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	106/2
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	開課單位 Course-Offering Department	資訊工程學系
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/蔡正雄				
先修課程 Prerequisite					

課程描述 Course Description

This course focuses on formal expressions, grammar, and automata. To understand the basic theory of computer science, including the three elements of regular languages, context-free languages, and languages determined by Turing machines.
  In addition to the theory to explain, and with exercises and problems of the exercise, the unit independent, from shallow to deep, and finally concatenation together, lay the theoretical foundation.

課程目標 Course Objectives

修習正規語言的文法、計算模式、及計算理論，以瞭解計算機語言及計算模式的基礎。

	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Profound professional knowledge and skills	●
B	實驗驗證資訊科學能力Sound and free spirit; simple and generous quality	
C	資訊工具整合運用能力Ability to appreciate beauty and think creatively	○
D	資訊系統應用設計開發能力Sense of democracy, the rule of law, and civil responsibility	●
E	團隊合作溝通協調能力Ability of communication, teamwork, and social practice	○
F	資通訊科技問題解決能力Possess both domestic and global perspectives	
G	瞭解資訊科技多元影響能力Knowledgeable and possess the quality of humanism	
H	肩負資訊人社會責任能力Ability of verbal expression and information organization and application	

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 Theory of Computation	

2	Deterministic Finite Automata	
3	Nondeterministic Finite Automata part 1	
4	Nondeterministic Finite Automata part 2	
5	Regular Languages and Regular Grammars	
6	Properties of Regular Languages	
7	Identifying Nonregular Languages part 1	
8	Identifying Nonregular Languages part 2	
9	期中考試週 Midterm Exam	
10	Context-Free Languages	
11	Normal Forms	
12	Pushdowm Automata	
13	Properties of Context-Free Languages	
14	Turing Machines	
15	Variations of Turing Machines part 1	
16	Variations of Turing Machines part 2	
17	Hierarchy of Formal Machines	
18	期末考試週 Final Exam	

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:

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	0%								
期中考成績 Midterm Exam	30%	✓							
期末考成績 Final Exam	30%	✓							
作業成績 Homework and/or Assignments	40%						✓		
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(fifth edtion) Peter Linz, Jones & Bartlett Learing 開發圖書

課程教材網址（教師個人網址請列在本校內之網址） Teaching Aids & Teacher's Website (Personal website can be listed here.)
東華e學苑 http:// http://www.elearn.ndhu.edu.tw/moodle/

其他補充說明（Supplemental instructions）