

온라인활용교육 콘텐츠 개발 주차별 수업 계획서

교과목명	전자장1		
교수자명	서울시립대학교 전자전기컴퓨터공학부 이주한 교수		
학습내용	주차	주차명	차시명
	1주차	Vector Algebra	1차시 : Scalars and Vectors
			2차시 : Vector Addition and Subtracion
			3차시 : Vector Multiplication
	2주차	Coordinate Systems and Transformation	1차시 : Cartisian Coordinate System
			2차시 : Circular Cylindrical Coordinate System
			3차시 : Spherical Coordinate System
	3주차	Vector Caculus	1차시 : Line, Surface, and Volume Integrals
			2차시 : Del Operator, Gradient, Divergence
			3차시 : Curl of a Vector, Laplacian of a Scalar
	4주차	Electrostatic Fields I	1차시 : Coulomb's Law
			2차시 : Electric Fields due to Continuous Charge Distributions
			3차시 : Gauss' Law
	5주차	Electrostatic Fields II	1차시 : Electric Potential (V)
			2차시 : E and V Relationship
3차시 : Electirc Dopoles			
6주차	Electric Field in Material Space I	1차시 : Properties of Materials	
		2차시 : Conductors	
		3차시 : Polarization in Dielectrics	
7주차	Electric Field in Material Space II	1차시 : Dielectric Constants	
		2차시 : Continuity Equation	
		3차시 : Boundary Conditions	
8주차	Electrostatic Boundary Value Problems I	1차시 : Poisson's and Laplace' Equation	
		2차시 : Uniqueness Theorem	
		3차시 : General Procedures for solving Poisson's and Laplace' Equation	
9주차	Electrostatic Boundary Value Problems II	1차시 : Resistance	
		2차시 : Capacitance I	
		3차시 : Capacitance II	
10주차	Magnetic Fields I	1차시 : Biot-Savart Law	
		2차시 : Ampere's Circuit Law	
		3차시 : Application of Ampere's Circuit Law	
11주차	Magnetic Fields II	1차시 : Magnetic Flux Density	
		2차시 : Maxwell's Equations for Static Fields	
		3차시 : Magnetic Scalar and Vector Potential	
12주차	Magnetic Forces, Materials, and Devices I	1차시 : Forces due to Magnetic Fields	
		2차시 : Magnetic Dipoles, Magnerization	
		3차시 : Classification of Material's	
13주차	Magnetic Forces, Materials, and Devices II	1차시 : Magnetic Boundary Condintions	
		2차시 : Inductors and Inductance	
		3차시 : Magnetic Circuits	
14주차	Maxwell's Equations	1차시 : Faraday's Law	
		2차시 : Displacement Current	
		3차시 : Maxwell's Equationsin Final Forms	