


國立東華大學
教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	正規語言與自動機	學年/學期 Academic Year/Semester	114/2
課程名稱(英文) Course Name in English	Formal Languages and Automata		
科目代碼 Course Code	CSIEB0190	系級 Department & Year	學三 Course-Offering Department
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	3.0/3.0
授課教師 Instructor	/羅壽之		
先修課程 Prerequisite			
課程描述 Course Description			
This course introduces formal languages and the automata that recognize them, including regular and context-free languages, DFAs, PDAs, and Turing machines.			
課程目標 Course Objectives			
1. To study the grammar, computing model, and theory for formal languages. 2. To understand the basic of programming languages and computing models			
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	資訊專業終身學習能力Ability of lifetime learning in information profession	●	
B	實驗驗證資訊科學能力Ability of validate experimental result validation in information science field		
C	資訊工具整合運用能力Ability of integrated applications of information technology	○	
D	資訊系統應用設計開發能力Ability of information application system design and development	●	
E	團隊合作溝通協調能力Ability of teamwork, communication, and coordination	○	
F	資通訊科技問題解決能力Ability of problem solving regarding information and communication technology		
G	瞭解資訊科技多元影響能力Ability to understand information technology's multiple influences		
H	肩負資訊人社會責任能力Ability of bearing the social responsibilities being among information professionals		
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	2/24 Chapter 1 The theory of computation		
2	3/3 Chapter 2 Finite automata		
3	3/10 Chapter 2 Finite automata		

4	3/17 Chapter 3 Regular languages and regular grammars	
5	3/24 Chapter 3 Regular languages and regular grammars	
6	3/31 Chapter 4 Properties of regular languages	
7	4/7 Holiday	
8	4/14 Chapter 5 Context-free languages	
9	4/21 Midterm Exam	
10	4/28 Chapter 5 Context-free languages	
11	5/5 Chapter 6 Normal forms	
12	5/12 Chapter 7 Pushdown automata	
13	5/19 Chapter 7 Pushdown automata	
14	5/26 Chapter 8 Properties of context-free languages	
15	6/2 Chapter 9 Turing machines	
16	6/9 Advanced topics	
17	6/16 Final Exam	
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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 Industry-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(含出缺席) General Performance (Attendance Record)	10%	✓							
期中考成績 Midterm Exam	30%	✓							
期末考成績 Final Exam	30%	✓							
作業成績 Homework and/or Assignments	30%	✓							
其他 Miscellaneous (_____)									

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.)

An Introduction to Formal Languages and Automata, Peter Linz, 7ed

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.)

<https://elearn4.ndhu.edu.tw/moodle/>

其他補充說明 (Supplemental instructions)