



# HANYANG UNIVERSITY

## Hanyang International Summer School

Faculty Information	Name	Kim Min-Hee				
	E-mail	<a href="mailto:minhee0111@gmail.com">minhee0111@gmail.com</a>				
	Home University	Hanyang University				
	Department	Department of mathematics				
	Homepage					
Course Information	Class No.	18095	Course Code	GEN2053	Credits	3
	Course Name	Calculus 2				
	Lecture Schedule	Mon-Thu / 13: 00-16: 00 PM				
	Course Description	<p>This course is a continuation of CALCULUS1, which aims at preparing the students for their study in their respective major subjects in natural sciences or engineering by equipping them with the knowledge of calculus and some basics of analytic geometry so that they may have the necessary mathematical background and the ability to take logical approaches when they confront the various problems in their study. The course presents the part of calculus and analytic geometry which include linear algebra, matrices and systems of linear equations, functions of several variables, partial differentiation, double integration and vector calculus, which are more advanced subjects than those of CALCULUS1.</p>				
	Course Objective	calculating of partial derivatives and multiple integrals, understanding the fundamental theorem of calculus, Green's theorem.				
	Prerequisite					
	Materials/Textbooks	Essential Calculus (2/e) (Early Transcendentals), James Stewart				
	Evaluation	Attendance	10	Quiz	%	
Assignment		10	Mid-term Exam	35		
Presentation		%	Final Exam	45		
Group Project		%	Participation	%		

	Etc.		Evaluation Item	Ratio
				%
				%
<b>Daily Lecture Plan</b>	<b>Week 1</b>	Day 1	Opening ceremony, 10.6 Cylinders and Quadric Surfaces, 10.7 Vector Functions and Space Curves	
		Day 2	10.8 Arc Length and Curvature, 11.1 Functions of Several Variables	
		Day 3	11. 2 Limits and Continuity, 11.3 Partial Derivatives	
		Day 4	11. 4 Tangent planes and Linear Approximations, 11. 5 The Chain Rule	
	<b>Week 2</b>	Day 1	11.6 Directional Derivatives and the Gradient Vector, 11.7 Maximum and Minimum Values	
		Day 2	11.8 Lagrange Multipliers, 12.1 Double Integrals over Rectangles	
		Day 3	12.2 Double integrals over General Regions , 12.3 Double integrals in Polar Coordinates	
		Day 4	Midterm Exam.	
	<b>Week 3</b>	Day 1	12.5 Triple Integrals, 12. 6 Triple integrals in Cylindrical Coordinates	
		Day 2	12. 7 Triple integrals in Spherical Coordinates, 12.8 Change of Variable in Multiple Integrals	
		Day 3	13.1 Vector Fields, 13.2 Line Integrals	
		Day 4	13.3 The Fundamental Theorem for Line Integrals, 13.4 Green's Theorem	
	<b>Week 4</b>	Day 1	13.5 Curl and Divergence 13.6 Parametric Surfaces and Their Areas	
		Day 2	13.7 Surface Integrals, 13.8 Stokes' Theorem	
		Day 3	13.9 The Divergence Theorem	
		Day 4	Final Exam.	