(Syllabus)

[1] (Basic Information)

(Course Information)

/ (Year/Semester)	2019 / 1	(Campus)		(Seoul Campus)	
(Course No.)	18436	(Class No.)	04	(Credit)	3
(Course Title)	(ELECTRIC MATHEMATICS)	/ (Time/Room)		207 ( ) 234 < > / 310 617 < > 1,2 / 2(College of engineering1 234 < > / 310 617 < > THU1,2 / TUE2)	
(Course Classification)	(Major)	(Lecture Type)		(Lone-teaching course)	
(Course Type)	(Theoretical course)	(Medium of Instruction)		A(ENGLISH A)	
(Accreditation)		(Accreditation of Engineering Education)		MSC(MSC)	
(College)	ICT (College of ICT Engineering)	( ) (Department)		ICT (School of Electrical and Electronics Engineering)	
e-class (Usage of e-class)	Yes				

(Instructor Information)

(Name)	(Dae-Hyun Choi)	(Department)	(School of Electrical and Electronics Engineering)
(Office Phone No.)	02-820-5101	(Contact No.)	5101
E-mail (E-mail)	dhchoi@cau.ac.kr	(Department Phone No.)	02-820-5333
(Office Hour)	Thursday 11:00~12:00	(Office Location)	207-633
(Course Web-site)	http://epssg.cau.ac.kr		

[2]   /   (Learning Objectives/Outcomes)

(Course Description)

This class aims to introduce EE undergraduate students with the derivation and application of differential equation. In addition, Laplace Transform and Fourier Transform that are required for learning signals and systems course will be covered.

(Prerequisites and Co-requisites)

(Learning Objectives)

1. be able to formulate various physical phenomenon with differential equation and find its solution.
2. understand signals and systems by learning Lapalce Tramsform and Fourier Transform

(Learning Outcomes)

Students could learn the theory of differential equation, Lapalce Tramsform, and Fourier Transform, and apply them to signals and systems course

[3]   (Course Methods)

(Teaching and Learning Methods)

(Teaching and Learning Methods)	(Additional Description)
(Lecture)	

(Assignments)

(Assignments)	(No.)	(, ,)(Assignments Description)
(Practice)	5	

(Textbooks, Reading, and other Materials)

(Textbook/Reference)	(Title)	(Author)	/ (Year of Publication/etc)	/ (Publisher/Name of Journal)	/ (No. of Edition)
(Main Textbook)	Advanced Engineering Mathematics	Zill & Wright	2014	Jones & Bartlett	5th Ed

[4]   (Student Assessment)

(Assessment Item)	(%)(Assessment Ratio)	(Additional Description)
(Mid-term Exam)	45	
(Final Exam)	45	
(Assignment)	5	
(Attendance)	5	

[5] (Course Schedule)				
(Week)	(Instructor)	(Topic & Content)	(Student Assignment)	(Additional Description & Instructor Assignment)
1		1.1. Definition and Terminology 1.2. Initial-Value Problems 1.3. Differential Equations and Mathematical Models	Homework #1 (Chapter 1)	
2		2.2. Separable Equations 2.3. Linear Equations		
3		2.4. Exact Equations 2.7. Linear Models	Homework #2 (Chapter 2)	
4		3.1. Theory of Linear Equations 3.2. Reduction of Order		
5		3.3. Homogeneous Linear Equation with Constant Coefficients		
6		3.4. Undetermined Coefficients 3.5. Variation of Parameters		
7		3.12. Solving Systems of Linear Equations	Homework #3 (Chapter 3)	
8		Midterm Exam		
9		4.1. Definition of the Laplace Transform 4.2. The Inverse Transform and Transforms of Derivatives		
10		4.4. Translation Theorems 4.4. Additional Operational Properties		
11		4.5. The Dirac Delta Function 4.6. Systems of Linear Differential Equations	Homework #4 (Chapter 4)	
12		12.1. Orthogonal Functions		
13		12.2. Fourier Series		
14		12.3. Fourier Cosine and Sine Series 12.4. Complex Fourier Series	Homework #5 (Chapter 5)	
15		15.3. Fourier Integral		
16		Final Exam		

[6] (Guide to Learning)
Students should understand a basic concept of differential equations and try to apply them to practical applications.
(Previous Exam Samples)
<   >(<Download Additional Sample>)
.

(Engineering Education)
(Learning Outcomes)
: 60　　　　　　　　　 : 40
_____ (Title)
.
_____ (Objective)
.
_____ (Restrictions)
.
_____ (Assessment Method)
.
71　　　　　　　　　　 6　　 47 　　　　　　　　　　　　　　　 . (　In pursuant to the Article 71 "Discipline" of the Chung-Ang University Regulations, and Article 47 "Punishment for Cheating during Examination" under Chapter 6 of the Academic Affairs Management Rules, any student caught engaging in academic misconduct during an exam will be subject to disciplinary action.)
.　　　　　　　　　　　　　　　　, . 1.　　　 :　 ,　　 ,　　 ,　　　 , 2.　　　 :　　　 ,　　　 , 3.　 /　　　 :　　　　　　　　 ,　　　 , 4.　　　　 , 　　　　 : 02-820-6577~9(　　), 031-670-4816(　　) 　　　　　　　(　　　　　　　　cauable) In this class, students with disabilities are eligible for reasonable accommodations depending on the type and severity of disability. If you wish to receive accommodations listed below, please contact the Support Center for Students with Disabilities. 1. Visual Impairment: Braille, large print, electronic class materials, volunteer note-taker, adjustments in assessment practices, etc. 2. Hearing Impairment: Volunteer note-taker, stenographer, adjustments in assessment practices, etc. 3. Physical Disabilities/Brain Lesions: Classrooms with wheelchair access, volunteer note-taker, adjustments in assessment practices, etc. 4. Accommodations for students with other psychiatric disabilities or health impairments can be arranged through the Support Center for Students with Disabilities after consultation. 　Inquiry: 02-820-6577~9 (Seoul Campus), 031-670-4816 (Anseong Campus) 　- KakaoTalk Plus Friend ID: @cauable