

## BUSINESS CALCULUS, ISC 104

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**Book:** *Calculus for Business, Economics, and the Social and Life Sciences*,  
by Laurence Hoffmann, Gerald Bradley, Dave Sobecki, Michael Price  
eleventh edition (brief or expanded editions)  
**Office Hours:** see link to “My Summer 2016 Schedule” on my webpage.

### Book

*Calculus: for Business, Economics, and the Social and Life Sciences*, by Laurence D. Hoffmann and Gerald L. Bradley, eleventh edition (brief or expanded editions)

A physical copy can be found on [www.amazon.com](http://www.amazon.com) (there is a Kindle version too). Also see [www.mhprofessional.com/product.php?isbn=007353238X](http://www.mhprofessional.com/product.php?isbn=007353238X) (amazon.com is less expensive) and other places.

The ISC office will not be selling any textbooks on campus during summer. ISC Office strongly encourages students to purchase their books in advance to avoid any possible inconvenience during the class. In past years it was possible to purchase photocopies of book chapters in the COPYMART on campus.

### Course Description

This course designed for students in Business, Economics, and other social sciences. Introduces the basic concepts of limits, continuity, differentiation, integration, maximization and minimization. Students are assumed to have basic knowledge of college algebra.

### Grades

Homework/Quizzes	100
Exam #1	200
Exam #2	200
<b>Total</b>	<b>500</b>

Regular attendance will be expected. Students are expected to read the sections in the book that correspond to the lectures. The lowest homework/quiz score will be dropped.

### **Academic Integrity**

Academic integrity is a core university value that ensures respect for the academic reputation of the University, its students, faculty and staff, and the degrees it confers. The University expects that students will conduct themselves in an honest and ethical manner and respect the intellectual work of others. Please be familiar with Korea University's policy on Academic Integrity. Please ask about my expectations regarding permissible or encouraged forms of student collaboration if they are unclear.

## Course Outline

**Chapter 1: Introduction, Limits, and Continuity.** Review of functions and graphs. An intuitive treatment of limits and continuity.

**Chapter 2: Differentiation.** Average rate of change, the derivative, differentiation rules, differentials, implicit differentiation.

**Chapter 3: Curve Sketching.** Increasing and decreasing functions, concavity, extreme values, optimization, inventory control. Applications to cost, revenue, profit, elasticity of demand. First Exam.

**Chapter 4: Exponential and Logarithmic Functions.** These functions and their derivatives, applications involving earnings per share, growth, compound interest.

**Chapter 5 & 6: Integration.** Antiderivatives, areas, Fundamental Theorem of Calculus, integration by substitution, consumers' and producers' surpluses, continuous cash flows.

**Chapter 7: Functions of Several Variables.** Functions of two variables, partial derivatives, relative maxima and minima, applications. Second Exam.