

2012		1	
	I		0
	MEE2006	( )	( 3.0 ) ( 0.0 ) ( 0.0 )
	2	/	:13:30 14:45[AS303]
			705-7973
	705-7973		
		E-mail	jayclee@sogang.ac.kr
	( )10:00 12:00,( )10:00 12:00,( )10:00 12:00,		

1.

Vector Calculus

2.

	/	/		/	
100 %	%	%	%	%	%
( ) %					

3. 가 (%)

30 %	40 %	10 %	%	%	20 %	%	%
가							

4.

Advanced Engineering Mathematics/Kreyszig.

5.

6.

1	Chapter1. 1-st order ODEs Basic Concepts and Modeling Geometric Meaning of $y'=f(x,y)$ . Direction Fields Separable ODEs and Modeling		
2	Chapter1. 1-st order ODEs Exact type ODEs, Integrating factor Linear ODEs, Bernoulli equation, Population Dynamics		
3	Chapter2. 2-nd order Linear ODEs Homogeneous Linear ODEs of Second Order Homogeneous Linear ODEs with Constant Coefficients Differential Operators		
4	Chapter2. 2-nd order Linear ODEs Modeling : Free Oscillations (Mass-Spring System) Nonhomogeneous ODEs		
5	Chapter2. 2-nd order Linear ODEs Modeling : Forced Oscillations, Resonance Solution by Variation of Parameters		
6	Chapter4. System of ODEs, Phase Plane, Qualitative Methods Basic Theory of Matrices and Vectors		

	Systems of ODEs and Models Basic Theory of Systems of ODEs Constant-coefficient Systems, Phase Plane Method		
7	Chapter4. System of ODEs, Phase Plane, Qualitative Methods Criteria for critical points, Stability Qualitative Methods for Nonlinear Systems Nonhomogeneous Linear Systems of ODEs		
8	Midterm Exam		
9	Chapter6. Laplace transform Laplace Transform, Inverse Transform, Linearity, s-Shifting Transforms of Derivatives and Integrals, ODEs Unit Step Function, t-Shifting		
10	Chapter6. Laplace transform Short Impulses, Dirac's Delta Function, Partial Fractions Convolution, Integral Equations Differentiation and Integration of Transforms Laplace Transform : General Formulas		
11	Chapter 9. Vector Differential Calculus, Grad, Div, Curl Vectors in 2-space and 3-space Inner product vector product.		
12	Chapter 9. Vector Differential Calculus, Grad, Div, Curl Vector and Scalar Functions and Fields, Derivatives Gradient of a Scalar Field, Directional Derivatives Divergence of a Vector Field Curl of a Vector Field		
13	Chapter 10. Vector Integral Calculus, Integral Theorems Line integral Path Independence of Line Integral Green's Theorem in the Plane Surfaces for Surface Integrals		
14	Chapter 10. Vector Integral Calculus, Integral Theorems Surface Integrals Triple Integrals, Divergence Theorem of Gauss Stoke's theorem		
15			
16	Final Exam		

6.