▣ 강의계획서

검색조건 :

교양/교직/군사학   ▼

핵심교양(영역1) 글쓰기(1-①)   ▼

조회

[수업시간][건물 및 교과구분 코드][검색]

[한글강의계획서보기]

Course Title	Digital Signal Processing
Course Code	ELEC701001
Credits	3.0
Department	전자공학부
Semester	20161
Course Categories	전공
Instructor	HA YEONG-HO
Hours	화1A1B2A 화2B3A3B
Location	IT대학1호관(공대10호관)613 IT대학1호관(공대10호관)613
Phone/E-mail	** 통합정보시스템 로그인- 수업/성적- 수업- "강의담당교수조회"에서 확인 가능함.
Office Hours	
language	영어

❄ [Syllabus]

Course Goals and Objectives
The objective of this course is to make students understand and cultivate the principles and applications of digital signal processing in graduate level, and expand the concepts to the advanced topics.

Textbook and other references
[Text books] 1. Y. H. Ha, Digital Signal Processing, Green, 2009 2. A. V. Oppenheim and R. W. Schafer, Discrete-Time Signal Processing, Second Edition, Prentice Hall, 1998 [References]

1. J. G. Proakis and D. G. Manolakis, Digital Signal Processing Principles, Algorithms, Applications, Prentice–Hall, 1996
2. E. C. Ifeachor and B. W. Jervis, Digital Signal Processing, Second Edition, Prentice Hall, 2002

Course Description, Methods, and Materials
Give lectures with using Power Point slides of lecture materials

Assignments, Grading Criteria, Prerequisite Subject
Evaluation: 1st Quiz (30%), 2nd Quiz (30%), 3rd Quiz (30%), and Homework and Programming Assignments (10%),   Prerequisite: basic knowledge to Signals and Systems

Notice To Students
Skill in C++ programming language

Notice To Students with Disabilities
Hearing Impaired: first row priority seating, class transcripts may also be provided.

❄ [Course Lesson Plan]

no	Course Goals and Objectives	Assignment	Text & Materials	Etc.
1	I. Fundamental Theory and Principles of Digital Signal Processing 1. Analog signals and systems – Fourier series, Fourier transform		DSP (Ha) DSP (Ifeachor)	
2	– Laplace transform, Impulse function, Convolution, Transfer function, Analog Butterworth filter	H/W #1 : Fourier and Laplace transforms of various functions	DSP (Ha) DSP (Ifeachor)	
3	2. Sampling – Sampling theorem, Signal reconstruction, A/D and D/A converters, Quantization		DSP (Ha) DSP (Ifeachor) DTSP (Oppenheim)	
4	3. Discrete–time signals and transform – DFT and FFT, Discrete convolution, Truncation and window functions	Programming #1 : FFT and spectral window	DSP (Ha) DSP (Ifeachor)	
5	1st Quiz			

6	4. Z transform - Z transform and Inverse Z transform		DSP (Ha) DSP (Ifeach or) DTSP (Oppenheim)	
7	5. Discrete-time systems - Difference equation, LTI discrete-time system, Stability, Frequency response, Structures and implementations of discrete-time systems	H/W #2 : Z transforms of various functions	DSP (Ha) DSP (Ifeach or) DTSP (Oppenheim) DSP (Proakis)	
8	6. FIR digital filter design - Windowing method, Optimal methods	H/W #3 : Frequency and phase responses of discrete-time systems	DSP (Ha) DSP (Ifeach or) DTSP (Oppenheim) DSP (Proakis)	
9	7. IIR digital filter design - Impulse invariant method, Bilinear z transformation method	Programming #2 : Design of FIR digital filter	DSP (Ha) DSP (Ifeach or) DTSP (Oppenheim) DSP (Proakis)	
10	2nd Quiz			
11	II. Advanced Topics of Digital Signal Processing 1. Changing sampling rate using discrete-time processing	Programming #3 : Design of IIR digital filter design	DTSP (Oppenheim) DSP (Proakis)	
12	2. Inverse systems, All-pass systems, Minimum-phase systems		DTSP (Oppenheim) DSP (Proakis)	
13	3. Finite-precision numerical effects, Effects of coefficient quantization		DTSP (Oppenheim) DSP (Proakis)	
14	4. Effects of round-off noise in digital filters, Zero-input limit cycle in IIR digital filters		DTSP (Oppenheim) DSP (Proakis)	
15	3rd Quiz			

Cheating, plagiarism, and other dishonest practices will be punished as harshly as Kyungpook National University policies allow. The University specifies that cheating is grounds for dismissal. Penalties less severe may be imposed instead. A list of possible disciplinary actions is given below. Actions by the university:
- Failure in course
- Suspension from university for a designated period
- Expulsion from university