



Korea University International Summer Campus (KU ISC) 2022

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June 28, 2022 ~ August 4, 2022

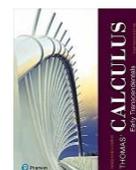
ISC101B – Calculus II

I . Instructor

Professor	:	Hongshik Ahn
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Website	:	http://www.ams.stonybrook.edu/~hahn
Home Institution	:	State University of New York at Stony Brook
Class	:	10:30 am-12:10 pm
Classroom	:	208 Woodang Hall
Office	:	312 Woodang Hall
Office Hours	:	1:30-2:30 pm or by appointment

II. Textbook

Required Textbook	:	Thomas' Calculus: Early Transcendentals 14th Edition by Hass, Heil & Weir, Pearson ISBN-13: 9780134439020 Printed version or PDF eTextbook
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III. Course Description and Objectives

This second course in the calculus sequence will cover vector algebra and analytic geometry in two and three dimensions; multivariable differential calculus and tangent planes; multivariable integral calculus; optimization and Lagrange multipliers; vector calculus including Green's Theorem and Stoke's Theorem. Students are expected to have completed a Calculus I course.

Upon successful completion Calculus II, the student will have an understanding topics listed in the class outline below, be able to solve routine problems, and be able to apply the ideas.

IV. Grading

Midterm Exam	:	40%
Final	:	40%
Quizzes	:	10%
Assignments	:	10%

V. Class Outline

Date	Topic	Chapter	Remarks
Tue, June 28	Orientation (no classes)		
Wed, June 29	The Dot Product, The Cross Product	12.3, 12.4	
Thu, June 30	Lines and Planes, Cylinders and Quadratic Surfaces	12.5, 12.6	
Fri, July 1	Curves in Space and Their Tangents, Integrals of Vector Functions	13.1, 13.2	
Mon, July 4	Arc Length, Curvature and Normal Vectors of a Curve	13.3, 13.4	
Tue, July 5	Functions of Several Variables, Limits and Continuity in Higher Dimensions	14.1, 14.2	
Wed, July 6	Partial Derivatives, Chain Rule	14.3, 14.4	
Thu, July 7	Directional Derivatives and Gradient Vectors	14.5	
Mon, July 11	Tangent Planes and Differentials, Extreme Values and Saddle Points	14.6, 14.7	
Tue, July 12	Lagrange Multipliers	14.8	
Wed, July 13	Review for the midterm		
Thu, July 14	Midterm Exam		
Mon, July 18	Double Integrals over Rectangles, Double Integrals over General Regions	15.1, 15.2	
Tue, July 19	Double Integrals over General Regions, Area by Double Integration	15.2, 15.3	
Wed, July 20	Double Integrals in Polar Form	15.4	
Thu, July 21	Triple Integrals in Rectangular Coordinates, Applications	15.5, 15.6	
Mon, July 25	Triple Integrals in Cylindrical and Spherical Coordinates	15.7	
Tue, July 26	Substitutions in Multiple Integrals	15.8	
Wed, July 27	Line Integrals	16.1, 16.2	
Thu, July 28	Green's Theorem, Surfaces and Area	16.4, 16.5	
Mon, August 1	Surface Integrals, Stokes' Theorem	16.6, 16.7	
Tue, August 2	Review for the Final		
Wed, August 3	Final Exam		
Thu, August 4	Consultation on grades and graduation ceremony		