과목명	시각심리및디스플레이공학	과목번호	ELEC448001	학점	3.0
개설대학	전자공학부	개설학기	2017S	교과구분	공학전공
담당교수	김학린/송규익/장재원	강의시간	월 1A1B2A 월 2B3A3B 화 1A1B2A 화 2B3A3B 수 1A1B2A 수 2B3A3B 금 1A1B2A 금 2B3A3B	강의실명	IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101 IT 대학 2 호관(공대 5 호관)101
연락처/E-mail	** 통합정보시스템 로그인- 수업/성적- 수업- "강의담당교수조회"에서 확인 가능함.				
면담시간	Fri. pm 5:00~6:00			강의언어	한국어

[강의계획서]

강의개요 및 목적

The goals and objectives of this class is to study the operation principles of LCD, OLED, and the next-generation displays of 3D display and flexible display. To understand the operational principles of displays, this class introduces the optics of the polarized light, color experession methods, TFT backplanes, liquid crystal physics, OLED structures and light-emitting physics, optics for 3D displays, and novel research trend of the flexible display technology.

교재 및 참고문헌

Introduction of display engineering, Cheobum Press. (2007)

Displays -Fundamentals & Applications, Rolf R. Hainich, Oliver Bimber (2011)

Optics of Liquid Crystal Displays, Pochi Yeh, John Wiley & Sons, Inc. (1999)

Flexible Flat Panel Displays, G. P. Crawford, John Wiley & Sons, Inc. (2005)

Fundamentals of Liquid Crystal Devices, D.-K. Yang, S.-T. Wu, John Wiley & Sons, Inc. (2006)

강의진행 방법 및 활용매체

- lecture with ppt and writting on the blackboard

- there will be the invitation lecture by outside expert, which may be open outside of the normal class time

과제, 평가방법, 선수과목

Mid-term Exam : 40%

Final Exam : 40%

Hw : 10%

Attendance : 10%

수강에 특별히 참고할 사항

There will be the invitation lecture by outside expert, which may be opened outside of the normal class time.

장애학생을 위한 학습지원 사항

Examples

A. Hearing Impaired : first row priority seating, Class transcripts may also be provided.

B. Develpmenatlly Challenged : Extended Test Period

C. Brain lesions : Extended Test Period, Class transcripts may also be provide

D. Visually Impaired : Larger Font test will be provided

[강의 내용 및 일정]

no	강의 요목 및 수업목표	과제 및 연구문제	교재 및 참고자료	비고
1	Overview of displays -LCD,PDP,OLED -Direct-viewdisplay,reflectivedisplay,transflectivedisplay ,projectiondisplay -Displayevaluation,colortheory			
2	Optics for polarized light -waveoptics&polarizationopticsincrystals -Polarizationellipse			

3	Optics for polarized light -Jonesvectors,Stokesparameters -Poincareanalysis			
4	Liquid crystal Physics -LCphase,LCalignment&surfaceeffects -Staticdistortion			
5	Liquid Crystal Physics -LCreorientationbyfieldeffects			
6	Understanding LC modes -UntwistedNLCmode(ECBmode)			
7	Understanding LC modes -twistedNLCmode(TNmode) -Reflectivemode,transflectivemode			
8	Mid-term Exam			
9	Recent LC mode for improving viewing angle property -ViewinganglepropertyinLCD -PVAmode(Samsung) -IPSmode(LGD) -MobiledisplayusingFFSmode(Samsung&LGD)			
10	Dynamic property of LCD for fast response time TFTLCD Backlighttechnology			
11	OLED (I) -Operationprinciple -Materialproperty			
12	OLED (II) -Issuesonfabricationtechnology -Technologyforimprovinglight-emittingefficiency			
13	3D display			
14	Flexible display & next-generation displays			
15	Final Exam.			