國立東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	控制實驗			學年/學期 Academic Year/Semester	113/2
課程名稱(英文) Course Name in English	Control Laboratory				
科目代碼 Course Code	EE__40100	系級 Department & Year	學四	開課單位 Course-Offering Department	電機工程學系
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	1.0/		
授課教師 Instructor	/謝欣然				
先修課程 Prerequisite					

課程描述 Course Description

Use Matlab/Simulink software to simulate the control systems, including the time responses and frequency responses.

課程目標 Course Objectives

學習控制系統之電腦模擬方式及實際系統建構與感測器配置技術

	系專業能力 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
A	培育具備工程、應用數學與物理科學等數理知識之基本能力。To cultivate the basic knowledge of engineering, applied mathematics and physics	●
B	培育系統分析、模擬驗證、實作實現之能力。To cultivate the basic ability of analysis, verification and implementation of systems.	●
C	訓練軟體工具使用與硬體實務驗證相互輔助之能力。To train the auxiliary ability between the utilization of software tool and the verification of the hardware practice	●
D	訓練電機本知學能技術與工程實務相互結合運用之能力。To train the integrate ability between professional instinct in learning technique and engineering practice.	●
E	落實專題製作之群體合作與團隊競爭之能力。To fulfill the ability of group cooperation and teamwork competition.	●
F	落實發掘問題、邏輯分析、克服瓶頸與持續學習之能力。To fulfill the ability of question finding, logical analyzing, bottleneck overcoming and continuous learning	●
G	了解學術倫理與智慧財產觀念，掌握產業更迭需求與具備多元專長之能力。To obtain the ability of multi-specialization and to meet the industry demand as well as to have the ability of academic ethics and concept of intellectual property	○
H	了解國內外市場變化，具備基本科技英文閱讀溝通之能力。To understand the change of global market and the have the basic ability of reading and conversation in English.	○

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

授 課 進 度 表 Teaching Schedule & Content

週次Week	內容 Subject/Topics	備註Remarks
1	Introduction to the course content Grading rule and method	02/18
2	Introduction to Simulink	02/25

3	Analysis of control systems by Simulink I	03/04
4	Analysis of control systems by Simulink II	03/11
5	Simulink-based design of control systems I	03/18
6	Simulink-based design of control systems II	03/25
7	Simulink-based design of control systems III	04/01
8	Control of electric motors I	04/08
9	Suspended due to exam week	04/15
10	Control of electric motors II	04/22
11	Control of electric motors III	04/29
12	Project work I	05/06
13	Project work II	05/13
14	Project work III	05/20
15	Oral presentation I	05/27
16	Oral presentation II	06/03
17	Oral presentation III	06/10
18	Summary to the lab	06/17

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Miscellaneous:

教 學 創 新 自 評 Teaching Self-Evaluation

創新教學(Innovative Teaching)

☑ 問題導向學習(PBL) ☐ 團體合作學習(TBL) ☑ 解決導向學習(SBL)

☐ 翻轉教室 Flipped Classroom ☐ 磨課師 Moocs

社會責任(Social Responsibility)

☐ 在地實踐Community Practice ☐ 產學合作 Industy-Academia Cooperation

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 Items	配分比例 Percentage	多元評量方式 Assessments							
		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 General Performance	20%								
期中考成績 Midterm Exam	30%								
期末考成績 Final Exam									
作業成績 Homework and/or Assignments	50%								
其他 Miscellaneous (_____)									

評量方式補充說明
Grading & Assessments Supplemental instructions

experiment reports: 30%, general performance: 20%, project: 50%

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.)

Handout materials

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.)

其他補充說明 (Supplemental instructions)