Math 201: Calculus II
CRN 20139, Spring 2010
MWF 12:00 -12:50, Th 12:35-1:50, Wright 103

Instructor: Dr. Katherine Brandl **Office: 108 Wright**
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Office Hours I will be in my office to answer questions Mondays 1-2 and Wednesdays 10-11 and Thursday 11-12. I am also available by appointment.

Text *Calculus: Single Variable, Fourth Edition*, Hughes-Hallett, Gleason, et al. We will cover most of chapters 6 through 10.

Blackboard This course is listed on blackboard with course ID Math201Brandl and course name Calculus II. There may be other Calculus II classes still listed - be sure to select the one with my last name in the ID.

Goals This course satisfies Centenary College Mathematics Core, so our objective for this term include the following:

1. You will be able to represent real-life problems through the use of mathematical formulas. In particular, you will learn how use a definite integral to represent accumulation.
2. You will be able to solve problems using symbolic manipulation. For example, you will learn techniques for computing integrals of a number of different types of functions.
3. You will be able to interpret the meaning of mathematical representations, such as definite and indefinite integrals, improper integrals and finite and infinite series.
4. You will be able to verify the validity of a mathematical argument.

We will take up where we left off in Calculus I with integration. Topics will include:

- Techniques of integration: Substitution, by Parts and Trigonometric Substitution
- Use of Tables to Compute Integrals
- Algebraic Manipulations including Partial Fractions
- Computation and Applications of Improper Integrals
- Approximating Integrals using Riemann sums and Simpson's rule
- Applications of Integration in Geometry, Physics and Economics

After we finish our study of integration we will study sequences and series. You will learn about

- Geometric Series
- Convergence of Series
- Power Series.
- The Interval of Convergence of a Power Series.
- Taylor Polynomials and Taylor Series and How to Use Them

We will finish the course with a brief introduction to differential equations.

At the end of this course you will have a solid foundation in differential and integral calculus and sequences and series. You will have all of the calculus tools you will need for courses in multivariable

calculus, linear algebra and differential equations. You will also be prepared for many of the mathematics applications you will see in your natural science and social science classes.

Computers We will be using the computer program Maple in this course. Most of you used Maple last semester in Calculus I. We will only make use of a small percentage of what the program has to offer, but if you continue on in mathematics, you will see that it is a very powerful tool. Maple is available on the laptops in our classroom, the Math computer lab in Wright 103 and the labs in Magale. You can also purchase a copy for your own use at a substantial discount - I will give you further information about this.

Students With Disabilities It is the policy of Centenary College to accommodate students with disabilities, pursuant to federal law, state law, and the College's commitment to equal educational opportunities. If you need accommodations, for example seating placement or special arrangements for examinations, you should inform me as soon as possible. Students with disabilities need to contact Disability Services (a division of Counseling Services), which is located in the ground floor of Rotary Hall to obtain services. Telephone 318-869-5466/5424.

Homework Homework assignments will be posted on blackboard and on my webpage, and will be collected most Mondays and Fridays. I encourage you to work with each other on homework. You may turn in late homework for half credit, up until the day of the exam on the material covered. I will not accept any homework after Thursday of prep week.

Worksheets The Thursday class time will be used for Worksheets and in-class projects. You are encouraged to work together on the worksheets, and to get help from me if you get stuck. If you must miss class, you may get a copy of the worksheet online. Worksheets are due in class on the day they were given. You may turn in late worksheets for half credit, up until the day of the exam on the material covered. I will not accept any worksheets after Thursday of prep week. Solutions to the worksheets will be posted on my webpage on the Monday after they were given.

Honor Code I will ask you to write out the honor code and sign it on everything you turn in. Simply writing "H.C." or "Honor Code" is not sufficient. I take the honor code seriously, and I expect that you do too. To facilitate compliance with the honor code, I will also ask that there be one student per table during exams. This may mean that we will have to use additional classrooms on exam days. Use of the internet or electronic devises (phones, ipods etc.) will not be allowed during exams. However, calculators and Maple software will be allowed on some exams - I will be very clear about when they are and are not allowed.

Midterms There will be four midterm exams in this course. They are scheduled for **Thursday, January 28**, **Thursday, March 4**, **Thursday, March 25**, and **Thursday, April 15**. Please contact me immediately if you will not be able to be in class on one of these days.

Final Exam The final exam is cumulative and scheduled for Wednesday May 5, 12:00-3:00 .

Grading Your grade in this course will be based on the following:

Homework	25%
Worksheets	15%
4 Midterms	40% (10% each)
Final Exam	20%

Homework 1 Due Friday, January 15

6.3 Differential Equations 1,2,5,6,7,11,12,15

Homework 2 Due Monday, January 18

6.4 Second Fundamental Theorem of Calculus 1,2,3,8,9

6.5 The Equations of Motion 1,3 **Extra Credit: 4**