

Math 5B – Spring 2015

Mr. Ron Reimer

Office: Fem 1F

Hours: T, W, 11:00 – 12:00, Th 10:00–11:00

MTWTH 10:00 – 10:50

Room: CCI 200

Ext: 3355

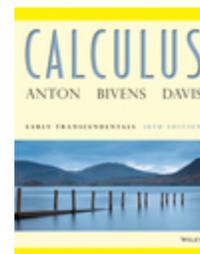
## CALCULUS II

**COURSE DESCRIPTION:** This class investigates the applications of integration, many techniques of integration, improper integrals, parametric equations, polar coordinates and functions. Further study involves conic sections, exponential growth/decay models, infinite series including Maclaurin and Taylor Series.

### **OBJECTIVES:**

1. Determine the area between two curves in the coordinate plane.
2. Determine the volumes of solids of revolution using the disk and shell methods.
3. Determine the length of a curve in the coordinate plane.
4. Solve application problems involving force, pressure, and work.
5. Evaluate and use hyperbolic functions.
6. Use the technique of integration by parts to evaluate definite and indefinite integrals.
7. Evaluate definite and indefinite integrals involving combinations of trigonometric functions.
8. Use the technique of trig substitution to evaluate definite and indefinite integrals.
9. Use the technique of integration by partial fraction decomposition to evaluate definite and indefinite integrals.
10. Learn to use integral tables to evaluate definite and indefinite integrals.
11. Apply Simpson's Rule to numerically evaluate integrals.
12. Evaluate improper integrals.
13. Use, differentiate, and integrate parametrically defined functions.
14. Use polar coordinates to define and analyze polar functions.
15. Derive the equations for and graph conic sections.
16. Investigate the behavior of exponential functions.
17. Mathematically model exponential growth and decay phenomena.
18. Investigate the behavior of sequences and series.
19. Judge convergence or divergence by apply appropriate tests.
20. Apply convergence tests including the Comparison, Ratio, and Root Tests.
21. Derive and use Maclaurin and Taylor Series.
22. Derive and use power series.
23. Investigate the convergence of Taylor Series and use the Remainder Theorem.

**REQUIRED TEXT:** Anton, Calculus Single Variable Early Transcendentals 10<sup>th</sup> Edition, ISBN: 978-0-470-64768-4



January 19	M	Martin Luther King Jr Day
February 27	F	Last day to drop without receiving a "W"
February 13 – 16	F – M	Presidents Weekend
March 13	F	Last day to drop a full term course
March 30 – April 3	M – F	Spring Recess
May 20	W	Final Exam, 10:00 – 11:50 am, CCI 200

**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 13, 2015 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.

**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.

**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 you have 4 or fewer absences and 4 or fewer tardy marks at the end of the semester and 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 Wednesday May 20, 2015, 10:00 – 11:50 am.

Catagory	Weight
Homework	25%
Exams	65%
Final Exam	10%

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

Example of how to calculate your grade. If your homework average is 90, exam average is 78 and your final exam is 80, then you can compute your grade as follows:

$$(.25)(90)+(.65)(78)+(.10)(80)=81.2$$

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.

### **Academic Dishonesty**

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences ranging from a failing grade on a specific assignment to a failing grade in the course.