Instructor

Frank Bäuerle, Ph.D.
Office: McH 4163
Office hours: Wed 1-3pm
Fri 9:30am-10:30am
or by appointment
Phone: 459-2964
Fax: 459-3260
e-mail: bauerle@ucsc.edu

Textbook

Title: Calculus, Early Transcendentals, 2nd ed.
Author: Jon Rogawski
Publisher: W.H. Freeman and Co.
Available for Purchase at the Bay Tree Bookstore,
or on-line.

Sections

Section attendance is optional but highly recommended.

Class web site is @
http://bauerle.math.ucsc.edu/Default.htm

Requirements for Math 19B

To be eligible to enroll in Math 19B you must meet one of the following criteria:

• Sufficient score on Calculus AP AB or BC exam
• Passing Grade in Math 19A
• Transfer credit (contact mathadvising@ucsc.edu)

Grading Policy

• Homework (15%)
• 2 Midterms (45%)
• Final (40%)

From these scores we will produce an overall score for each student; these overall scores may be put on a curve for the class. It is possible to pass even if one does fail a particular exam. However, you will not pass if you fail all your exams even if you have perfect scores on everything else.
Course Description


Tentative Lecture Schedule

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Chapter 5: THE INTEGRAL

5.1 Approximating and Computing Area
5.2 The Definite Integral
5.3 The Fundamental Theorem of Calculus, Part I
5.4 The Fundamental Theorem of Calculus, Part II
5.5 Net Change as the Integral of a Rate
5.6 Substitution Method

Chapter 6: APPLICATIONS OF THE INTEGRAL

6.1 Area Between Two Curves
6.2 Setting Up Integrals: Volume, Density, Average Value
6.3 Volumes of Revolution
6.4 The Method of Cylindrical Shells
6.5 Work and Energy

Chapter 7:

7.1 Integration by Parts
7.2 Trigonometric Integrals
7.3 Trigonometric Substitution
7.4 Integrals Involving Hyperbolic and Inverse Hyperbolic Functions
7.5 The Method of Partial Fractions
7.6 Improper Integrals

Chapter 8: FURTHER APPLICATIONS OF THE INTEGRAL AND TAYLOR POLYNOMIALS
8.1 Arc Length and Surface Area
8.4 Taylor Polynomials

Chapter 10: INFINITE SERIES
10.1 Sequences
10.2 Summing an Infinite Series
10.3 Convergence of Series with Positive Terms
10.4 Absolute and Conditional Convergence
10.5 The Ratio and Root Tests
10.6 Power Series
10.7 Taylor Series

On-line Homework

• Homework will be submitted and graded on-line on CalcPortal at http://courses.bfwpub.com/calculuset2e.php. You will need to have an account on CalcPortal and may also have to pay for access. You can buy an access code on-line or at the UCSC bookstore. CalcPortal also comes with an E-Book version of the text.

• The first homework is due Sunday, January 12th, 11:55pm. It covers problems from section 5.1. Homework will typically be due on Sundays at midnight. Check at CalcPortal for the next assignments and due dates.