

강 의 계 획 서

교과목명	미분적분학1	교강사명	김현수
수강대상대학	전체		
수업시간	월[AA]09:00-10:15, 수[AA]09:00-10:15		
강의실	[23217] 제1공학관23동 2층 첨단e+강의실		
개요/진행	<p>Calculus is the branch of mathematics whose primary purpose is the study of motion and change. It is an indispensable tool of thought in almost every field of pure and applied science—in physics, chemistry, biology, astronomy, geology, engineering, and even some of the social sciences. It also has many important uses in other parts of mathematics. The first semester of Calculus course deals with the basic definitions of continuity, limit, derivative, and integrals of given function. More specifically, we study the notions of limit and continuity of given function and we introduce the definition of derivative. After dealing with derivatives of standard functions such as polynomials, trigonometric function, exponential and logarithmic functions, we study some of the practical applications of differential calculus. Also we study the notion of integrals and its application to estimation of areas and volumes of given object. We also study infinite series and consider power series of given function which lead to the notions of Taylor series of function, which has many practical applications.</p>		

■ 내용

3 월	Limits and Derivatives (2, 1 - 2, 10) The product and quotient rules (3, 1 - 3, 4) The chain rule (3, 5 - 3, 8) Maximum and Minimum values (4, 1 - 4, 5)
4 월	Optimization Problems (4, 6 - 4, 9) Areas and Distances (5, 1 - 5, 4) Improper Integral (5, 5 - 5, 10) mid-term
5 월	Volumes, Arc Length (6, 1 - 6, 3) Average Value of a function (6, 4 - 6, 5) Separable Equation (7, 1 - 7, 3) The Logistic Equation (7, 4 - 7, 6)
6 월	Sequence (8, 1 - 8, 3) Power Series (8, 4 - 8, 6) Taylor and Maclaurin Series (8, 7 - 8, 9) final exam"

■ 참고문헌

도서구분	도서명	저자	발행년도	출판사
교재	Calculus (Concepts & Contexts)	James Stewart	2006	THOMSON