Syllabus

▣ Class Information

○ Class Information

Time/Room	TBD		
Credit Hours	3	**Course No. (Section No.)**	KECE20
Core/Elective Course	Core Course		

○ Instructor

Name	Nakju Lett Doh	**Department**	School of Elec. Eng.
E-mail			
Homepage			
Office		**Phone No.**	
Office Hours			

○ Teaching Assistant

Name		**Department**	School of Ele.Eng.
E-mail			
Office		**Phone No.**	

▣ Course Management

○ Assessment

ITEMS	POINT	ITEMS	POINT
Attitude	-5 to +5	**Mid Term**	20
Final Term	30	**Assignment**	20 (15 for prob. Solving and 5 for matlab)
Attendance Quiz	30		
Total	100		

▣ Course Planning

○ Course Outline

Learn basic mathematical theories used in various fields on electrical engineering.

○ Course Objective

- Modeling of electrical and physical systems in a form of ordinary differential equations.
- Finding solution of the ordinary differential equations and understand the physical meaning of them.
- Learn about the Laplace and Fourier transformation.

○ Recommended pre-requisite, Level(qualification)

Calculus

○ Textbook, Material

Advanced Engineering Mathematics, D. G. Zill and W.S.Wright, 5th Edition

○ Assignment

H/W will be assigned by 5 times. Ten points for problem solving and five points for matlab.

○ Studying Contents Per Week

WEEK	STUDYING CONTENTS	TEXTBOOK	ACTIVITY
1	Introduction to differential equations	1.1-1.3	
2	Solution curves, separable variable, linear equations	2.1-2.3	
3	Exact equations, solution by substitutions	2.4-2.5	
4	Linear models, modeling with systems of first ODEs, reduction of order	2.7, 2.9, 3.1-3.2	
5	Homogeneous equations with constant coefficients, undermined coefficients	3.3-3.4	
6	Variation of parameter, Cauchy-Euler equations	3.5-3.6	
7	Linear models, solving systems of linear equations	3.8-3.11	
8	Laplace transform, the inverse transform, transforms of derivatives	4.1-4.2	Mid Term
9	Translation Theorems, derivatives of transforms, transforms of integrals.	4.3-4.4	
10	Transform of a periodic function, the Dirac delta function, system of linear differential equations	4.4-4.6	
11	Solutions about ordinary points	5.1	
12	Solutions about singular points	5.2	
13	Special functions	5.3	
14	Orthogonal functions, Fourier series, Fourier cosine and sine series	12.1-12.3	
15	Sturm-Liouville problem, Fourier integrals	12.5, 15.3	
16	Fourier transform	15.4	Final Term