schedule number:** 52944

**Instructor:** Ron Reimer

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**Phone:** (559)638-3641 ext. 3355

**Office Hours:** 10:00 – 11:00 TTh, 11:00 W

**Math Lab Hours:** 10:00 – 11:00 MWF, 11:00 – 12:00 TTh, 2:00 – 3:00 TW

**Text:** Larson, Multivariable Calculus 10e

**Meeting times:** M-Th, 8:00 – 8:50 AM, 1/13/14 – 5/23/14, FEM 4E

**Important dates:**

January 20	Monday	Martin Luther King Jr Day No Class
February 14 – 17	Fri – Mon	Presidents Weekend No Class
March 14	Fri	Last Day to Drop a Full Semester Course
April 14 – 18	Mon – Fri	Spring Recess No Class
May 19	Monday	Final Exam 8:00 – 9:50 AM

**Course Description:** This is the third of three courses in the basic calculus sequence. Topics include solid analytical geometry, three dimensional vectors, vector valued functions, partial differentiation, multiple integration, line integrals, Divergence, Green's, and Stokes' Theorems.

#### Course Objectives

- A. Compute the vector dot and cross products and use them in application problems.
- B. Determine the equations of lines, planes, and quadric surfaces as well as draw their graphs.
- C. Sketch the graphs of points, cylindrical surfaces and vectors in 3-dimensional space.
- D. Convert both individual points and surfaces between coordinate axes systems (rectangular, cylindrical, and spherical).
- E. Determine the limit, derivative, and integral of a vector valued function.
- F. Determine the unit tangent, normal, and bi-normal vectors for a given vector valued function.
- G. Determine the arc length and curvature of vector valued functions.
- H. Solve applied kinematics problems.
- I. Determine limits and continuity for functions of several variables.
- J. Determine partial derivatives.
- K. Apply the chain rule to functions of multiple variables.
- L. Determine directional derivatives and gradients for functions of two and three variables.
- M. Find the relative extrema for functions of two variables.
- N. Use the Lagrange Multiplier Method to find constrained extrema for functions of two and three variables.
- O. Set-up and calculate double integrals over rectangular and non-rectangular regions.
- P. Set-up and calculate double integrals over polar regions.
- Q. Set-up and calculate triple integrals in rectangular coordinates.

- R. Use multiple integrals to determine the centroid and center of mass of objects.
- S. Set-up and calculate triple integrals in cylindrical and spherical.
- T. Set-up and calculate line integrals.
- U. Set-up and calculate surface integrals.
- V. Apply Green's, Stokes', and the Divergence Theorem.

**Attendance:** In order to maintain continuity of subject matter regular attendance is imperative in any academic course. You are expected to attend all class sessions, arrive on time and stay for the entire session. If you have accumulated more than 4 absences on March 14, 2014, you will be dropped from this course. Do not be late to class. If you are not present when role is taken you will be marked absent, it is your responsibility to inform me if you arrive after role has been taken.

**Grading:** Grades will be based on three sets of criteria: Homework, Midterm exams, and a Final exam.

**Homework:** Homework is to be done on standard notebook paper. If using a spiral notebook please tear off the shredded edge. Homework will have two parts. The first part will consist of odd numbered problems for which the answers are available in the back of the book. It will be graded based on completeness. To be complete the problems need to be written down as they are given in the book (except word problems), all important steps must be shown (show work as I do in class) and the solution must be given. The second part will consist of even numbered problems. It is to be done on a separate piece of paper and will be graded based on completeness and accuracy as time allows. Homework will be 25% of your grade.

**Midterm Exams:** The midterm exams will make up the majority of your grade in this course. In most cases a midterm exam will follow the completion of a chapter in the textbook and cover the material discussed in that chapter only. If appropriate a midterm exam may cover more or less than one chapter in the text. Midterm exams will be 65% of your grade.

**Final Exam:** There will be a comprehensive final exam at the end of this course. If it helps you I will replace your lowest midterm exam score with your final exam score. The final exam will be 10% of your grade. The final exam date for this course is Monday May 19, 2014, 8:00 – 9:50 AM.

**Grading scale:**

Final Percentage Points	Grade
90<100	A
80<90	B
70<80	C
60<70	D
0<60	F

**Academic Dishonesty:** Academic dishonesty in any form is a very serious offense and will incur serious consequences, including but not limited to receiving a grade of F in the course. For the college policy on cheating and plagiarism, see the college catalog.

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

A blackboard website will be maintained for this course. The web address is:  
<http://blackboard.reedleycollege.edu>

User Name = *Your student I.D. number*  
 Password = *Your student I.D. number*