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## ②图 i 東華大學 教學計劃表 Syllabus

		7人了	一	Oyıı	abus				
	星名稱(中文) Name in Chinese	光電數值分析與	!計算		學年/學期 Academic Year/Sem	ester	113/1		
	星名稱(英文) Name in English	Numerical analysis and calculation for Opto-electronics							
	科目代碼 Course CodeOE_53130系級 Department & Year碩士開課單位 Course-Offering Department						光電工程學系		
	修別 Type	選修 Elective	0/3.0						
	授課教師 nstructor	/李政誼							
	先修課程 Prerequisite								
		課	程描述 Course	Descrip	tion				
課程分為內解決光電二		Smatlab程式語言	的撰寫方式與程	式邏輯、	資料處理與分析。下音	<b>『分介紹</b>	常用的數值方法		
課程目標 Course Objectives									
以程式語言及數值方法處理光電領域的計算問題									
		3.6 9.4.4.4.21.31.14.				细	42日栖的乡亩 安化		
条專業能力 Basic Learning Outcomes							課程目標與系專業能 力相關性 Correlation between Course Objectives and Dept.'s Education Objectives		
	獨立研究能力Equipp						•		
	光電工程的專業知識 D-electronic engine		essional knowled	lge and ap	plication ability of		•		
具有設計與執行實驗、報告撰寫與數據解釋之能力。Abilities to design and execute experiment, write reports, and explain data							•		
D 使用儀器進行物件的分析及測試。Analysis and test of devices by instruments							$\bigcirc$		
E 具備適當的英文能力,應用於學習與交流。English language ability to study and interact							$\bigcirc$		
F 具有良好的溝通與團隊合作的能力。Ability to communicate and teamwork							•		
G 具有創新思維及終身學習的能力。Creative thinking and life-long learning ability							0		
圖示說明	Illustration :	● 高度相關 Hi	ghly correla	ted ○‡	'度相關 Moderately	corre	lated		
		授課進	度 表 Teaching	Schedul	e & Content				
週次Week		內容	Subject/Topic	備註Remarks					
1	Environments matrix calcula	of matlab, Scri tion							
2 Basic operation		on							
3	matrix calcul	natrix calculation,							
4 2D, and 3D gr		aphics							

5	Structured programming						
6	M Function files and Data input/output						
7	Symbol calculation and App Designer						
8	Optoelectric application						
9	期中考試週 Midterm Exam						
10		全校運動會					
11	Computing integrals and application						
12	Ordinary differential equations and application						
13	Nonlinear algebra equations and Optimization						
14	Fast Fourier transform						
15	Curve fitting: linear and nonlinear regression						
16	Numerical calculation of partial differential equation						
17		1/1 中華民國開國紀念日					
18	期末考試週(Finite-Difference Time-Domain method(時域有限差分))						
教 學 策 略 Teaching Strategies							
✓ 課堂講	授 Lecture 分組討論Group Discussion 參觀實習	Field Trip					
其他Mis	scellaneous:						
教學創新自評Teaching Self-Evaluation							
創新教學(Innovative Teaching)							
▼ 問題導向學習(PBL) ■ ■體合作學習(TBL) 解決導向學習(SBL)							
■ 翻轉教室 Flipped Classroom							
上]   社會責任(Social Responsibility)							
│							
跨域合作(Transdisciplinary Projects)							
──跨界教學Transdisciplinary Teaching ──跨院系教學Inter-collegiate Teaching							
──業師合授 Courses Co-taught with Industry Practitioners							
其它 other:							

學期成績計算及多元評量方式 Grading & Assessments									
配分項目	配分比例 Percentage	多元評量方式 Assessments							
Items		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績(含出缺席) General Performance (Attendance Record)	10%								
期中考成績 Midterm Exam	25%								
期末考成績 Final Exam	25%								
作業成績 Homework and/or Assignments	20%								
其他 Miscellaneous (小考6次)	20%								

評量方式補充說明

Grading & Assessments Supplemental instructions

## 教科書與參考書目(書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

PPT Lectures

References:

1. matlab 設計入門,

http://mirlab.org/jang/books/matlabprogramming4beginner/

2. Programming for Computations - MATLAB/Octave, A Gentle Introduction to Numerical Simulations with MATLAB/Octave

Authors: Svein Linge and Hans Petter Langtangen

Free for download:https://link.springer.com/book/10.1007%2F978-3-319-32452-4

課程教材網址(含線上教學資訊,教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information.

Personal website can be listed here.)

課程講義放置於東華e學苑 http://www.elearn.ndhu.edu.tw/moodle/

線上教學連線資訊,也會一併公布在東華e學苑http://www.elearn.ndhu.edu.tw/moodle/

其他補充說明(Supplemental instructions)